ROLE OF VERIFICATION IN ARMS CONTROL: A COMPARATIVE STUDY OF THE BIOLOGICAL AND TOXIN WEAPONS CONVENTION (BTWC) AND THE CHEMICAL WEAPONS CONVENTION (CWC)

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CERTIFICATE

This is to certify that the dissertation entitled, **"Role of Verification in Arms Control: A Comparative Study of the Biological and Toxin Weapons Convention (BTWC) and the Chemical Weapons Convention (CWC)"**, submitted by me in partial fulfillment of the requirements for the award of the degree of **Master of Philosophy**, is my own work and has not been previously submitted for any other degree of this or any other university.

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We recommend that this dissertation be placed before the examiners for evaluation.

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Dedicated to
Fr. Sebastian Manianchira and My Late Grandfather

Contents

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Glossary

CWC	Chemical Weapons Convention
ABM	Anti-Ballistic Missile
BTWC	Biological and Toxin Weapons Convention
WMD	Weapons of Mass Destruction
CSBM	Confidence and Security Building Measures
INF Treaty	Intermediate-Range Nuclear Forces Treaty
NATO	North Atlantic Treaty Organisation
NTM	National Technical Means
PTBT	Partial Test Ban Treaty
TTBT	Threshold Test Ban Treaty
SALT	Strategic Arms Limitation Talks
NPT	Nuclear Non-Proliferation Treaty
IAEA	International Atomic Energy Agency
OSI	On-Site Inspection
UNAEC	United Nations Atomic Energy Commission
DPRK	Democratic People's Republic of Korea
MBFR	Mutual and Balanced Force Reductions
CFE	Conventional Armed Forces in Europe
CSCE	Conference on Security and Cooperation in Europe
TLE	Treaty Limited Equipments
ATTU	Atlantic to the Urals
OOV	Objects of Verification
VEREX	Verification Experts
AHG	Ad Hoc Group
OPCW	Organisation for the Prohibition of Chemical Weapons

CCD	Conference of the Committee on Disarmament
FOC	Friends of the Chair
CBMs	Confidence Building Measures
PhRMA	Pharmaceutical Research and Manufacturers of America
NSC	National Security Council (US)
ENDC	Eighteen Nations Disarmament Conference
CEFIC	Commission on the European Chemical Industry Federation
ICEF	International Federation of Chemical Energy
CIA	Central Intelligence Agency
DOC	Discrete Organic Chemicals
ICJ	International Court of Justice

Chapter 1
'Verification' in Arms Control Treaties

The strategic debates that took place in the background of the intense Cold War rivalry between the two superpowers, on the one hand, and the smaller nations caught in the hostile geopolitical predicament, on the other represented both the hopes and fears of a secure future of the international community. While a number of scholars argued that the 'fear' of a nuclear exchange would actually deter any nuclear weapon state from engaging another, the concept of deterrence came to be increasingly questioned as a viable peace sustaining approach. It has been argued that the dialectics of deterrence are such that nuclear deterrence gradually and increasingly negates itself, as factors build up within that could, one day, result in its catastrophic failure and nuclear war.[1] Many argue that perhaps it was 'plain good luck' that such a devastating war did not break out despite the intense hostilities and the near nuclear exchange during periods such as the Berlin crisis and the Cuban Missile crisis.

A critical examination of concepts such as 'deterrence', the 'mad' rush for more and more weapons of mass destruction and the fear of accidental or unintentional use of these weapons and the fear of non-state actors getting hold of these initiated new approaches and security models that could prevent or perhaps even put a stop to the increasing danger of annihilation of human kind. It was, however, too simplistic to think that international mechanisms could be created for complete disarmament. In the circumstances, 'arms control' became the catch word to prevent any tension from escalating into a conventional war or a possible nuclear

[1] Alexei G. Arbatov, "Rethinking Nuclear Deterrence: In Search of a New Basis for European Security," in Furio Cerutti and Rodolfo Ragioneri (eds.), *Rethinking European Security,* (New York: Crane Russak & Co., 1990), p. 40.

exchange and this subsequently became the most important element in the Cold War security conception.

Arms control exercises can be traced to as early as the 1960s in the framework of US and Soviet relations. There was a tacit agreement between the US and the Soviet leaders to avoid nuclear brinkmanship in each other's neighbourhood particularly in the aftermath of the Cuban missile crisis. In this regard, ballistic missiles were removed from both Cuba and Turkey after the crisis in 1962 which nearly escalated into a nuclear showdown. Further, special re-assurances measures for ballistic and nuclear weapons were agreed upon which required transparency in deployment and dismantlement of nuclear forces – the very first of which was a commitment not to place the weapons of mass destruction in outer space or on celestial bodies. The 1972 Anti-Ballistic Missile Treaty imposed restraints on existing military capabilities. While nuclear weapons and the associated delivery systems remained the core of the bilateral arms control engagements between the two superpowers during the Cold War, other weapons systems too were also being discussed too. The 1972 Biological and Toxin Weapons Convention is one such example. At that time it was seen as a sort of revolution in arms control because it aimed to do away with an entire category of weapons. Although the issue of chemical weapons were not discussed then, it was understood that the negotiations for chemical weapons would soon follow suit.

Arms control has been defined as the agreements that seek to limit, reduce or regulate arms or military activities.[2] Arms Control has also been seen as a process with five sequential stages. This includes negotiation, ratification, implementation, verification and finally the compliance stage. Of these many stages verification remained an important aspect in the US-Soviet Arms Control agreements during the Cold War and has since become an essential aspect of most

[2] Allan S. Krass, *The United States and Arms Control: The Challenge of Leadership,* (Connecticut: Praeger, 1997), p. 4.

international arms control treaties. Before World War II arms control treaties were treated as a gentleman's agreements in which the need for verification was not felt.[3] In the post-War scenario the deep distrust that existed between the two blocs made verification not just an important aspect of, but often, the necessary condition for arms control agreements itself. However, for a long time the Soviet Union was to oppose any verification measures in arms control agreements. The Soviet aversion to transparency advocated by the United States has been explained in terms of the closed nature of Soviet society as well as the pervading sense of technological inferiority that it felt.[4]

This chapter will attempt to trace the evolution of verification in arms control treaties in all the four categories of weapons[5] and will also examine its present status.

Verification: A Historical Overview

Verification has been defined as the "judgment about the extent to which the parties to an arms control accord are upholding their obligations."[6] The verification process encompasses a range of activities including monitoring, analysis, assessment, consultation, clarification, and other steps deemed necessary to evaluate compliance. Monitoring, however, has to be distinguished from verification, as it involves a continuous collection of information about other's military activities regardless of whether they are covered by arms control

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[3] Michael Moodie & Amy Sands, "New Approaches to Compliance with Arms Control and Nonproliferation Agreements," *The Nonproliferation Review,* Vol. 8, No. 1, Spring 2001, p. 4.
[4] Allan S. Krass, *The United States and Arms Control...*, p. 14
[5] The four categories of weapons dealt with include the Nuclear, Conventional, Biological and Chemical.
[6] Nancy W. Gallagher, "The Politics of Verification: Why 'How Much?' is Not Enough," in Nancy W. Gallagher, ed., *Arms Control: New Perspectives to Theory and Policy,* (London: Frank Cass, 1998), p. 139.

agreement.[7] Verification can be distinguished into two types depending on the degree involved. "Effective Verification" would thus be defined as the ability to "detect any violation", regardless of its military significance whereas "Adequate Verification" would be the ability to "detect major violations" early enough to respond in time to preserve a state's security.[8] Effective verification would entail knowing the smallest detail of treaty violation whereas adequate verification would not bother too much with every possible violation so much as to consider those significant violations, that fundamentally challenges the arms control provisions.

Although verification approaches in treaties for the different weapons systems vary, they are all designed to deter cheating, create a baseline or context from which to judge relevant information, and reinforce existing norms against proliferation. If effectively integrated, these different approaches can be put to use to achieve the objective of 'detection, deterrence and increased confidence' that compliance is being maintained.[9] It is argued that the ability to detect evasion by one or more of the states parties to a treaty is a major deterrent to that evasion.[10] Verification is also a reflection of the desire of states to ascertain whether other states parties are abiding by the treaty obligations. And because arms control agreements are usually drawn up between states that mistrust and fear each other, verification, therefore, becomes a substitute for trust.[11] The role of verification assumes more prominence if the consequence of the failure to detect evasion is serious. For states nothing can be more devastating to its security calculations than another state that cheats to illegally rearm itself and thus gain a significant military

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[7] ibid.
[8] Kenneth L. Adelman, "Why Verification is more Difficult (and Less Important)," *International Security,* Vol. 14, No. 4, Spring 1990, p. 145.
[9] Michael Moodie & Amy Sands, "New Approaches to Compliance with Arms Control and Nonproliferation Agreements," *The Nonproliferation Review,* Vol. 8, No. 1, Spring 2001, p. 3.
[10] J. C. Garnett, "The Risks Associated with Unverifiable Arms Control Treaties," *Arms Control,* Vol. 7, No. 3, December 1986, p. 241
[11] ibid.

advantage. It is not surprising therefore that the problem of verification has dominated the thinking about disarmament and arms control.[12]

It was perhaps in the European Confidence and Security Building Measures (CSBM) processes during the Cold War period and in the face of Europe's vulnerability in the interplay of the intense rivalry between the eastern and the western bloc that initiated measures which eventually resulted in the institutionalizing of 'verification' measures – one of the most successful implementation of such measures during the Cold War period. Although these initiatives did not involve weapons of mass destruction (WMD) at its fundamentals, these became important precursors to future attempts in the realm of the WMDs. For instance, the INF treaty follows the line of the Stockholm Document in many ways.[13] Beginning with the Helsinki process in 1975, Europe's security priorities were to prevent such tension that could possibly escalate into a conventional war or a possible nuclear exchange particularly between the hostile East and the West. In such a situation a European 'verification regime' was seen as a vital component in a 'cooperative security' framework.

In Europe these CSBMs underwent a three-step process and development.[14] The first was the Helsinki process. The Helsinki Final Act 1975 was effectively designed to reduce the danger of surprise attack by creating an obligation to give advance notification of military manoeuvres beyond a certain level. The area covered by this agreement was the whole of Europe. The thrust behind this cooperative framework was an obligation by European states to refrain from the threat of use of force in their relations with one another. This process was followed

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[12] ibid.

[13] Joetze Gunter, "European Confidence Building Experience from Helsinki to Vienna and Paris", in Confidence and Security Building Measures: From Europe to Other Regions, Disarmament Topical Papers 7, United Nations, 1991, p. 49.

[14] Hohenfellner Peter, "The achievements and drawbacks of the Helsinki/Stockholm CSBM Process," in *Disarmament Confidence and Security Building Measures in Asia,* (New York: United Nations, 1990), p. 21.

by the Stockholm Accord 1986 which "was a thorough arms control exercise and focussed on security establishments and was popular for its innovations like the on-site inspections, military observers and for propounding submission of annual calendar of military exercises."[15] The Stockholm process also led to the evolution of "cooperative aerial inspections" that finally culminated "into the open skies agreement allowing mutual inspections of military facilities of Warsaw treaty organisation and NATO which were seen as symbols of East-West divide and of military threats."[16]

The Stockholm Accord, thus, reaffirmed Europe's cooperative concerns regarding its security. Apart from an increased focus on transparency in military exercises and allied activities in all the three arms of the forces, the Stockholm Document institutionalized a regime concerning the participation of observers in military activities anywhere in Europe. Verification in the form of guarantees to on-site inspections without refusal was another hallmark in the Stockholm meeting. Stockholm, thus, was a major breakthrough, in this regard, as the measures to be agreed on were to be obligatory. Verification in the Stockholm Agreement made it mandatory for each state to accept up to 3 on-site inspections per year from the air and ground.

The Vienna Document 1990 was a further build-up on transparency measures especially in areas of new weapons programme. One of the points of focus was the confidence and security and achieving progress in disarmament and at respecting the security interests of all participating states inherent in their sovereign equality.[17]

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[15] Swaran Singh, "Confidence-Building Measures: India's Understanding and Experience," in Reena Marwah (ed.), *Comparative Perspective on Asian Development: A View From South Asia,* [Proceedings of the Asia Fellows Conference in South Asia, November 2004], pp. 137-152.
[16] ibid.
[17] Hohenfellner Peter, "The Achievements and Drawbacks of the Helsinki/Stockholm CSBM Process...," p. 27.

Towards the end the 1960s, the two superpowers continued to sign arms control agreements. Along with bilateral agreements the United Nations was also successful in facilitating arms control agreements during this period. The period also saw the growth of verification, which was made possible by the sophisticated monitoring technologies being developed by the two superpowers. Verification was carried out mostly through national technical means. These included *inter alia* a variety of satellite and aircraft imaging systems, extensive networks of satellites, seismographs, radiation monitors, and other sensors for detection and measurement of nuclear weapons tests; space-, land-, and sea-based antennas and sophisticated decryption and traffic analysis methods for communications monitoring; radars for tracing aircraft, ballistic missiles, and satellites; ground-based imaging systems for observing and identifying orbiting spacecraft; underwater sonar devices that could track submarines and surface ships and detect hydro-acoustic waves at great distances.[18]

Despite these innovations, however, during the Cold War it was often the limitations of the National Technical Means that set the limits for what could be agreed upon in terms of arms control. For instance, the 1963 Partial Test Ban Treaty, which banned nuclear tests in the atmosphere, underwater and in outer space did not include underground testing because the technology for verifying it did not yet exist then.[19] It was argued that tremors produced by earthquakes could not be distinguished from those made by nuclear tests. Eventually an attempt was made to correct this shortcoming through the 1974 Threshold Test Ban Treaty and the Peaceful Nuclear Explosions of 1976 that limited the size or yield of underground nuclear explosions. By then it was shown that underground nuclear explosions could be effectively distinguished from natural earthquakes. The

[18] Allan S. Krass, *The United States and Arms Control...*, p. 14.
[19] Richard A. Scribner, Theodore J. Ralston, and William D. Metz et. al., *The Verification Challenge: Problems and Promise of Strategic Nuclear Arms Control Verification,* (Boston: Birkhauser, 1985), p. 4.

technical explanation given was that the largest portion of the energy emitted into the surrounding soil by earthquake is carried by waves of low frequency, whereas energy from detonations is carried by waves that are of much higher frequency.[20]

Another example in this regard was the ABM Treaty and the Strategic Arms Limitations Talks (SALT). In these agreements the critical components and activities covered could be verified without resort to intrusive inspections. The NPT verification regime, however, was an exception in that it allowed on-site inspections by IAEA inspectors to access the records of states' nuclear energy activities. The IAEA could also use all kinds of containment and surveillance measures at facilities where fissile materials were being processed or stored. This was to ensure that the materials were not being diverted towards weapons development programs.

However, by the second half of the 1980s, a sort of revolution in arms control was taking place, with at least ten major agreements being signed between September 1986 and January 1993. The period saw a quantitative and qualitative leap forward in verification for arms control. The major contributing factors to this new development were the easing of tensions between the Cold War rivals and also the willingness shown by Soviet Union under Mikhail Gorbachev's leadership to agree to a much more comprehensive and intrusive verification provisions.[21] This therefore enabled significant changes in the way verification was carried out. Especially with the conclusion of the Treaty on Intermediate-Range Nuclear Force (the INF Treaty) in December 1987, verification became more vigorous through the adoption of on-site inspections (OSI). In a departure from more reliance on National Technical Means, subsequent arms control agreements had verification

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[20] Jack F. Evernden and Charles B. Archambeau, "Some Seismological Aspects of Monitoring a CTBT," in Kosta Tsipis, David W. Hafemeister and Penny, eds., *Arms Control Verification: The Technologies that Make it Possible,"* (New York: Pergamon-Brassey, 1991), p. 252.
[21] George L. Rueckert, *On-Site Inspection in Theory and Practice: A Primer on Modern Arms Control Regimes,* (Connecticut: Praeger, 1998), p. 2.

regimes containing some elements of OSI. Of these, the CWC was to exhibit the most rigorous example of an arms control verification regime.

The Means of Verification: National Technical Means and On-site Inspections

The means for verification tools can be broadly understood divided into National Technical Means and the On-site inspections.

National Technical Means

It has been argued that arms control verification has turned out to be the inadvertent beneficiary of the instruments and techniques being primarily developed for military intelligence.[22] Very few of the devices being used for arms control verification were originally developed for the purpose of verification. The technology includes photoreconnaissance satellites, radars of various kinds, sensitive electronic communication interception and collection equipment, and seismic and acoustic sensors.[23] National Technical Means proved to be the most important means of verification during the Cold War. For the Soviet Union any verification measure that involved allowing inspectors from another country was unthinkable. Thus from the early 1960s towards the end of 1970s, far more emphasis was put on National Technical Means for verifying arms control agreements.

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[22] Allan S. Krass, *Verification: How much is Enough?* (London: Taylor and Francis, 1985), p. 15.
[23] Richard A. Scribner, *The Verification Challeng...*, p. 47.

On-Site Inspections

On-site inspection has been defined as the activity undertaken by arms control inspectors in pursuance of the treaty provisions and it involves a relatively brief, time-limited stay of inspectors and inspection equipment on the soil of the inspected party.[24] On-site inspections involve physical assessment of the weapons capabilities and other related issues of a member state through intrusive and sometimes invasive means.

Following the Second World, along with the various proposals for arms control there was also the demand for strict verification provisions. However, problems arose on the nature of verification. The United States and its Western allies favoured on-site inspections as logical verification measures given the lack of modern monitoring technologies such as satellite and radar systems. On-site inspection was thus seen as a useful way to increase the overall transparency of military activities, to test intentions and to build confidence. However, the Soviets rejected the early Western on-site inspection proposals by arguing that inspection and control should follow and not precede actual weapons reductions. They also argued that the proposals were also, in effect, efforts at espionage and would therefore infringe on their national sovereignty. The Soviet Union indicated that they would only be ready to consider on-site inspections in peripheral geographic areas and not on their own territory.

This, therefore, set the stage for the 1959 Antarctica treaty which established the first most comprehensive post-War on-site inspection regime. Although it pertained to non-military installations in an isolated geographic area the treaty was to be instrumental in pioneering a number of on-site concepts, which among others included routine inspections; "anytime, anywhere" inspections, and

[24] George L. Rueckert, *On-Site Inspection in Theory and Practic...*,p. 6

aerial over-flights. Under the treaty any member state could conduct on-site inspections anywhere on the continent.[25]

The development of, and the acceptance of the modern on-site inspection regime coincided with the rise of Mikhail Gorbachev in the Soviet Union. The first concrete manifestation of this change in the Soviet stance was shown in the Document of the Stockholm Conference on Confidence and Security-Building Measures and Disarmament in Europe signed on 19 November 1986. The agreement was an improvement upon the 1975 Helsinki Final Act by inclusion of an unprecedented provision for no-refusal on-site inspections of the military forces of both sides as confidence-building measure.[26]

The Intermediate-Range Nuclear Forces Treaty (INF Treaty) marked the highpoint of on-site inspection as a fundamental element of modern arms control. The treaty by combining both elements of previous on-site inspection proposals and new on-site concepts was able to create a basic model for all subsequent arms control treaties. The on-site inspection regime of the INF Treaty provides for five types of inspections:[27] (1) Baseline inspections of all inspectable sites to verify the data provided; (2) close-out inspections confirming that treaty-prohibited activity had indeed ceased at facilities declared to be eliminated; (3) short-notice inspections to verify that the non-occurrence of illegal activities at existing or former INF site; (4) elimination inspections to confirm the destruction of INF systems in the manner designated in the treaty; and (5) portal and perimeter continuous monitoring of a missile facility for confirming the cessation of production of INF missiles at their former production sites.

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[25] ibid., p. 13.
[26] ibid., p. 24.
[27] ibid., p. 25.

In effect the intrusiveness of the on-site inspections of the INF Treaty was to put in motion the rapid expansion of the evolving bilateral and multilateral arms control agreements in terms of the verification provisions. From the INF treaty onwards all arms control agreements have incorporated on-site verification measures as an important element in the arms control exercise.

Verification practice for the four weapons category

Nuclear Weapons

The regime on nuclear weapons was the first among weapons categories that provided for a regular and ongoing verification of compliance. The effort to deal with the problem of nuclear weapons began in the final days of World War II. The United States presented the United Nations Atomic Energy Commission a bold plan for the control of nuclear power. The Baruch Plan (1946) called for the cessation of the manufacture of nuclear bombs, the disposal of existing U.S. bombs, and the creation of an international agency that would be given all information concerning the production of nuclear energy. The proposal was to be implemented only when both a means of verification and a system of sanctions had been agreed upon.

The Soviet Union, however, concerned of its own development of nuclear capability rejected the proposal. The failure of the Baruch Plan made it evident that any internationalist solution to the arms race would have to be sought within the recognized bipolar pattern of U.S.-Soviet rivalry. Moreover, arms control that initially aimed for global disarmament, especially by the mid-1960s, took on a different approach "towards a limited but more effective control regime."[28]

[28] J. Christian Kessler, *Verifying Nonproliferation Treaties: Obligation, process, and Sovereignty,* (Washington, DC: National Defense University Press, 1995), p. 23.

Verification in the case of nuclear weapons first came in the form of 'safeguards'. The International Atomic Energy Agency came into being in 1956 as a result, first of bilateral negotiations between United States and Soviet Union, and later on by consultations with allies and other countries like Czechoslovakia, Brazil and India. All NPT signatory states are to enter into a safeguards agreement with the IAEA. Under Article III of the NPT, the IAEA has been tasked with the implementation of safeguards and inspection regime. The Safeguard and inspection regime is essentially geared towards ensuring that states that do not already possess nuclear weapons are not developing nuclear weapons. The IAEA safeguards regime was codified by the IAEA Information Circular 153 (INFCIRC/153) whose goal was to detect well in a timely manner the diversion of significant quantities of nuclear materials from permitted peaceful nuclear activities to nuclear weapons programme.[29]

However, it was soon realised that the IAEA safeguards' practice of monitoring and inspecting only facilities already declared by the state being inspected was seriously flawed. It became quite evident through the IAEA's experiences with the Democratic People's Republic of Korea (DPRK) and Iraq that IAEA's Safeguards could easily be sidestepped through the use of covert and undeclared facilities for developing nuclear weapons.[30]

It was in this context that the Additional Protocol (INFCIRC/540) – a measure to strengthen the safeguards regime – was undertaken. The Additional Protocol is the additional legal authority for measures being considered under the IAEA's 2-Year Project known as Program 93+2, which is aimed at strengthening

[29] Chaim Braun and Christopher F. Chyba, "Proliferation Rings: New Challenges to the Nuclear Non-proliferation Regime," *International Security,* Vol. 29, No, 2, Fall 2004, p. 29.
[30] ibid.

the existing safeguards system.[31] Under INFCIR/540, states are to make a more expanded and comprehensive declarations of all their nuclear materials and nuclear-related activities; the IAEA may conduct environmental sampling wherever it has access; and the IAEA shall have access to any location to check for undeclared nuclear materials or activities.[32] However the acceptance of the Additional Protocol by member states is voluntary and, so far, few states have ratified it (84+EURATOM). Moreover, this would not apply to states like Saudi Arabia, which though a NPT signatory has not even concluded the basic Safeguards Agreement with the IAEA.

Adherents to the Additional Protocol must provide 10-year fuel-cycle research and development plans to the IAEA, the activities and identities of persons or entities carrying out this research and development, export/import information and descriptions of facilities. The signatory states may also be subject to far more intrusive inspections. However, it has been argued that the success of the measures under the Additional Protocol are likely only if states are made to realise that it is in their interest to do so. These could include multilateral demand-side inducements as well as making countries less fearful of the nuclear ambitions of their neighbours.

However, chances of the effective implementation of the Additional Protocol seem more and more unlikely given the budgetary constraints. It was shown that the IAEA's 2004 regular income was less than $269 million out of which $102 went towards nuclear verification.[33] Also, the IAEA's support budget has not seen growth for a long time. It has thus been argued that an underfunded IAEA will be less effective in verifying safeguards compliance given the enormous responsibilities that follows it.

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[31] ibid., pp. 29-30.
[32] ibid., p. 30.
[33] ibid., p. 32.

Conventional Weapons

Under the conventional weapons category the attempts at banning the weapons can be studied as consisting of two stages. The first was the negotiations that took place between the North Atlantic Treaty Organisation (NATO) and the Warsaw Pact on force reductions in Europe under the rubric Mutual and Balanced Force Reductions (MBFR) from 1973 to 1989. The second was the negotiations for the Conventional Armed Forces in Europe (CFE) Treaty conducted between 1987 and 1989.

The MBFR Talks was aimed at limiting conventional arms in countries located near the NATO-Warsaw Pact Lines of confrontation namely, the Benelux nations (Belgium, Netherland and Luxembourg), Czechoslovakia, the two German states and Poland. It turned out to be a fruitless attempt at conventional arms control for central Europe. The talks ended in 1989 without any agreement being signed. The major issues of contention included military manpower subject to reduction, intrusive monitoring inspections and the content and validity of the exchanged data. However, it has been argued that the focus of the MBFR talks on personnel strength was chiefly the reason for its failure since it is an issue area for which verification was difficult and circumvention relatively easy. The different structures of the armed forces concerning the East and the West made it almost impossible for ready comparison of the armed personnel strength.[34]

Within the context of the Conference on Security and Cooperation in Europe (CSCE), the two alliances began discussion on a new set of negotiations that eventually produced the January 1989 mandate for CFE. In February 1989, the MBFR was abandoned and CFE began in March of the same year. After 20 months

[34] Pal Dunay, "Verification of Conventional Arms Control," *Verification Yearbook 2000*, (London: VERTIC, 2000), p. 3.

of intensive negotiation, the then 22 member countries of NATO and Warsaw Pact signed the CFE treaty in Paris on 19 November 1990

Unlike the MBFR, the CFE Treaty focuses on equipments rather than manpower.[35] The treaty sets upper, equal limits for Treaty Limited Equipment (TLE) in the hands of the two groups of states, within a zone from the Atlantic to the Urals (ATTU), to be reached by the conversion and/or destruction of TLEs over the limits. The treaty also creates a complex set of requirements concerning regional sub-ceilings, exchanges of data, rules for equipment destruction or conversion, and inspections to monitor compliance.[36]

The CFE verification system rests on a complex web of monitoring and cooperative measures. While, on the one hand, each party has the right to employ National Technical Means (NTM) for monitoring, they are also to provide a detailed data exchange of its force structure, treaty limited equipments, and their locations, all of which are then to be updated annually. There also exists an elaborate regime of on-site inspections for any declared military site holding Objects of Verification (OOV). In other words, any declared military unit holding TLEs; destruction, conversion, storage, repair, and training sites. The number of inspections that each nation is obligated to accept depends on the number of its declared OOVs. Non-declared sites are also subject to "challenge" inspections, which, however, can be refused by the challenged state by providing reasonable confidence that the site does not contain TLEs.[37]

In Europe a treaty was in place by the mid 1980s providing for conventional weapons control and management. The Stockholm Document, for instance, obliges

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[35] This has seen as the main reason for the success of the CFE Treaty. It was found that verification of equipments was easier than that of manpower. For more on this see <http://www.fas.org/nuke/control/cfe/congress/22b1.htm>

[36] ibid.

[37] ibid.

signatory states to give notification 42 days in advance for four types of military activity.[38] First land-force exercises involving at least 13,000 troops or 300 battle tanks and organised in a divisional structure; secondly amphibious landing exercises involving at least 3000 troops; thirdly parachute assault engagements involving at least 3000 troops; and fourthly the engagement of land-force formations in transfers from one zone to another.[39]

Biological Weapons

The Biological Weapon and Toxin Weapons Convention (BTWC) dealing with biological weapons has been plagued, since its inception in 1972, by the lack of verification provisions. When the Convention was being negotiated the need for verification was not felt as biological weapons were thought to be militarily of little use.[40] Moreover the Soviets were opposed to any intrusive verification regime. This, however, was to change in the next few years because of the alleged development and use of biological agents by Soviet Union in contravention of the Convention obligations. Also the rapid growth in bio-technology became a concern in terms of the possibility of their being directed towards destructive weapons development.

The efforts towards strengthening BTWC began with the First Review Conference in 1980. However, it was soon realised that verification for the biological weapons would not be easy because of the unique characteristics they possessed. For example, unlike chemical weapons only a few kilograms of biological agents would be sufficient to produce a biological weapon. Moreover it

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[38] Hohenfellner Peter, "The Achievements and Drawbacks of the Helsinki/Stockholm CSBM Process..., p 24.
[39] Hohenfellner Peter, "The achievements and drawbacks of the Helsinki/Stockholm CSBM Process...," pp. 24-25.
[40] S.J. Ludin, "Multilateral and Bilateral Talks on Chemical and Biological Weapons," *SIPRI Yearbook*, (Oxford: Oxford University Press, 1990, p. 522.

could be produced in a small area that cannot be easily detected and the technology needed for production could also be readily acquired from legitimate dual-use applications.

Initial efforts were directed at evolving a modest set of confidence-building measures. The Second Review Conference held in Geneva in 1986 led to an agreed set of measures which included data exchanges on biological research laboratories, shared information on outbreaks of infectious diseases, increased publication of biological defence research and the promotion of scientific contacts related to the BTWC. At the Third Review Conference an Ad Hoc Group of Verification Experts (VEREX) was tasked with identifying, examining potential verification measures from a scientific and technical standpoint. The Group identified 21 potential off-site and on-site verification measures. Their report was considered in the 1994 Special Conference which then established another Ad Hoc Group to negotiate a legally binding protocol to the BTWC.

The group began work in 1997 and by 2001 the negotiators had arrived at a "Rolling Text" consisting of 250 pages. The Chair of the AHG, Hungarian Ambassador Tibor Toth, had prepared a 210-page "Composite Text" in an attempt to arrive at a compromise and reduce the points of disagreement among the negotiators. From 23 July to 17 August 2001 the AHG met for the twenty-fourth and last session at Geneva. It was a session during which the United States declared its intention of not supporting the BTWC Draft Protocol. It argued that the Draft Protocol being based on trust would not deter potential cheaters while at the same time putting at risk its national security and jeopardizing legitimate trade secrets.

Although the work of the AHG has been put in abeyance with little hope of further compromises, new efforts have been initiated ever to strengthen the BTWC. This has taken the form of a "new process" that includes an annual meeting of

experts and states parties for three years beginning in 2003 till 2005. The result of these annual meetings will be considered in the 2006 Review Conference and the Final Declaration made. This means the annual meetings by themselves will not have any legal status. It is to be seen if factors that have stalled so far the negotiations would be repeated or if member states can finally come up with concrete results that will strengthen the BTWC.

Chemical Weapons

Chemical weapons were used with devastating consequences during World War I and on a smaller scale even after that war.[41] The Geneva Protocol of 1925 was negotiated to ban the use of chemical weapons along with biological weapons. This, however, did not prove effective. Then the issue of chemical weapons was taken up in the Geneva Disarmament Conference of 1969. The United States and Soviet Union continued bilateral discussions towards the achievement of this objective during the 1970s and the 1980s. The accumulation of these efforts resulted in the Chemical Weapons Convention of 1993 which then entered into force in 1997.

The CWC contains the most intrusive verification regime in any arms control agreement to date. It provides for data declarations and notifications and also verification including both routine and challenge inspections. Under the Convention all chemical industries producing "dual use" chemicals that have both military and commercial applications will be monitored so as to ensure the non-production of chemical weapons. The CWC verification regime benefited from the IAEA safeguards system as well as that of nuclear and conventional arms control inspection regimes.[42] The CWC seeks to balance inspection of exceptional intrusiveness with "managed access" provisions that ensures that information

[41] George L. Rueckert, *On-Site Inspection in Theory and Practice...*, p. 34
[42] ibid., p. 34.

provided do not compromise commercial proprietary information and national security. The challenge inspection of the CWC is unique to the convention. Under this provision any facility suspected of violation of treaty provision irrespective of whether it is declared or not, is subject to challenge inspection.

The Organisation for the Prohibition of Chemical Weapons (OPCW) was created to oversee the implementation of the CWC. The CWC is already a well-established treaty in which the four declared chemical weapons possessor states, namely, India, South Korea, Russia and the USA are in the process of destroying their stockpiles.[43] Although the implementation of the CWC provisions is underway since it came into force in 199, it has also been beset by problems which have slowed down the process.

The Purpose of this Study

Verification, while successful in some of the arms control exercises, has not been successful in others. In the case under study, while the Chemical Weapons Convention approved a wide-ranging comprehensive verification regime, the same has not been the case with the Biological Weapons Convention, even though most analysts tend to place biological and chemical weapons into 'one' category weapons, different from nuclear or conventional weapons. It must be noted that the CWC was institutionalised with some urgency while the BTWC, despite the more than two decades of negotiation is yet to have an effective verification regime. Various reasons have been cited by analysts for the difficulty in a consensual approach towards the BWC process. Critics even tend to argue that most decisions by states, particularly the United States, in this regard, have been political in nature with an explicit purpose of defending its pharmaceutical and other bio-technology related activities.

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[43] John Hart, Frida Kuhlau and Jacqueline Simon, "Chemical and Biological Weapon Developments and Arms Control," *SIPRI Yearbook 2003*, (Oxford: Oxford University Press, 2003), p. 645.

The main purpose of this study is to see why the CWC verification regime succeeded while the BTWC efforts in this regard failed.

The next chapter will begin with an examination of the circumstances under which the BTWC came into being. It will then look into the nuances in the negotiations of the BTWC with a special focus on the successive Review Conferences that was meant to strengthen the Convention with an effort to incorporate compliance and verification processes. The setting up of the Ad Hoc Group in the 1994 Special Review Conference needs special focus as this Group was tasked with the most important function of bringing out a draft protocol that would be acceptable to member states. It will also attempt to examine the contestations and the explanations offered by various states on their respective stands on the Convention. The role and the context of the United States refusal to support the Ad Hoc Group's Draft Protocol in August 2001, when it was felt that a certain amount of success would be achieved in the negotiations must be given a special consideration. In the aftermath of 2001 the renewed process of the BTWC negotiations will also be studied.

Chapter 2

Biological and Toxin Weapons Convention

Despite the moral antipathy attached to the deliberate spread of disease, biological weapons have been used throughout history.[1] Even during World War I, biological weapons were used, although only against animals. Japan reportedly used biological agents, dropping plague-infested fleas and grain over Chinese during the Sino-Japanese war in 1937. By the time of World War II, major powers had started the development of biological weapons. Countries like the United States, Canada and Britain worked closely with each other to translate biological agents into effective weapons. During the 1970s, the Soviet Union was also alleged to have used biological weapons in Afghanistan and in South-East Asia. Moreover, an outbreak of human anthrax in the Soviet city of Sverdlorsk in April 1979 was linked to a suspected biological weapons facility.[2] However, by the 1960s the use of biological agents as a viable weapon of mass destruction began to be debated, and it subsequently became more convincing that the widespread use of biological weapons would be "prevented by problems relating to dissemination methods."[3] This, however, did not altogether allay the fears of the potential use of biological weapons with possible devastating outcomes.

The fear that biological weapons could pose as weapons of mass destruction can be attributed to a number of factors. Developments in science and technology are expected not only to develop various strains of biological and toxic agents, but

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[1] Susan B. Martin, "The Role of Biological Weapons on International Politics: The Real Military Revolution," *The Journal of Strategic Studies,* Vol. 25, No. 1, March 2002, p. 66.
[2] Eric Croddy, Perez-Armenariz and John Hart, *Chemical and Biological Warfare: A Comprehensive Survey for the Concerned Citizen,* (New York: Copernicus Books, 2002), pp. 241-42.
[3] Susan B. Martin, "The Role of Biological Weapons on International Politics...," p. 70.

also to develop storage and dissemination means, which so far has been the main setback to its weaponisation. Further, biological agents are seen as easy to produce, "in a garage, a tool room or a kitchen", and need little expertise and little money.[4] In recent years, a more disquieting development is the increasing belief that terrorists would be the ones most likely to use such weapons.

The threat of biological weapons as a weapon of mass destruction has been responsible for the negotiations for a workable treaty to stop the production and use of biological weapons. Under the auspices of the United Nations' Conference of the Committee on Disarmament (CCD), negotiations were held in Geneva beginning in 1968. In 1968, the United Kingdom had proposed that the Eighteen Nation Disarmament Committee negotiate a supplement to the Geneva Protocol to strengthen the ban on the use of bacteriological warfare and also by banning the weapons with which such warfare might be waged. The unilateral halt of the US biological weapons program in 1969, and the Soviet agreement to the separation of the issues of chemical and biological weapons paved the way for the BTWC. The Biological and Toxin Weapons Convention was finally negotiated and entered into force on 26 March 1975. The BTWC that emerged, however, was a weakened convention due to the compromise between the Superpowers. The Convention clearly lacked the explicit ban on the use of the prohibited weapons that was present in Article 1 in the UK's original proposal. In addition, the UN Secretary General was no longer assigned an investigatory role and no mention was made of research or the constraining research that could threaten the integrity of the BTWC.[5]

Although the BTWC has been seen as instrumental in the evolution of an international norm repudiating biological and toxin weapons that calls for complete

[4] Walter Laqueur, *The New Terrorism: Fanaticism and the Arms of Mass Destruction* (Oxford: Oxford University Press, 1999), p. 65.
[5] Nicholas A. Sims, *The Evolution of Biological Disarmament,* SIPRI, (Oxford: Oxford University Press, 2001), pp. 3-5.

elimination of these weapons and capabilities possessed by states, the treaty remains essentially weak due to the lack of verification provisions. Unlike chemical weapons, it was generally agreed that biological weapons were not militarily significant at the time the BTWC came into being. Hence the issue of intrusive verification – a controversial matter at that time – was accordingly not considered necessary.[6]

BTWC: A Weak Treaty

The BTWC is the first arms control agreement to ban an entire class of weapons. Yet the task of verification was left solely to states parties themselves by way of self-policing. themselves. It was agreed that states parties could use the consultative mechanism provided for in Article V, in cases where breaches of compliance was evidenced. Article V of the BTWC provides for consultation and cooperation among states parties in solving problems relating to the application of the provisions of the Convention. Consultation and cooperation pursuant to this article can also be undertaken through appropriate international procedures provided it is within the framework of the United Nations. Article VI provided for lodging complaints with the UN Security Council in case of breach of the Convention but with all possible evidence. And Article VII stated that states parties cooperate in allowing investigations by the UN Security Council. These functional substitutes to verification, however, proved not only inadequate but also ineffective.

The weakness of the BTWC soon became clear. Allegations have been made about the use of biological weapons and also of their proliferation. Yet the BTWC did not have provisions to deal with them. Two cases involving alleged use and development of biological were to play a crucial role in exposing the lacunae

[6] S. J. Lundin, "Multilateral and Bilateral Talks on Chemical and Biological Weapons," *SIPRI Yearbook 1990*. (Oxford: Oxford University Press, 1990), p. 522.

inherent in the BTWC - the lack of a verification regime. In September 1981, the United States accused the Soviet Union and its clients of using a form of bio-toxin against anti-communist guerrillas in Laos, Cambodia, and Afghanistan. The second involved the outbreak of anthrax in the Soviet city of Sverdlovsk, which was allegedly due to the biological weapons activity being carried on there. Reports of an accident in the Soviet BW facility in Sverdlovsk had began to appear in European press toward the latter half of 1979. Without making any formal charges the US raised the issue at the end of the First Review Conference of the BTWC, in accordance with the provision of Article V of the Convention. The Soviet Union, however, vigorously denied that it had violated the provisions of the treaty. They continued to argue that it was a gastric anthrax caused by consumption of contaminated meat.[7] This incident clearly demonstrated the shortcoming inherent in the BTWC. The lack of verification provisions meant that prompt investigation could not be undertaken to substantiate the case.

These two cases, however, was to lend credence to those who had been advocating a more stringent and effective verification regime for the BTWC. Through periodic Review Conferences the states parties have tried to incorporate verification measures aimed at giving more teeth to the Convention.

The Review Conferences: Strengthening the BTWC

The First Review Conference that was held in 1980, the standard of verification provisions remained the main cause of dispute among states.[8] Some states like Sweden and Nigeria were of the view that the BTWC needed to be strengthened through an amendment of Article V, which dealt with the

[7] Charles C. Flowerree, "Verification of Chemical and Biological Weapons: Lessons Learned," in John G. Tower, James Brown, and William K. Cheek, (eds.), *Verification: The Key to Arms Control in the 1990s,* (New York: Brassey's (US), Inc., 1992, p. 196.
[8] Jez Littlewood, *The Biological Weapons Convention: A Failed Revolution,* (Hampshire: Ashgate Publishing Limited, 2005), pp. 17-19.

consultations in cases of violations of the treaty violations. The Soviet Union expectedly opposed the move arguing that since no issues of compliance has been brought before the Depositories, there was therefore no need to worry about problems that did not exist. However, the First Review Conference gave rise to hope of reforming the Convention to deal, especially with doubts relating to compliance.

States parties at the Second Review Conference in 1986 and then in the Third Review Conference of 1991 took the first steps towards a verification regime by adopting a formal programme of information exchange or confidence building measures. Notably at the 1991 Review Conference an attempt was then made to achieve a consensus on launching a formal negotiation to strengthen the BTWC through a supplementary legal agreement. This proposal to convene negotiations was blocked by the United States, which argued that verification of compliance with the BTWC was not just extraordinarily difficult but simply not achievable by an internationally based verification regime.[9] However, a compromise was reached in which an ad hoc group of scientific experts called the VEREX was established and charged with preparing a technical report on the feasibility of potential verification measures.

The primary VEREX contribution identified 21 potential verification measures that ranged from the distant to the intrusive.[10] The draft provisions included a range of off-side measures, including mandatory declarations of facilities, programmes and relevant events, exchange visits; remote sensing whether from satellites, aircrafts or ground-based off-site systems; data exchange; and the sharing, monitoring and checking of information through an independent BTWC organization. They also referred to on-site measures, like random and clarification

[9] Kenneth D. Ward, "The BWC Protocol: Mandate for Failure," *The Nonproliferation Review,* Vol. 11, No. 2, Summer 2004, p. 184.
[10] For the complete list see *SIPRI Yearbook 1994,* p. 730.

visits, auditing, and investigations of key equipment, and investigation of allegation of use of biological weapons and unusual outbreaks of disease, whether involving humans, animals or plants.

It was concluded that effective verification was feasible and that the absence of verification measures was not impairment but rather a weakness that needed inputs and correction. On submission of its Final Report by VEREX, a majority of states requested the convening of a special conference to discuss the Final Report and decide on further action.

Their report was considered in the 1994 Special Conference, which then established another Ad Hoc Group to negotiate a legally binding protocol to the BTWC. The Ad Hoc Group commenced work in early 1995 and by July 1997, it had made a successful transition to the negotiation of a 'rolling text' of a protocol to strengthen the BTWC. The Ad Hoc Group is to a large extent supported by the efforts of four informal working groups known as "Friends of the Chair" (FOC), which addressed the major issues in the negotiating mandate: Definitions and Objective Criteria, Confidence Building Measures (CBMs), Compliance Measures and Peaceful Co-operation and Technology transfers.

At the 1996 Fourth Review Conference states parties continued to insist on an elaboration and implementation of a verification regime as the best method to prevent the proliferation of such biological weapons.[11] In this regard, it was pointed out that national measures alone would not ensure compliance to the treaty obligations. The implementation of the obligations under the treaty solely depended on the intentions of the states parties. Thus a verification regime was needed that would not only include the possibility of conducting investigations of alleged use and other on-site intrusive activities but also cooperative measures in which an

[11] Statement by the Czech Republic at the 1996 Fourth Review Conference of the parties to the BTWC, available at <http://www.amun.org/undocs/dc_2567.htm>

implementing agency would have a central role in collecting information on biological activities in all states parties and providing a catalyst for technical assistance.[12]

Meeting periodically from 1995 till 2001, the Ad Hoc Group developed a "rolling text" of a protocol designed to reinforce the BTWC by setting out the modalities of a compliance-monitoring regime. The proposed system was to include mandatory declarations of bio-defence programs and treaty-relevant facilities, routine visits to validate the declarations, and challenge-type investigations of suspect facilities and incidents of alleged bio-weapons use or suspicious outbreaks of infectious disease.[13]

The Ad Hoc Group had its twenty-fourth and last scheduled session from 23 July to 17 August 2001, in Geneva. The United States, however, declared that it would not support the BTWC Draft Protocol arguing that it was impossible to both deter potential cheaters and verify sites. The US also argued that this would put at risk its national security and might lead to trade secrets espionage. The session could not come out a final report thus failing in the mandate to complete the negotiations before the Fifth Review Conference later in the same year. In the Fifth Review Conference from 19th November to 7th December, nothing substantial came emerged. Instead the US proposed that the mandate of the AHG be terminated. In an attempt to prevent an outright failure the states present adjourned the Conference to November 2002.[14] In the reconvened BTWC Review Conference the Chairman Tibor Toth came forward with his proposal of a limited programme of further discussions on addressing the problems of biological weapons.

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[12] Statement by Brazil at the 1996 Fourth Review Conference of the parties to the BTWC, available at <http://www.amun.org/undocs/dc_2567.htm>

[13] Jonathan B. Tucker, "The BWC New Process: A Preliminary Assessment," *The Non-proliferation Review,* Vol. 11 (1), Spring 2004, p. 27.

[14] Kalpana Chittaranjan, "Endgame in November 2002: US Position Other Alternative Modalities to Protocol," in P.R.Chari and Arpit Rajain, (eds.), *Biological Weapons: Issues and Threats,* (New Delhi: India Research Press, 2003), p. 40.

In fundamental ways the withdrawal of support to the Draft Protocol by the United States dealt a deathblow to the expectations of a verifiable BTWC. Critics have not taken kindly to the argument posited by the United States for rejecting the draft protocol. As for the argument that the Protocol is too weak to catch potential cheaters, The US itself was held responsible for watering down the provisions that would have resulted in a strong verification regime. The US had insisted that the declaration of the bio-defence facility be limited and also that except for vaccine plants other production facilities are exempted from making a declaration.[15] The Protocol is also not as intrusive as CWC. Unlike the CWC, the Protocol does not require routine visits, allowing no sampling and analysis in non-challenge visits, and gives control of access to the country being inspected.[16] It has been argued that US seems to have been driven by the ideological motivations that appose arms control treaties as it constrains the US ability to exercise offensive and defensive capabilities and thus limit its flexibility to pursue its self-interest.[17] This view has been buttressed by a report that the US might have been engaging in a program of secret research on biological weapons, which pushes the limits of the BTWC provisions.[18]

Other Influences on the BTWC Negotiations

The negotiations for a BTWC Protocol were also influenced by the concerns of the pharmaceutical and other biotechnological entities. For instance, in May 1996, the Pharmaceutical Research and Manufacturers of America (PhRMA)

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[15] Barbara Hatch Rosenberg, "Allergic Response: Washington's Response to the BTWC Protocol," *Arms Control Today,* Vol. 31, No. 6, July/August 2001, p. 6.
[16] ibid., p.7.
[17] ibid., p. 8.
[18] Judith Miller, Stephen Engelberg and William J. Broad, "U.S. Germ Warfare Research Pushes Treaty Limits," *New York Times,* September 4, 2001, p. A1.

Issued, a White Paper detailing their preferred approach to BTWC compliance protocol. They preferred on-site inspections to be limited to challenge inspections based on alleged BTWC violation. In their view, visits to declared facilities are likely to be costly to legitimate business while detection of any untoward activity could be almost non-existent. PhRMA was also for a "green-light" approval mechanism for allegations that may result in challenge inspections. According to this approach, a three-quarter majority of the members of the BTWC Executive Council would vote to approve a challenge inspection. "Managed access", which was a mechanism borrowed from the Chemical Weapons Convention (CWC) was also included by the PhRMA. This method entails a negotiated agreement between the inspection team and the host country with respect to the degree of access that will satisfy the team's compliance concerns while protecting the site's legitimate industrial information. For the United States, the role of the PhRMA proved to be a drawback in its negotiating positions.

Within the government too there was a conflict of views between the Departments of Defence, Energy and Commerce which included the PhRMA and who advocated a less intrusive regime and the National Security Council (NSC), who favoured the more intrusive regime, arising out of their fear of the use of biological weapons by terrorists in particular. It was in January 1998 when Secretary of Defence William Cohen, Secretary of State Madeleine Albright and Secretary of Commerce William Daly, hammered out a package of compromise proposals that the US negotiating positions became more accommodative and began playing a more important role in lending direction to the AHG negotiations.

Countries like Britain, Australia, Canada, New Zealand and South Africa have argued that random, non-challenge visits could strengthen the BTWC and provide the effective means for checking the accuracy of declarations, enhancing transparency, and deterring the use of declared facilities for illicit purposes. But

others like the US and Japan oppose this on the ground that they would burden industry and jeopardize business information and that the process would be unable to detect BTWC violations, which are most likely to occur at dedicated clandestine facilities. Besides they argued that a reasonably sophisticated violator could use a declared facility for illicit production without the inspectors detecting anything.

Kenneth D. Ward argues that the negotiation mandate that was agreed under the 1994 Special Conference for the Ad Hoc Group lacked a shared vision and resolve. Instead, it reflected the divergent negotiating objectives of the participating states. The AHG was tasked with negotiating a legally binding instrument (subsequently designated as a "protocol") to "strengthen the effectiveness and improve the implementation of the Convention" with focus on four principal areas: compliance measures, confidence-building measures (CBM), definitions and objective criteria, and Article X, which provides for exchange of scientific and technological information. These four principal objectives simply sought to reflect the divergent positions taken by the participating state parties.[19] In particular, Ward argues that Russia, by demanding a reinterpretation of the convention using "definitions of terms and objective criteria" was attempting to do away with the "intent element" of the convention.[20]

Ten years of effort that was first began in the Third Review Conference held in 1991 failed to produce a meaningful result. This effort had included the 1992-93 experts meetings, the 1994 Special Conference and then the attempt of the Ad Hoc Group from 1995 to 2001 to negotiate a verification protocol. Since then the focus has shifted from the multilateral approach to the role of national implementation measures.[21] Self-reporting by states parties would be done to

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[19] Kenneth D. Ward, "The BWC Protocol: Mandate for Failure," *The Non-proliferation Review,* Vol. 11, no. 2, Summer 2004, p. 185.
[20] ibid.
[21] Jez Littlewood, "Back to Basics: Verification and the Biological Weapons Convention," *Verification Yearbook 2003,* (London: Vertic, 2003), p. 2.

increase transparency about their actions. Other states would then informally verify the information given out and assessment made as to whether the state was complying with the provisions of the convention.

BTWC Protocol: Negotiating the Verification Regime

New Process

Since the US rejection of the Draft Protocol in July 2001, a 'new process' has been put in place. This involves experts and annual meetings, the outcome and conclusions of which is slated to be considered in the 2006 Review Conference. This new process is seen as a way out of a deadlock the BTWC was in. At the end of the Fifth Review Conference in November 2002 chairman of the AHG Tibor Toth proposed three annual meetings of the states parties of one week duration each year commencing in 2003, to discuss, and promote common understanding and take effective action with regard to five specific agendas. These five agendas were to be considered and negotiated over three years with a view to their completion by the time of 2006 Review Conference. In 2003, the agenda regarding individual national measures was to be negotiated. The following year 2004 would deal with biological weapons in the international realm involving strengthening institutional and verification measures. In 2005 the final agenda dealing with codes of conduct for scientists was to be discussed.

In the first year, 2003, states parties looked at the issue of national measures to implement the prohibitions set forth in the Convention, which included also the enactment of penal legislation. The other theme was that of putting in place national mechanisms to establish and maintain the security and oversight of pathogenic micro-organisms and toxins.

The first of these preparatory meetings of the experts took place in Geneva from August 18-29, 2003. The first week was devoted to national legislation aimed at the implementation of the prohibitions in the BTWC, while the second week was devoted to national measures to enhance the physical security and accountability of dangerous pathogens and toxins. As many as 60 working papers were presented in the meeting. Disagreement, however, persisted over whether a formulation of voluntary guidelines from the voluminous data exchanged should be made. Some countries favoured a set of voluntary guidelines for penal legislation and bio-security regulations that could then be incorporated in the final conference document. But others opposed this move by arguing that the complexity of reconciling different national approaches would make development of guidelines impossible. What emerged as a final product of the November meeting was a political statement urging member states to enact or update their national legislation making the prohibitions in the BTWC binding on their citizens, imposing penal sanctions for violations, and tightening security over dangerous pathogens and toxins. However, the lack of a multilateral guideline is likely to result in a patchwork of inconsistent regulations, which would result in security gaps that would allow proliferators and bio-terrorists to take advantage of.[22]

In the second year, 2004, states considered two other items listed in the agenda. The first of this included enhancing international capabilities for responding to, investigating and mitigating the effects of cases of alleged use of biological or toxin weapons or suspicious outbreaks of disease. The second dealt with strengthening and broadening national and international institutional efforts and existing mechanisms for the surveillance, detection, diagnosis and combating infectious diseases affecting, humans, animal, and plants. The third and final year, 2005, before the sixth Review conference, would consider the last agenda, that of, adoption of codes of conducts for scientists.

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[22] Jonathan B. Tucker, "The BWC New Process: A Preliminary Assessment," *The Nonproliferation Review,* Vol. 11 (1), Spring 2004, p. 33.

The 2006 Review Conference was to consider all the above agendas and decisions or compromises arrived at during the successive deliberations. In particular, the Conference intended to look into the issue of verification, the modalities of which would have been crudely worked out during the three years of negotiations. Further, action on the BTWC deadlock was to be considered after an examination of the above.[23]

This new process in the aftermath of the failure of the 2001 Draft Protocol was considered not only an attempt at an alternative approach that go beyond traditional arms control goals to define the aims altogether differently but also was a result of continued efforts at looking at biological weapons as a potential future threat. The rationale for this new process seems to be motivated by the complex environment with which biological arms control must deal and lack of success of traditional approaches.

It remains to be seen whether the 2006 Review Conference will finally resolve the contentious issues that has so far stalled the debates and decisions on biological weapons. The number of states parties to the BTWC currently stands at 151. This may be indicative of the desire of a majority of states to do away with the threat of biological weapons. However, the actual task of controlling biological weapons in the form of a strengthened treaty still remains largely in doubt. A dangerous disconnect thus exist between the growing threat of biological weapons

[23] See Draft Decision of the Fifth Review Conference of the Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) Weapons and on Their Destruction, BWC/CONF.V/CRP.3, November 6, 2002.

and the failure of the international community to reinforce the treaty regime in order to deal effectively with the problem of non-compliance.[25]

It is interesting to note, however, that quite unlike the Biological and Toxins Weapons Convention, the Chemical Weapons Convention received much better acceptance among state parties, even with its elaborate and strikingly intrusive verification regime. Biological and chemical weapons have often been treated as 'same' category weapons in that they are both abhorrent and detestable means of killing an adversary. While international norms and principles are expected to treat the two in a similar fashion, this has not been the case. Critics have viewed this international behaviour as coming within the realm of 'politics' wherein individual states put their own interests before agreeing to international mechanisms of control or conduct.

The next chapter will look into the debates and decisions that institutionalized the Chemical Weapons Convention. While the focus here will be to see the way in which this Convention has been different in rationale and purpose to the Biological Weapons Convention, it will be pertinent to understand the context in which the this Convention was negotiated and agreed upon despite states' aversion in most cases to intrusive verification regimes.

[25] Jonathan B. Tucker, "The BWC New Process: A Preliminary Assessment," *The Nonproliferation Review,* Vol. 11 (1), Spring 2004, p. 27.

Chapter 3
Chemical Weapons Convention

The first use of chemical weapons has been attributed to the Greeks who were believed to have used them in 431 B.C. Early efforts to ban the use of chemical weapons were essentially driven by the cruelty of the weapon system as well as their limited military value. In 1675, the Franco-German Accord was signed at Strasbourg, which aimed at stopping both armies from using poisoned bullets.[1] About two centuries later, in 1874, in the Brussels Declaration on the laws and custom of war the employment of poison weapons was prohibited. Then in the Hague Convention of 1899 a Declaration was signed concerning the abstention from the use of projectiles with the object of diffusing asphyxiating or deleterious gases. This prohibition was later to be confirmed by the Hague Convention of 1907.

Efforts to counter the problem of chemical weapons continued after World War I. The treaty of peace with Germany signed at Versailles on 28 June 1919 prohibited the use of asphyxiating, poisonous or other gases and all analogous liquids, materials or devices. The Washington Naval Disarmament Conference of 1922 also tried to prohibit the use of chemical weapons in war.[2]

The Geneva Protocol of 1925 remains a landmark in the attempt to put in place a legal instrument in the field of chemical weapons disarmament. The 'Protocol for the Prohibition of the Use, in War of Asphyxiating, Poisonous, or Other Gases and of Bacteriological Methods of Warfare' banned the use in war of both chemical and biological weapons. The Protocol, however, was more of a rule on the conduct of warfare, rather than an arms control agreement. It did not contain

[1] Thomas Graham Jr., *Disarmament Sketches: Three Decades of Arms Control and International Law,* (Seattle: University of Washington Press, 2002), p. 47.
[2] Eric Croddy, Perez-Armendariz and John Hart, *Chemical and Biological Warfare: A Comprehensive Survey for the Concerned Citizens,* (New York: Copernicus Books, 2002), p. 172.

verification measures. In effect, it only prohibited the first use of chemical and biological weapons in war among parties. In 1935-36, Italy in an attempt to achieve quick victory over the Ethiopian forces used chemical weapons. Similarly, whole battalions of unprotected Chinese troops were attacked by the Japanese forces using chemical agents ranging from non-lethal harassing agents to phosgene and blister agents.[3] Such cases as these, therefore, denied the Protocol the legitimacy of international law.

Negotiating the Chemical Weapons Convention

The establishment of the Eighteen Nation Disarmament Committee (ENDC) in 1961 was a significant step in the field of disarmament. Though the body was formed with the hope of making disarmament negotiations a more meaningful process, its task was made difficult by the often conflicting positions that the United States and Western powers took in relation to the other states. A case in point is the issue of whether to club the chemical and biological weapons together or give them separate treatment. Socialist countries and Non-Aligned countries including India, argued that chemical and biological weapons are weapons of mass destruction and thus they should be treated collectively. But the United States favoured a separate treatment of the two weapons systems. It has been argued that the United States' position has been dictated by the events of the Vietnam War, in which it was using chemical weapons.[4]

In 1966, the question of chemical weapons again assumed importance when the representatives of Hungary introduced a proposal, on 7 November 1966, supported by the USSR, protesting the use of chemical weapons in Vietnam.[5] After what was a prolonged discussion on 5 December 1966, the first General Assembly

[3] Eric Croddy, *Chemical and Biological Warfare....* pp. 154-155.
[4] Rajiv Nayan, " The Chemical Weapons Convention and the US," *Strategic Analysis,* Vol. XX, No. 1, April 1997, p. 159.
[5] *Yearbook of the United Nations: 1966,* Vol. 20, (New York: The UN Publication, 1966), p. 22.

resolution devoted to the question of chemical weapons was adopted at a plenary meeting. Then, the subject of chemical and bacteriological warfare was first taken in 1968 as a distinct issue by the ENDC.[6]

The efforts to ban chemical weapons involved both bilateral level talks between the superpowers and multilateral negotiations. At the 1974 Moscow Summit, the United States and Soviet Union agreed to hold bilateral talks in an effort to develop a joint proposal, to be submitted to the CCD, on the prohibition of chemical weapons. The Ad Hoc Working Group on chemical weapons was then established in the Committee on Disarmament in March 1980.

Also notably in 1979, in a successful case of bilateral negotiations in the Conference on Disarmament, the Soviet Union and the US, in a joint report proposed a Convention to ban development, production, stockpiling, otherwise acquire or possess, or retain super toxic lethal chemical or other means of chemical warfare.

The United States took an active role in the initial stages of the negotiations of the CWC. In February 1983, US Vice President Bush announced at the CD, US requirements for a verifiable prohibition on the production, stockpiling, and transfer of chemical weapons. It called for the declaration and the systematic international on-site inspection of the destruction of both chemical weapons stocks and production facilities. It also called for a declaration and on-site inspection of the operation of other facilities for legal production of chemicals that pose a specific risk of being diverted to chemical weapons production and also for a multilateral mechanism for dealing with compliance issues.[7] In June of the same year, the United States presented a paper at the CD showing how stockpile

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[6] *The United Nations Yearbook 1989,* Vol. 14, (New York: The United Publication, 1989), p. 236.
[7] "Chemical Weapons Negotiations at the Conference on Disarmament," Available at <http://dosfan.lib.uic.edu/acda/factshee/wmd/cw/cwcneg.htm>

destruction can be verified. It combined extensive use of on-site instruments with continuous monitoring by international inspectors. At the invitation of the United States, fifty diplomats from 30 CD nations attended the Chemical Weapons Verification Workshop at Tooele, Utah in November 1983. In the following year at the CD, Vice President Bush presented a US draft treaty that provided for a worldwide ban on the development, acquisition, production, stockpiling, transfer, and use of chemical weapons. It called for systematic on-site inspection of chemical weapons facilities to ensure compliance. Although the Soviet Union dismissed the draft treaty then, it was to become the basis for discussion by the Ad Hoc Group of the CD.[8]

With improving superpower relations in mid-1980s, the Conference on Disarmament moved from the exploratory discussion to the final elaboration of a chemical weapons ban by mandating the Ad Hoc Committee on Chemical Weapons in 1984.

Two factors were to especially influence the renewed emphasis on negotiations; the new draft convention submitted by the United States and the evidence of chemical weapons use by Iraq against Iran. A succession of international meetings between representatives of the civil chemical industry and the negotiating diplomats began culminating in the September 1989 Government-Industry Conference against Chemical Weapons in Canberra.

By the late 1980s, the Soviet Union agreed to give up its earlier reluctance towards a mandatory challenge inspection. The rapid thaw in the East-West relations by 1989 as well as the express recognition by states that no international ban on chemical weapons could ever be fully verifiable due to the very 'dual-use' nature of chemicals, contributed positively to the chemical weapons negotiations.

[8] "Chemical Weapons Negotiations at the Conference on Disarmament," Available at <http://dosfan.lib.uic.edu/acda/factshee/wmd/cw/cwcneg.htm>

One factor that hastened the negotiation process of the Convention in Geneva was the use of chemical weapons by Iraq against both Iran and its own Kurdish citizens in Halabja, which caught the world's attention. The effect of the mustard gas and other agents on ordinary people, and the horrific photographs that were published around the world was also to make an impact on the work of the negotiators on a treaty not only banning the use, production, and stockpiling of chemical weapons, but also a treaty that would contain a mechanism for verifying a state's compliance with the provisions therein.[9]

The end of the Cold War and the disintegration of USSR and Iraq's warning to use chemical weapons in the Gulf War coincided with the shift in America's interest from challenge verification to an effective verifiable CWC. At this juncture, Australia played a crucial role. During the period 1991 to early 1992, Australia developed a first compromise draft convention on CWC by taking painstaking bilateral talks with many nations. The Australian text was presented to the CD in March 1992. This text paved the way for the preparation of the first chairman's draft. The Chairman of the Ad Hoc Committee on Chemical Weapons, Ambassador Von Wagner of Germany, presented a non-controversial text with no indication to accelerate the negotiations to change the psychological climate within which the talks were proceeding. It was subsequently recognized that the appearance of the cleaner CWC text helped to focus attention on a final text. On 3 September 1992, in the CD, Geneva, the draft text of the CWC was concluded and on 13 January 1993 it was opened for signature.

India was one of the first 65 countries to sign the convention and ratify it in September 1996. For India, the CWC was fruition of its untiring effort towards chemical disarmament. The importance of the CWC also lay in that it was not only non-discriminatory unlike the NPT but provided an opportunity for the general and

[9] Jeans Pascal Zanders, "Chemical Weapons: Beyond Emotional Concerns," *The Bulletin of Peace Proposals*. Vol. 21, No. 1, 1990, p. 80.

complete disarmament. Besides, it was in India's strategic interest to have such a convention since it provided a check against an unreliable Pakistan.[10] The bilateral agreement on chemical weapons signed between India and Pakistan was perceived to be inadequate to address India's security concerns. Moreover, the protection of troops in a war involving actual use of chemical weapons would have been impossible.[11]

Role of the Chemical Industries

The Government-Industry Conference against Chemical Weapons that took place in Canberra on 18-22 September 1989 was a culmination of the efforts involved in promoting understanding and co-operation between governments and industries on the practical issues to be covered by the CWC and the implementation of the CWC. It was stressed that the meeting was not a substitute for the negotiations in Geneva but more of a complement to them. It was attended by delegations from 66 countries, governments, the UN, the Commission of the European Communities (EC), the European Chemical Industry Federation (CEFIC) and the International Federation of Chemical Energy and General Workers Union (ICEF). Two workshops were conducted during the conference. The first was the 'Concluding the Chemical Weapons Convention' and the second was the 'Government-Industry Co-operation and the Implementing the Convention'. An industry forum was also held at the conference, in which representatives from the chemical industries of a number of countries presented their views and adopted a statement regarding industry support of the CWC.

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[10] Rajiv Nayan, "The Chemical Weapons Convention and India." *Strategic Analysis,* July 197, Vol. XX, No. 4, p. 641.

[11] Krisnaswami Sundarji, "Chemical Weapons in the South Asian Context: Cost Effectiveness," in Kathleen C. Bailley, *Weapons of Mass Destruction: Costs Versus Benefit,* (New Delhi: Manohar Publishers and Distributors, 1994, p. 110.

The Industry Declaration after the Canberra Government-Industry Conference against Chemical Weapons welcomed the constructive dialogue between governments and representatives of the World's chemical industries, and between industrial representatives of different countries.[12] While expressing their unequivocal abhorrence of chemical warfare, they affirmed their desire at fostering international cooperation for the legitimate civil uses of chemical products. The declaration also stated the industry's faith in a global, comprehensive and effectively verifiable Chemical Weapons Convention as the only solution to the threat posed by existing stockpiles and production facilities of chemical weapons.

The CWC

As of 3 July, 2005, 169 countries are states parties to the Convention which means they have signed and ratified it. 15 other states have also signed but have not ratified it.[13] The CWC bans a complete category of weapons. All states parties that have signed and ratified the treaty are required to declare all their chemical weapon stockpiles. Destruction of chemical weapons is expected to be over in a reasonable time period depending on specific circumstances. States that have abandoned chemical weapons in another country are responsible for the clean-up. Moreover states must either destroy or convert to peaceful use any chemical-weapons production facilities operated since 1946 under their jurisdiction.[14]

The CWC consists of a Preamble, 24 articles and three annexure. The three annexes – on chemicals, on implementation and verification and on the protection of confidential information – form an integral part of the CWC. The Annex on chemicals lists in three schedules 43 chemicals and families of chemicals selected

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[12] "Industry Statement," *Final Report,* Government-Industry Conference Against Chemical Weapons, Canberra, Australia, 20 September 1989.....

[13] See <http://www.opcw.org/>

[14] Eric Croddy, Perez-Armendariz and John Hart, *Chemical and Biological Warfare...*, p. 176.

for the application of special verification procedures.[15] The annex on implementation and verification provides in detail on the conduct of the CWC's verification provisions from declarations and inspections to challenge inspections and investigations of alleged use. The Annex on the protection of confidential information sets out principles for the handling of confidential information, measures to protect sensitive installations and data during inspections and procedures in case of breaches of confidentiality.

The CWC has also created the Office of the Prohibition of Chemical Weapons (OPCW) with the aim of ensuring the implementation of its provisions and also providing a forum for consultation and cooperation among states.[16] The comprehensiveness of the convention is seen clearly in Article VI, which obligates states to adopt measures to ensure the use of toxic chemicals and their precursors only for purposes not prohibited by the convention. The definition of chemical weapons in terms of the purposes for which they have been designed and not by their characteristics means that the circumvention of the convention through technological change is impossible.[17]

Verification Regime for the CWC

The Chemical Weapons Convention breaks new ground in arms control and disarmament history in that it provides for a most comprehensive verification and

[15] Schedule 1 consists of chemicals that could be used for weapons and have little or no use in commercial industry; Schedule 2 consists of chemicals that can serve as precursors to Schedule 1 chemicals, and are mostly used for commercial purposes; and Schedule 3 consists of chemicals that could be precursors for Schedule 1 and 2 compounds but are widely used in legitimate industry.
[16] Andrea de Guttry, "The Organisation for the Prevention of Chemical Weapons," in M. Bothe, N. Ronzitti and A. Rosas (Eds.), *The New Chemical Weapons Convention – Implementation and Prospects,* (The Hague: Kluwer International, 1998), p. 119.
[17] Malcolm R. Dando, *Preventing Biological Warfare: The Failure of American Leadership,* (New York: Palgrave, 2002), p. 34.

compliance system.[18] The convention reflects the intention of states parties to do away with chemical agents, other regulated chemicals, and weapons. This task is to be initiated within two years of the treaty's entry into force. At least one percent of a state party's chemical stockpile is to be eliminated within the first three years; at least 20% within 5 years; and at least 45% within 7 years. The total inventory is to be eradicated within 10 years after entry into force of the Convention. Likewise, destruction of chemical weapons production facilities must be started within one year and must be completed within 9 years after the entry into force of the Convention. The CWC had divided the responsibility of implementing the Convention provisions between the OPCW and the national authorities of each state party.[19]

Mandatory inspection apparatus which has been put in place by the CWC is an attempt to reinforce the safety of the Convention. It is an assurance to states parties that their potential antagonists are not sustaining a one-sided military advantage. Towards the achievement of this goal the CWC authorises inspectors to snoop into a variety of both "declared" and "undeclared" facilities, to take, analyze and remove samples of selected chemical substances encountered in the inspection. They can also demand that certain chemical operations be performed in their presence.[20]

Organisation for the Prohibition of Chemical Weapons (OPCW)

The Organisation for the Prohibition of Chemical Weapons (OPCW) is an independent international organisation established by the CWC with its

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[18] A. Walter Dorn and Douglas Scott, *The Compliance Provisions in the Chemical Weapons Convention: A Summary Analysis,* PSIS Occasional Paper Number 2/1995, (Geneva: Programme for Strategic and International Security Studies (PSIS), 1995), p. 7.
[19] Malcolm R. Dando, *Preventing Biological Warfare...*, pp. 35-36.
[20] David A. Koplow, *By Fire and Ice: Dismantling Chemical Weapons While Preserving the Environment,* (Amsterdam: Gordon and Breach Publishers, 1997), p. 51.

headquarters in The Hague. The OPCW is tasked with verification activities to verify compliance with the provisions of the CWC. The OPCW is composed of three organs:

1. The Conference of States Parties
2. The Executive Council and
3. The Technical Secretariat

The Conference of States Parties is the general assembly of states parties that is convened annually. The Executive Council is composed of 41 representative States Parties chosen from five regional groups and are usually convened four times a year. Actual verification activities are carried out by the Technical Secretariat. The CWC has a two-tiered verification system in which the Technical Secretariat and the National Authority of each state party will share the responsibility between them.[21] States parties are thus required to enact comprehensive implementing legislation and have a National Authority which should be empowered to collate the data necessary to monitor national compliance with obligations mentioned in Article 1 of the Convention.

Assessing Implementation of the CWC

It can be asserted that much has been achieved since the CWC came into force in 1997. The OPCW has been engaged in implementing the core provisions of the CWC. The four states that have declared possession of chemical weapons have begun destruction of their stockpiles. There are also reasons to believe, however, that even those countries that declared their existing stockpiles did not cover all aspects as provided for in the CWC. Moreover, the horizontal spread of

[21] Daniel Feakes, "Evaluating the CWC Verification System," *Disarmament Forum Four,* (Geneva: United Nations Institute for Disarmament Research, 2002), p. 12-13.

chemical weapons[22] has been put in check by the routine inspection that is being carried out by the Technical Secretariat of the OPCW.

However, this optimistic appraisal must be tempered with problems that have beset the CWC in general and the OPCW in particular. There are evidences that existing stockpiles remain largely undeclared and pose a significant threat to international security. The role of the OPCW, while, successful in a number of ways has been beset with a number of organisational and infrastructural problems.

Destruction of Chemical Weapons

Four states parties have declared their possession of chemical weapons. These are India, South Korea, Russia and the United States. By February 2003, 7,197.6 tonnes of chemical weapons have been verified destroyed out of a 69,868.8 tonnes of chemical weapons agent were declared. And out of the 8,624,584 munitions and containers declared, 1,865584 have been verified as destroyed.[23] As of 15 December 2002, it was reported that 25.6 per cent of the total US' 31,279.7-tonne chemical weapons declared to the OPCW, was already destroyed.

Routine Inspections

The routine inspection provision of the CWC appears to be well underway. By February of 2004, about 59 states parties to CWC have opened up to routine inspection by the Technical Secretariat of the OPCW.[24] The Technical Secretariat

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[22] Prevention of horizontal spread of chemical weapons means preventing the spread of chemical weapons to countries that did not previously possess them.
[23] John Hart, Frida Kuhlau and Jacqueline Simon, "Chemical and Biological Weapon Developments and Arms Control," *SIPRI Yearbook 2003: Armaments, Disarmament and International Security,* (Oxford: Oxford University Press, 2003), p. 655.
[24] Amy Smithson, "Recharging the Chemical Weapons Convention," *Arms Control Today,* Vol. 34, No. 2, March 2004, p. 6.

also has conducted 524 inspections at various industrial facilities without much problem.

Destruction or Conversion of Chemical Weapons Production Facilities

The Technical Secretariat of the OPCW has managed 220 inspections at 34 chemical weapons storage sites.[25] So far eleven countries have declared 61 chemical weapons production facilities. In over 300 inspections of these plants, the inspectorate has certified 40 of these facilities as destroyed.

Implementation Problems

The implementation of the CWC has come out with mixed results. On the one hand, the number of states-parties has grown rapidly, including such major regional powers as Russian China, and Iran. All of the four declared possessors of chemical weapons except Russia had begun destruction of chemical weapons and had met the first intermediate destruction deadline in the CWC to eliminate one per cent of their most dangerous stocks by April of 2000.[26] Among them – the United States, Russia, India and South Korea – they possess chemical weapons stockpiles totaling 69,863 metric tons of chemical agents and nearly 8.4 million munitions and containers.

A major problem associated with the implementation of the CWC provision concerns delay in the datelines initially stipulated for the destruction of chemical weapons. Russia's delay in its destruction efforts is a prominent example in this regard. It has, thus, become a normal practice for the intermediate datelines to be moved back. This would mean that the datelines for the eventual elimination of all

[25] Amy Smithson, "Recharging the Chemical Weapons Convention..., p. 7.
[26] Jonathan B. Tucker, "The Chemical Weapons Convention: Has It Enhanced US Security?" *Arms Control Today,* Vol.31, No. 3, April 2000, p. 8.

chemical weapons which should have remained sacrosanct will be have to violated and pushed back too.[27]

Financial constraints have also been another problem for the effective functioning of the OPCW. This takes the form of an inadequate budget and late re-imbursement of the verification costs.[28]

Non-use of the Challenge Inspection provision

Challenge inspection provision although hailed as unique to CWC, has not been implemented so far. The political bar for request of challenge inspection has been pegged so high up that no state party, in the seven years since the CWC came into force, has attempted to invoke this mechanism.[29] And this is despite the fact that the US government has been charging that Iran, which is a state party to the Convention, is violating its provisions. This has therefore led to pessimistic assessment that if the CWC challenge provision remains unused; its credibility will erode and consequently lead to the diminishing of its deterrent value.[30]

When the CWC was being negotiated attempt was made to achieve a reasonable balance between two conflicting objectives that of proving sufficiently intrusive verification to build confidence in compliance as well as to protect non-treaty-related trade secrets and national security information. Yet practice has increasingly shown that states have shifted this delicate balancing to favour protection of confidential information over transparency concerns, with the result

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[27] Alexander Kelle, "The First CWC Review Conference: Taking Stock and Paving the Way Ahead," *Disarmament Forum Four,* (Geneva: United Nations Institute for Disarmament Research, 2002), p. 5.
[28] ibid., p. 4.
[29] Jonathan B. Tucker, "Strengthening the BWC: A Way Forward," *Disarmament Diplomacy,* July/August, 2004, p. 28.
[30] ibid.

that intrusiveness of the CWC verification regime continues to be eroded.[31] During inspections at industry sites, states parties have begun limiting the access of OPCW inspectors to plant sites and facility records, while also preventing them from obtaining the data they need to accomplish the aims of their inspection mandate.[32] CWC members have also approved procedures that give host government the right to confiscate and retain any piece of recording equipment that host officials claim has not been cleared of data unrelated to treaty compliance.

In conclusion it has been shown that the success of the CWC can be attributed to factors like active involvement of great powers particularly the United States and Russia although critics tend to look at the support by these major powers in terms of certain political reasons, the most pronounced of which has been that such a regime would deny chemical weapons capability to a number of countries which could be used as a deterrent against nuclear powers. Moreover, such a regime would not be risky in terms of commercial proprietary information. While, this may be looking too much into the criticisms, it must be noted that the CWC got enthusiastic support from many countries, indicating their willingness to chemical weapons disarmament. This support was also extended by the chemical industries.

The moral aversion to the use of chemical weapons, however, seems to have been the most important factor that evolved the CWC process and finally institutionalised the multilateral effort. The CWC, while raising hopes of threat reduction to international security, is yet to be comprehensive and free from ideological and political contestations that define contemporary international relations. The CWC has, however, set a successful precedent for future arms control exercises, particularly for the upcoming 6th BTWC Review Conference in 2006.

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[31] Jonathan B. Tucker, "The Chemical Weapons Convention...," p. 8.
[32] ibid.

Chapter 4
CWC and BTWC: A Comparative Assessment

In a comparative assessment of chemical and biological weapons one cannot fail to look into the physical properties of the two as this factor has influenced regime building in their control and proliferation. Chemical weapons are man-made. Among the most threatening chemical agents are: poisons such as Prussic acid, arsenic and strychnine; choking agents such as chlorine and phosgene gases; blistering agents such as mustard gas and lewisite; respiratory poisons such as hydrogen cyanide and cyanogen chloride; and nerve gases such as tabun, sarin, soman, VX and the more poisonous V(VX) series of gases. Most of these chemical agents are not gases but liquids and they have to be dispensed in droplets.[1] Since a lot of these substances have legitimate use they are freely available. The can be bought, stolen or prepared easily.

Biological agents are micro-organisms that cause, in the military sense, fatal diseases immediately or in due course of time. Plague, small pox, ebola, anthrax spores, botulinum toxin, fatal toxic septicemia (flesh-eating bacteria), ricin and others comprise the range of organisms that can be used in germ warfare. Quite like chemical agents, most of these organisms are freely available in nature and they have legitimate commercial uses, particularly in the pharmaceutical industry. They also can be easily acquired and prepared with minimal infrastructural arrangements. Biological agents may have a small advantage over chemical agents, as they are more difficult to detect once created.

In fundamental ways, therefore, the two while displaying different physical properties are quite similar in their potency as weapons of mass destruction. In both cases, reports of use of these weapons for military purposes have been well

[1] Walter Laqueur, *The New Terrorism: Fanaticism and the Arms of Mass Destruction* (Oxford: Oxford University Press, 1999), p. 59.

documented. The 20 March 1995, sarin gas attack by the Aum Shinrikyo in a Tokyo subway which killed 12 and injured over 5,500 may be one of the latest examples of the use of poison gas on civilians. Despite these instances, there continue to be heated debates as to whether the threat regarding the use of these weapons are overstated given the significant problems associated with the manufacture, storage and delivery of these weapons Bruce Hoffman, for instance, is convinced that the Aum Shinrikyo experience indicates that even though certain entities are not morally or psychologically averse to the use of chemical or biological weapons, they are unable to do so because of immense technological difficulties. He argues that Aum Shinrikyo with all its resources (which are reported to be in excess of $1 billion), manpower and years of R&D activities could not stage a single successful chemical or biological attack even though its intention was 'overkill'.[2] Walter Lacquer similarly argues that terrorists are probably less likely to use nuclear devices than chemical weapons and least likely to attempt to use biological weapons given the technical difficulties.[3] Both, however, agree that these difficulties could be overcome because of further advances in technology and other material factors and if certain states sponsor the production of such weapons. Despair and frustration, if their objectives are not achieved, could also lead some groups or individuals to use these unconventional weapons.

These mixed responses to the threat from biological and chemical weapons have, however, not impeded international efforts at building norms and effective regimes to control their use and proliferation of these weapons. Both the Chemical Weapons Convention and the Biological and Toxins Weapons Convention are part of the arms control efforts already in place. As indicated, the two Conventions share similar goals, processes and technicalities. For one, toxin, which is of biological origin, is included in both the conventions as an important element in the

[2] See Bruce Hoffman, "Change and Continuity in Terrorism." Available at <http://www.mipt.org/hoffman-ctb.htm>

[3] See Walter Lacquer, "Post-Modern Terrorism." Available at <http://www.mtholyoke.edu/acad/intrel/laqueur.htm>

use of biological and chemical agents for military purposes. Both the Conventions also address the issues of dual-use materials and technology. Moreover, both have general purpose criteria embracing all agents - past, present and future. In fact although the BTWC Protocol (Verification) regime was much more elaborate than the CWC, it was largely developed from the CWC verification regime.[4]

However, the two treaties have exhibited very different rationale, compliance and implementation, particularly in the failure of the BTWC to come up with a verification regime as in the CWC. Although, the CWC served as a model for the BTWC Protocol, it did not receive the necessary support that the CWC got. The purpose here will be to examine the reasons why the verification mechanism, which is already in place for the CWC, has evaded the BTWC negotiations despite a number of attempts spanning over two decades. It must be noted that political aspects as well as technical aspects both played crucial roles in the negotiation for the verification mechanism in both cases. The following section will attempt a comparison of the nature, negotiations carried out and the decisions taken of both the CWC and the BTWC under two major themes – technical aspects and political imperatives.

Technical Aspects

Problems Associated with 'Dual-use'

Benefits from chemical and biological agents far outweigh the costs of these getting into the hands of certain entities for military or terrorist use. Advances in bio-chemical technologies have not only been a boon to modern times but also have far reaching global economic implications in their vast area of operation and the

[4] See Graham S. Pearson, "The BTWC Protocol: The Chairman's composite Text," available at <http://www.asnltr.com/newsletter/01-3/articles/ChairmanBTWC.htm>

immense financial and infrastructure involved in their further development. Any attempt to stop or control these agents will not only require extreme prudence but also involve entities involved in the development of these for humanitarian purposes.

The verification regime for the CWC was made possible by the support it received from the chemical industry. It has been argued that the chemical industry being older and more established than the biotechnology industry, it is less likely to witness radical discoveries or changes in its manufacturing processes. This has to do with the issue of proprietary information. In other words, the chemical industry faces little risk with little or no trade secrets that could be stolen. The Industry Declaration after the Canberra Government-Industry Conference against Chemical Weapons in September 1989 rendered the necessary support for a global, comprehensive and effectively verifiable Chemical Weapons Convention as the only solution to the problem of chemical weapons use and proliferation.

Further, the chemical industry was deeply involved in the negotiations over the CWC playing an important role in shaping the final form of that landmark arms control agreement. A big challenge among the industry community was the problem of coordination in its international dimension. In the case of the CWC, US chemical industry representatives worked closely with colleagues from Europe, Japan, Australia, Brazil and elsewhere to ensure that the global industrial perspectives were shared with the negotiators.

It has been a different case with the biotechnology industry. Being relative new, dynamic, and fast growing, biotechnological industry leaders have argued that it is more vulnerable to loss of proprietary information than the chemical industry. During the periodic BWC negotiations it was the pharmaceutical industries that came up with a number of concerns. For instance, the May 1996 White Paper by

the Pharmaceutical Research and Manufacturers of America (PhRMA) explicitly stated that on-site inspections should be limited to challenge inspections based on alleged BWC violation. Among the industries that are to be affected by the BTWC Protocol negotiations outcome, there existed no proper coordination.

Within the US, the country which is host to a major chunk of the biotechnology industry, no effective relationship of trust was forged between US industry and government representatives. This was in sharp contrast to the effective partnership on CWC issues.[5]

Preparation, Storage and Delivery Issues

One of the arguments cited for the inability to reach an agreement on verification for the BTWC is that biological weapons are much more difficult to monitor and enforce than that of chemical weapons. Chemical weapons like sarin and sulphur mustard are synthetic compounds which do not have legitimate civilian uses while biological pathogens and toxins exist in nature and also at the same time have many peaceful applications in scientific research and in the development and testing of drugs and vaccines to combat infectious disease.[6] Moreover, unlike chemical weapons, biological materials intended for military purposes can be rapidly produced and easily destroyed which substantially added on to the argument that biological weapons are not verifiable.[7] The following table makes a comparative assessment of the potency and technicalities of the two weapon types:

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[5] Malcolm R. Dando, *Preventing Biological Warfare: The Failure of American Leadersip,* (New York: Palgrave, 2002), p. 139.
[6] Jonathan B. Tucker, "Strengthening the BWC: A Way Forward," *Disarmament Diplomacy 78,* July/August 2004, p. 25.
[7] P.R. Chari and Giri Deshingkar, "India: Straddling East and West," in Susan Wright (Ed.), *Biological Warfare and Disarmament: New Problems/New Perspectives,* (New York: Rowman and Littlefield Publishers, 2002), p. 247.

Table 4.1 **Comparative Assessment of the Potency and Technicality of the Biological and Chemical Weapons**

	Biological Weapons	**Chemical Weapons**
Type of Agent	Microbes (self-replicating)	Synthetic Chemicals
Potential targets	Humans, livestock, plants	Human, livestock
Mode of action	Primarily inhalation	Inhalation, Skin penetration
Destructive effects	Infectious disease	Chemical poisoning
Militarily significant amount	Kilograms	Metric tons
Onset of symptoms	Days to weeks	Minutes to hours
Specific ingredients	Seed stocks, culture media	Precursor chemicals
Dual-capable equipment	Standard Commercial	Specialised (Corrosion-resistant)
Deliverable form	Aerosol, food contaminants	Liquid droplets, aerosol, vapour
Stockpiling requirement	May be produced to order	Hundreds of agent-tons
Delivery methods	Munitions, spray tanks	Munitions, spray tanks
Military drawbacks	Delayed, unpredictable effects	Large quantities needed
Non-prohibited uses	Biomedical R&D, bio-defence	Chemical defence

***Source**: Jonathan B. Tucker, "Strengthening the BWC: A Way Forward," *Disarmament Diplomacy 78,* July/August 2004, p. 25.

Important differences exist between biological and chemical weapons.[8] The production of biological agents is difficult to detect since it could be carried out in a small warehouse building unlike chemical weapons which require a fairly large industrial site. Very few of the schedule 1 chemicals, unlike biological agents, are used for biomedical research and medical therapeutics.

[8] Jonathan B. Tucker, "Verification Provisions of the Chemical Weapons Convention and Their Relevance to the Biological Weapons Convention", in Graham S. Pearson, Gillian R. Woolett, Marie I. Chevrier, Jonathan B. Tucker and Amy E. Smithson, *Biological Weapons Proliferations: Reasons for Concern, Courses of Action,* (Washington DC.: Stimson Centre Report), available at <http://www.stimson.org/cbw/pdf/report24-entire.pdf>

Biological weapons easily overcome the stockpiling requirements since militarily significant quantities of biological weapons can be produced in days or weeks. The precursors for chemical weapons are limited in number whereas precursors for biological weapons can be quite easily acquired either through commercial or natural sources. Besides, the volume of precursors and chemical weapons are proportional but a small quantity of biological seed culture can produce agents in quantities that is many times over.

Most chemical products are not highly proprietary. In sharp contrast genetically engineered micro-organisms, drugs, and manufacturing process steps are highly proprietary therefore necessitating due protection. A thorough clean-up of nerve agent production facility is difficult while a vaccine plant can be manually cleaned in matter of a few hours. A table is given below that gives details of the various properties of nuclear, biological and chemical weapons:

Table 4.2 **Properties of Nuclear, Biological and Chemical Weapons**

	NUCLEAR	BIOLOGICAL	CHEMICAL
Procurement	Hard	Relatively easy	Relatively easy
Manufacture	Hard	Relatively easy	Relatively easy
Storage	Difficult	Difficult	Difficult
Delivery	Hard	Hard and hazardous	Hard and hazardous
Lethality	High	High	High
Target control	Fair	Low	Low
Cost effectiveness	50-50 to good	Very good	Very good
Detection	High	Low	Low

***Source:** Martin Shubik, "Terrorism, Technology and the Socio-Economics of Death," *Comparative Strategy,* No. 16, 1997, p. 399.

Political Imperatives

Two aspects have consistently determined the nature of international cooperation particularly in security-related issues. The first has been the role of

great powers and secondly, national interests of individual countries. It has been made apparent that no international regime has been effective in the absence of the support of major powers. No major power would allow a regime that would affect its vital interests. Similarly, other smaller powers have also put their vital national interests before international norms and principles. Therefore, international attempts at regime building have been consistently fed by 'politics' in the interplay between the interests of individual nations in an international system characterised by diverse opinions on security, politics and economics.

Role of Great Powers

Robert Jervis in his analysis of "security regimes" has laid down certain conditions necessary for the formation and maintenance of a security regime.[9] One of which he points out is that great powers must want to establish it. In more concrete terms, initiatives and support from countries like the United States and Russia are necessary in the field of arms control because they have by far the most weapons to eliminate. Moreover, the United States is in a unique position due to the fact that they have a combination of wealth, technical capabilities, operational expertise, and political interest in pressing international arms control.[10] In other words, they must prefer a more regulated environment to one in which all states behave individually.

It has been made evident that in both the CWC and BWC the role of the United States in the final outcome of the negotiations has been indispensable. Negotiated for more than two decades in the Conference on Disarmament, with 39 nations at the table and almost as many observing the negotiating environment, one may be tempted to say that the CWC represented a departure from the customary

[9] Robert Jervis, "Security Regimes," in Stephen Krasner, (Ed.), *Theories of International Regimes,* (London: Cornell University Press, 1983), p. 176.
[10] Allan S. Krass, *The United States and Arms Control: The Challenge of Leadership,* (Connecticut: Praeger, 1997), p. 6.

superpower dominance of the arms control arena. However, the US and Soviet Union were integral to the treaty's negotiations although "their roles were at times eclipsed by the enthusiastic contribution and active participation of states such as Australia, Germany, and France among others."[11]

An important contribution came from the positive leadership shown by the US in the negotiations of the verification regime for the CWC. The US had made it clear that it would formally forswear the use of chemical weapons for any reason – including retaliation – against any states as soon as the chemical weapons came into force. It would also unconditionally commit itself to the destruction of all its chemical weapons stocks within the ten years of entry into force. President Bush made a crucial change in American policy, which stated that the US would no longer judge the acceptability of chemical arms control in terms of whether it was or was not verifiable. Instead it would seek a level of verification that gives the Americans confidence to go ahead.[12]

The in-built automatic penalty system for states that do not sign may also have led to more states adhering to the CWC. Hold-out states would lose access to commercial trade in scheduled chemicals if they did not join within 3 years of CWC coming into force. In addition to economic penalties, states that refuse to adhere to the CWC would find themselves increasingly isolated from the global community.[13]

However, this does not seem to be the case as far as the BTWC is concerned. For quite different reasons, both the US and Russia as depository states

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[11] Marie Isabelle Chevrier and Amy S. Smithson, "Preventing the Spread of Arms: Chemical and Biological Weapons," in Jeffrey A. Larsen and Gregory J. Rattray, (Eds.), *Arms Control Towards the 21st Century,* (Boulder: Lynne Rienner Publishers, 1996), p. 204.
[12] Malcolm R. Dando, *Preventing Biological Warfare: The Failure of American Leadership,* (New York: Palgrave, 2002), p. 27.
[13] Marie Isabelle Chevrier and Amy S. Smithson, "Preventing the Spread of Arms...," p. 206.

to the BTWC, did not favour on-site activities on their respective territory. The US, because it wanted to protect the interests of the civilian industry and its military, and Russia because it had inherited an offensive biological weapons program and wanted to make sure that visits to facilities that were part of the former offensive biological weapons program would not prove to be embarrassing.[14]

The US in particular finds verification of compliance mechanism quite problematic. Biological weapons are seen as not verifiable due to the particular nature of the biological weapons. Adopting the policy of all or nothing, the US questioned the rationale of subjecting oneself to a protocol that will probably not work. The US fear in particular, with a verification regime, which is overly intrusive, would threaten its national security and commercial proprietary information. It was felt that the traditional arms control approach would not work for biological weapons simply because, unlike chemical or nuclear weapons, the components of biological warfare can be found in nature, in the soil, in the air and even inside human beings.[15] Besides, states determined to cheat cannot be deterred due to the dual-use nature of biological weapons.

But not all states agree with the arguments put forward by the US. For them it would be much better to have some kind of a verification mechanism in place. Such a verifying mechanism once put in place would lead to norms creation that would discourage potential cheaters from actually cheating due to the fear of sanctions. The provisions of challenge visits, on-site inspections and other measures spelt out under the BTWC Protocol may deter potential cheaters. A

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[14] Oliver Thranet, "The Compliance Protocol and the Three Depository Powers," in Susan Wright (Ed.), ***Biological Warfare and Disarmament: New Problems/New Perspectives,*** (New York: Rowman and Littlefield Publishers, 2002), p. 365.

[15] John R. Bolton, Under Secretary for Arms Control and International Security, "The U.S. Position on the Biological Weapons Convention: Combating the BW Threat," Remarks at the Tokyo America Centre, August 26, 2002 available at <http://www.state.govt/us/rm/13090pf.htm>

combination of on-site and off-site inspection would make the treaty a more effective instrument.[16]

Role of Other States

It appears that states for one reason or another also do not want to give up entirely the option of biological weapons. Biological weapons, because of their strategic deterrent effect remain attractive to states. The BTWC has certain built-in ambiguity that adds to the problem of verifying compliance. Military unwillingness to accept restrictions on preparations for biological weapon defense meant that it was impossible to draw a clear line between permissible and impermissible biological research or for that matter, between permissible and impermissible development and production. For example the *New York Times* in a report on 4 September 2001 has argued that the Central Intelligence Agency (CIA) had been conducting a secret research on biological weapons that tests the limit of the global treaty banning such weapons.[17]

Although there is an uncertainty that exist about the effectiveness of a biological attack, the potential destructiveness of a biological attack seems to motivate, especially weaker states to acquire them as a way of protecting their vital interests.[18] In other words, smaller states without the nuclear capability would like to retain such a capability to deter potential military threats. Or even states that are weak in the conventional sense might think that biological or chemical weapons capability would serve as a useful alternative in case of aggression by more

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[16] Marie I. Chevrier, "Strengthening the International Arms Control Regime," in Raymond A. Zilinskas (Ed.), *Biological Warfare: Modern Offense and Defense,* (Boulder: Lynne Rienner Publishers, 2000), p. 157.
[17] Judith Miller, Stephen Engelberg, and William Broad, "U.S. Germ Warfare Research Pushes Treaty Limits," *The New York Times,* September 4, 2001, p. A1.
[18] Susan B. Martin, "The Role of Biological Weapons on International Politics: The Real Military Revolution," *The Journal of Strategic Studies,* Vol. 25, No. 1, March 2002, p. 66.

powerful states. In a sense, therefore, smaller states also have been wary about a comprehensive intrusive regime.

It has been argued that major powers are determined to deny the acquisition of biological weapons by developing countries, which could then be used as some kind of leverage against states with nuclear weapons. And also that the basic problem associated with biological weapons is not the large stockpiles of the superpowers but the future acquisition of biological weapons as force equalizers by developing countries. Some analysts therefore argue that the West sees the threat of chemical and biological weapons as posed primarily by certain non-western states. In the 1960s, the British government made it clear to the United States that biological disarmament was more a way to protect the military advantage and less a step towards general and complete disarmament.[19]

The developing countries also have problems with the issue of cooperation in the BTWC. They see export control groups like the Australia Group as a denial regime. The Australia Group which comprises some thirty developed nations constitute a self-appointed body to control the transfer of precursors to chemical weapons and equipments for producing chemical and biological agents. The majority of states that are outside the Australia Group simply see the arrangement as a way of perpetuating a state of technological denial.[20]

In the increasingly belief that modern day terrorism or attacks on the West are part of a cultural-religious assault, many western states are apprehensive that these assaults could involve chemical and biological weapons. The attack on Iraq by the United States, for instance, was built on these premises.

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[19] Susan Wright, "Geopolitical Origins," in Susan Wright (Ed.), *Biological Warfare and Disarmament: New Problems/New Perspectives,* (New York: Rowman and Littlefield Publishers, 2002), pp. 334-335.
[20] P.R. Chari, "India...," p. 249.

Despite the CWC and the attempts at arriving at a BTWC regime, it may not be too farfetched to say that the secrecy in which commercial and military biological and chemical activities are enshrouded will continue to plague international efforts to offer a viable response to these threats. As pointed out, international cooperative efforts are largely held hostage by hegemonic ambitions of powerful nations and the refusal by smaller states to succumb to an international system of unequal and unfair practices. In a sense, the development of chemical and biological weapons are likely to continue unnoticed primarily in the search for military advantage particularly by smaller nations, while the powerful western states continue to rely on nuclear weapons. These politics and problems associated with the North-South divide, rather then the technicalities of negotiation for a protocol, remain the "fundamental reasons, which has made the search for "strengthening" the BTWC quite elusive."[21]

One other reason cited by a number of smaller states regarding great power refusal to cooperate in the BTWC regime has been that these implicitly indicated the monopolisation of the increasingly dynamic bio-technology industry by the major powers. They want a weaker export control. As such the Australia Group often becomes the target of third world states for preserving an unequal treatment. In their arguments often the case is made for stronger measures aimed at cooperative exchange of biotechnology and materials.[22]

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[21] Susan Wright, "Geopolitical Origins," in Susan Wright (Ed.), ***Biological Warfare and Disarmament: New Problems/New Perspectives,*** (New York: Rowman and Littlefield Publishers, 2002), p. 336.

[22] Animesh Roul, " The BWC: Current Status of Negotiations and Position of Member States," in P.R.Chari and Arpit Rajain, *Working Towards a Verification Protocol for Biological Weapons,* (New Delhi: India Research Press, 2001). p. 32.

Comparing the BTWC Protocol and the CWC Verification Regime

As will be seen in the table the basic structure of the BTWC Protocol regime and the CWC regime is almost the same.

Table 4.3 **Comparison of the Basic Architecture of the Proposed BTWC Protocol and the CWC Verification Regime**

BTWC and its Protocol Regime	CWC Regime
Mandatory declarations range of facilities (BL-4, BL-3, genetic modification, work with listed agents, production) Requires declaration of biological defence Measures to ensure submission	Mandatory declarations Focused on production of chemicals No declaration of chemical defence No measures to ensure submission
Declaration follow-up procedures Analysis of declarations Randomly-selected transparency visits	Routine inspections of Scheduled chemical facilities and DOC (discrete organic chemical) facilities
Declaration clarification procedures Clarification visits	No declaration clarification procedures Implicit not elaborated
Voluntary assistance visits	No provision for voluntary assistance visits Implicit not elaborated
Non-compliance concerns Consultations - Investigations	Non-compliance concerns Consultations - Investigations
Field investigation	Investigation of alleged use
Facility investigation	Challenge inspection

Team size and duration limited	Duration limited
Transfer procedures	Transfer controls
Assistance Provisions similar to CWC	Assistance
International Cooperation Elaborated in detail Cooperation Committee	International Cooperation Not elaborated in detail Not provision for Cooperation Committee
Organization CoSP, ExC & Technical Secretariat	Organization CoSP, ExC & Technical Secretariat
National implementation Penal legislation required National Authority	National implementation Penal legislation required National Authority

*Source: Graham S. Pearson, "The BTWC Protocol: The Chairman's composite Text," available at <http://www.asnltr.com/newsletter/01-3/articles/ChairmanBTWC.htm>

With regard to the monitoring of dual-purpose materials and facilities, the two regimes are comparable with the Protocol regime imposing a less onerous but more focused burden in respect of declarations and visits while the international cooperation provisions are much more extensive that those of the CWC. The BTWC Protocol regime is more elaborated with limitations on the overall number of visits, team sizes and durations, than the CWC regime.

While making an overall comparison of the two regimes, the difference in the intensity of the visits/inspections of the facilities declared must be noted. As estimated by several European countries, the numbers of facilities declared under the BTWC Protocol regime is in the order of tens of facilities per European

countries; this can be compared to the UK declaration under the CWC of over 550 plants at over 150 sites.[23] The CWC regime has an intensity which varies with the Scheduled chemical produced or used in a facility and reflects the risk to the convention with Discrete Organic Chemical (DOC) facilities having a much smaller intensity of routine inspection. The BTWC Protocol regime, however, has an intensity of visits that is not dependent of the type of declared facility and thus should have ensured that all declared facilities that are subject to randomly-selected visits will over time receive such visits.[24]

In the final analysis, while it must be asserted that the potency of chemical and biological weapons cannot be discounted. The debates surrounding the technicalities of whether chemical or biological attacks will become a trend in the future have often been overwhelmed by the 'politics' and 'economics' associated with the use of these for both political and humanitarian purposes. While states continue their efforts to institutionalise a verification regime for the BTWC, one can only hope that such efforts succeed for one more contribution towards international security.

[23] ibid.
[24] ibid.

Chapter 5

Conclusion

Multilateral efforts at regime building have often suffered from two fundamental flaws. First, the negotiations have consistently been fed by the attempt by states to reduce the 'issue' at hand to a 'political question'. In other words, all states have put their national interests before agreeing to be a part of any multilateral regime. This has been more pronounced in arms control exercises as the issue directly relates to the physical security of states. Secondly, the question of enforcement has been the big question in most of these regimes. Most states reject any form of enforcement mechanism which they feel impinges on their sovereignty. For instance, the activities of the OPCW have often been obstructed due to non-compliance to deadlines. The role of the UN Security Council in the enforcement of the BTWC still remains ineffective at large due to the perennial problem associated with the use of the 'veto' power. In a number of other international treaties the role of the International Court of Justice (ICJ) has been limited to adjudication and not as an enforcement mechanism. Even here most states have rejected the provision that requires them to refer their cases to the ICJ.

This study has reinforced the above two drawbacks in international regime building. In the Chemical Weapons Convention and the Biological and Toxins Weapons Convention, while the physical properties and other technicalities have also mattered in the final outcome of the treaties, it has been the 'politics' and the 'economics' associated with these elements that have influenced the success or failure of the two conventions.

The question of 'verification' in arms control exercises, as pointed out in the foregoing chapters, remains the most important determining factor with regard

to the success or failure in arms control. The aspect of 'verification' is intended to build up trust. This point is succinctly encapsulated in the phrase the US President Ronald Reagan, during the Cold War often used "trust but verify". Verification, however, has been the most difficult part of any arms control exercise.

This study has highlighted an important aspect of the 'verification' regime in arms control. What has been starkly manifested in both the CWC and the BTWC has been overt role of great powers in the success or failure of the verification regime. The role of other smaller states can at best be said to be minimal, particularly in the case of the BTWC Protocol negotiations.

The Politics and 'Economics' of 'Verification'

As has been made evident, the CWC negotiations had the support of the great powers. Analysts have attributed this support to the easing of relations between the two hostile superpowers and the threat of chemical weapons use. Iraq, for instance, not only was accused of using chemical weapons but was also suspected of huge stockpiles and of threatening the use of these weapons in future. As early as 1985, the United States had declared its intentions of unilaterally destroying its stockpiles of chemical weapons as it said that it was not in its national interest. In the September 1989 UN General Assembly, President George Bush in a speech at the opening session confirmed that it would undertake to support the conclusion of a global comprehensive CWC. In the same meeting, the Soviet Foreign Minister Edward Shevardnadze committed its support for the same.

Critics have, however, tended to see the support of the United States and the USSR to two reasons. The first deals with the fact that chemical industries have no industrial 'secrets' and hence the risk associated with challenge inspections are minimal. Moreover, the existing stockpiles of nuclear weapons are seen as the

adequate deterrent against any aggression. Secondly, the conclusion of a comprehensive CWC would favour both the US and the USSR as this would deny other countries from producing these weapons, which could be used in a future war scenario involving the superpowers. In other words, such weapons could be used as a deterrent against the countries possessing nuclear weapons. The issue of terrorists getting hold of these weapons has also been a matter of concern particularly to the United States.

In the case of the BTWC negotiations for a regime similar to that of the CWC, however, the 'politics' has highlighted a completely different rationale. It was the US and USSR and a few other allies that initiated the move for biological disarmament as early as 1971. However, when the draft treaty by the US and USSR was presented to the UN General Assembly, the 'verification' process was completely diluted. Both the powers argued that verifying biological weapons disarmament was impracticable if not impossible.

The relations between the US and the USSR also took a downward spiral when anthrax outbreak was detected in the Soviet city of Sverdlovsk in 1979. The US raised questions if anthrax was present in the USSR in quantities inconsistent with the provisions of the Convention. The Soviet Union refuted this allegation. This new tension in relations was seen as an alarming erosion of confidence with serious implications for the BWC negotiations.

During the 1990s there was optimism that a changing international context wherein arms control was taking place in a vigorous pace would favourably see to the final outcome of the BTWC negotiations. Further, there was an emerging scientific opinion that due to advancements particularly in the field of biotechnology, biological weapons, considered earlier as an 'overstated threat' could actually become a potent threat.

The United States continued refusal to see the success of a verification protocol for the BTWC, however, had a damaging impact on the successes and compromises achieved so far. The US position hinged on three points. First, the line of distinction between offensive biological-weapons related and peace-related research was too thin to be effectively verified. Secondly, that it would be difficult to monitor clandestine activities as the preparation of biological weapons required minimal space and infrastructure. And thirdly an intrusive regime would result in commercial espionage of bio-secrets.

At the 24th AHG session in 2001, the United States made it clear that the draft protocol would not succeed in its stated objectives and refused to support the protocol. Further, when state parties proposed a number of steps in November 2001, the US President George Bush presented a number of conditions for its further participation. It was, therefore, the non-cooperation by the United States that effectively stalled the BTWC negotiations. State parties have, however, resumed renewed efforts. It remains to be seen if there would be further strengthening of the BTWC.

Critics have not taken kindly to justifications offered by the United States. For instance, the refusal of the 2001 Draft Protocol came in the face of anthrax attacks that were widely reported in the US. One of their chief contentions has been that the US position on the BTWC has been fundamentally determined by the US Pharmaceutical industry, particularly the Pharmaceutical Research and Manufacturers of America (PhRMA), a trade association which represents companies that develop more than 90 per cent of new medicines used around the globe.

Other states and entities have given a mixed response to the BTWC negotiations further plunging the Convention into uncertainty. The Non-Aligned Movement (NAM) countries sought to relate the negotiations with issues, which they argued were discriminatory. The European Union favoured strong declaration and compliance measures with little mention of issues related to verification. China and India wanted less intrusive methods of clarification for facility declaration. Russia advocated a process that envisaged reports of non-compliance to the UN Security Council. It opposed both investigation of suspicious outbreak of diseases and an international implementing body, something akin to the OPCW of the CWC.

Despite calls by a number of countries that a verification regime for the BTWC would not only enhance transparency and reduce the chances of potential cheaters and also encourage compliance due to the fear of international sanctions, certain countries have refused to make a compromise in this regard. While it is true that the technicalities involved in both the treaties present extremely difficult processes for compliance and investigation, at the heart of international cooperation is the ability of states to make compromises and give due regards to international norms and principles.

All eyes are on the 2006 Review Conference, which would be the culmination of the 'new' process in the aftermath of the 2001 fiasco. A number of lessons that the CWC has demonstrated could serve as useful lessons for the upcoming BTWC Conference – the most vital of which would be the one step more towards peace and international security.

Verification and Arms Control

It has been observed that verification occupies the most important place in arms control agreements. Nevertheless it was also seen that states have not accorded sufficient attention commensurate with it importance. The success of verification regimes for the Conventional Forces Agreement in Europe (CFE) must be qualified in terms of the limited geographical expanse of the arms control agreement. And it in the interest of the European Countries to have such an arrangement considering that it has witnessed immense destruction in the last major wars. Safeguards agreement that the NPT has with the IAEA may be seen as an exceptional example of the successful use of on-site inspection even during the Cold War when the issue of intrusive inspection was almost a taboo. Here again the question of multilateralism comes into play. The NPT verification regime cannot be cannot be accorded a multilateral status since the treaty creates two kinds of states – the "Nuclear Haves" and the "Nuclear Have-Nots". And verification applies only to the "Nuclear Have-nots". However, the latter categories of states are often contented with the security guarantee that they secure in return as also with the access to nuclear technologies for peaceful purposes.

Although the CWC was hailed for its intrusive verification regime, in hindsight it appears as if it was a deal struck between great powers. Moreover, states have been witness to the demonstrated deadliness of chemical weapons. The end of the Cold War, and the threat of use of chemical weapons by Iraq and other positive international developments seems to have favoured the coming into force of the CWC with its impressive verification regime. However, the same has not happened with the BTWC verification regime. The BTWC Protocol which was to have been the strengthening wing of the Convention by putting into place a strong verification regime did not materialise. It appeared as if every state wanted to have a verification regime but did not have the necessary "will" to negotiate one.

Although the US bears the brunt for the collapse of the AHG by rejecting its mandate, other states cannot be assumed to have been going well along with the negotiations. The evidence for this is that the "rolling text" that was a result of the negotiations was one filled with reservations from almost every participating state.

Verification, as has been argued, is the substitute for trust and it remains the most important component for the success and survival of any arms control agreement. But whether the negotiations for the verification regime will itself succeed depends much on whether it serves the national interest of the participating states, especially the interest of the powerful states. To summarise, therefore, verification regime represents the barometer of the political commitments of the participating states and can be a very dependable indicator of the potency of any arms control agreement. As this comparative study of the verification regimes for the BTWC and the CWC shows, verification remains not only integral but the most critical part of any arms control effort.

Annexure I

BTWC DRAFT PROTOCOL

(The Following consist of a Selective Text of the BTWC Draft Protocol Pertaining to Verification)

ARTICLE 6

FOLLOW-UP AFTER SUBMISSION OF DECLARATIONS

A. THE ROLE OF THE TECHNICAL SECRETARIAT

1. The Technical Secretariat shall receive, process, analyze, distribute and store in accordance with the provisions of this Protocol declarations submitted by States Parties.

2. Upon receipt of a request by a State Party which has submitted its owr declarations, the Director-General shall make available to that State Party, in accordance with the provisions on confidentiality contained in Article 11 and Annex C, copies of the initial and/or annual declarations of other States Parties, as specified in the request. The Director-General shall simultaneously inform the State(s) Party(ies) concerned that copies of their declarations have been made available to the requesting State Party.

3. The Technical Secretariat shall, in order to promote the fulfillment of the declaration obligations under this Protocol:
(a) Process and make a technical analysis of the declarations;
(b) Conduct a limited number per year of randomly-selected transparency visits to facilities declared in accordance with Article 4 (6) and (8) to (14);
(c) If, in its analysis in accordance with paragraph 3 (a), it identifies any ambiguity, uncertainty, anomaly or omission related solely to the content of the declaration, seek clarification from the State Party concerned, in accordance with the procedures set out in paragraphs 55 to 106;
(d) Provide technical assistance to States Parties and help them compile individual facility and national declarations in accordance with Article 14 (24) (b) including, if requested, by a voluntary assistance visit, in accordance with the procedures set out in paragraphs 49 to 54.

4. A State Party which identifies any ambiguity, uncertainty, anomaly or omission in the declaration of another State Party may seek clarification from the State Party concerned, in accordance with the provisions of Article 8, or it may initiate the clarification process set out in paragraphs 55 to 106.

Allocation of Types of Visits
5. The total number of all visits conducted in accordance with this Article shall not exceed 120 in each calendar year. The Director-General may, in light of the declarations submitted and requests for visits in accordance with this Article, conduct less than the total number of visits specified in this paragraph. The criteria for the allocation of visits for each category of visits shall be:

(a) The number of randomly-selected transparency visits allocated annually shall not exceed 75 per cent, but shall not be lower than 50 per cent of the maximum number of visits that may be allocated in each calendar year as specified above;
(b) The number of voluntary assistance visits allocated annually shall not exceed 25 per cent but shall not be lower than 5 per cent of the maximum number of visits that may be allocated in each calendar year as specified above, provided there are sufficient request received by the Director-General;
(c) Any visits required in accordance with paragraphs 3 (c) and 4 (herein after referred to as voluntary clarification visits) shall be allocated whilst ensuring that the minimum numbers of visits specified in subparagraphs (a) and (b) are conducted. Such allocation shall be determined as follows:
(i) The first visit in any year shall be deducted from the total number of randomly-selected transparency visits;
(ii) Any subsequent voluntary clarification visit required shall be deducted alternately from the quotas allocated to voluntary assistance visits and randomly-selected transparency visits.

Selection of Facilities for Randomly-selected Transparency Visits:
6. During each calendar year, the Technical Secretariat shall randomly select, subject to the provisions in paragraph 5, facilities specified in paragraph 3 (b) for randomly-selected transparency visits. The mechanism of selection shall determine the probability of a State Party receiving a visit. Taking into account the principle of proportionality, this mechanism shall ensure that:
(a) Such visits shall be spread among a representative range of facilities subject to the provisions of this Article in terms of their scientific and technical characteristics;
(b) The prediction of when any particular facility will be subjected to such a visit shall, except as required by paragraph 7, be precluded. Limitations on randomly-selected transparency visits and voluntary clarification visits.

7. Taking into account the provisions of paragraphs 5 and 6, the allocation of randomly selected transparency visits and voluntary clarification visits shall ensure that:
(a) No State Party shall receive more than seven randomly-selected visits in any calendar year;
(b) Each State Party which declares facilities shall receive at least two randomly-selected visit in any five-year period;
(c) No individual facility shall receive more than three randomly-selected transparency visits in any five-year period;
(d) The probability of a State Party receiving a visit shall be proportional to the number of declared facilities in that State Party taking into account the provisions of subparagraphs (a) to (c).

8. No State Party shall receive in any five-year period more than five voluntary clarification visits, unless additional visits are offered by that State Party.

Review:
9. The first Review Conference and subsequent Review Conferences held in accordance with Article 20 may revise the total number of visits and their allocation between the categories of visits specified in paragraph 5, taking into account, *inter alia*, the numbers of States Parties, the numbers and types of declared facilities and their distribution, the resources available, the experience of implementation of this Article and fulfillment of the objectives of the Protocol.
Annual program.

10. At the end of each year, the Director-General shall prepare a visit schedule for the following year. States Parties shall, wherever possible, submit invitations or requests for voluntary assistance visits and, where known, voluntary clarification visits, not later than 1 October each year to enable the Director-General to prepare the visit schedule for the subsequent year. On receipt of an invitation for such a visit, the Director-General shall, subject to the provisions of paragraph 8, include the visit in the schedule for visits for the following year.

11. The Director-General shall submit to the Executive Council for its consideration, at its final regular session of each year, the visit schedule, including the details for the voluntary assistance visits and voluntary clarification visits already requested for the following year.

12. The Director-General shall not later than seven days after the final session of each year of the Executive Council notify the States Parties concerned of the schedule for the voluntary assistance visits and any outstanding voluntary clarification visits already known.

13. If, at any time during the year, the number of invitations for visits exceeds the number available for such visits in terms of the application of the provisions of paragraph 5, the Director-General shall report this fact to the Executive Council. The Director-General shall include in the report recommendations on how to resolve the matter. The Executive Council shall decide on how to proceed.

Review of Annual Programme:

14. The Director-General shall submit to the Executive Council every three months, or earlier if necessary, a report on the implementation of visits of each type and on outstanding invitations for voluntary assistance and voluntary clarification visits. If it judges it necessary, the Executive Council may decide to adjust the allocations between the types of visits specified in paragraph 5. The Director-General shall notify the Executive Council of any changes to the visit schedule at its next session.

B. RANDOMLY-SELECTED TRANSPARENCY VISITS

Purpose:

15. The Technical Secretariat shall conduct randomly-selected transparency visits, which shall be confidence building in nature. These visits shall, through co-operation with the visited State Party, promote the overall objectives of the Protocol by:

(a) Increasing confidence in the consistency of declarations with the activities of the facility and encouraging submission of complete and consistent declarations;

(b) Enhancing transparency of facilities subject to the provisions of this section;

(c) Helping the Technical Secretariat, subject to the provisions of this section, to acquire and retain a comprehensive and up-to-date understanding of the facilities and activities declared globally.

16. In addition, if so requested by the visited State Party, the visiting team shall provide, to the extent possible, technical advice or information to the visited State Party and/or to visited facility personnel on any of the subjects listed in Article 14 (21) or provide any of the technical assistance and co-operation activities contained in programmes as specified in Article 14 (23).

Duration:

17. Randomly-selected transparency visits may last up to two consecutive days and shall begin with the presentation of the briefing upon arrival at the declared facility and end after the end of the de-briefing in accordance with paragraph 39. This time excludes the inspection of approved equipment. The duration of the visit may be extended if the visited State Party and visiting team so agree.

18. In addition, if so requested by the visited State Party in its acknowledgement of receipt of notification of the visit, the visit shall be extended by up to two days, commencing upon completion of the debriefing specified in paragraph 39, for the visiting team to provide assistance in accordance with paragraph 16.

Equipment:

19. The visiting team shall bring to the visited facility only items from the list of approved equipment in accordance with Annex B (34) and (35). The visiting team shall normally only bring to the visited facility items of equipment meeting the specifications for instant developing cameras, voice recorders, protective equipment and personal computers. Instant developing cameras and voice recorders shall be used only for collecting factual information for the visit report. Instant developing cameras shall be operated only by the representatives of the visited State Party. The use and disposition of such equipment during the visit shall be at the discretion of the visited State Party. The bringing and use of additional items of approved equipment at the declared facility shall be with the agreement of the visited State Party.

20. If required by the visiting team, the visited State Party shall provide protective equipment meeting the specifications of appropriate items from the list of approved equipment. If the visited State Party is unable to provide such equipment, the visiting team shall be permitted to use its own protective equipment from the list of approved equipment.

Administrative Arrangements:

21. The visited State Party shall provide or arrange for the amenities necessary for the visiting team such as communication means, interpretation services to the extent necessary for the conduct of discussions and other tasks, in-country transportation, working space, lodging, meals and urgent medical care. The visited State Party may, to the extent possible, provide equipment on the list of approved equipment as requested by the visiting team. The visited State Party shall be reimbursed by the Organisation for any assistance provided in accordance with this paragraph within 30 days after receipt of a detailed and validated claim from the visited State Party.

Notification:

22. The Director-General shall notify the visited State Party and, if applicable, the host State Party or State 14 days before the arrival of the visiting team at the point of entry, of its intention to conduct a visit to a declared facility; and, at the same time, shall make available to the visited State Party the mandate for the visit issued in accordance with paragraph 24.
The notification shall include:
(a) The name of the visited State Party;
(b) The name of the host State Party or State, if applicable;
(c) The name and location of the facility to be visited;
(d) The point of entry where the visiting team will arrive as well as the means of arrival;
(e) The date and estimated time of arrival of the visiting team at the point of entry;
(f) The names of the leader and of the other members of the visiting team

(g) Additional items of equipment on the list of approved equipment the visiting team requests to bring to the visited facility in accordance with paragraph 19;
(h) Information on the existing co-operation and assistance activities or programmes, if any, which the Technical Secretariat considers may be applicable to the facility to be visited and from which the facility could benefit.

23. The visited State Party shall acknowledge receipt of the notification within 48 hours after its receipt. In its acknowledgement of receipt, the State Party shall provide its response to the request for additional items of equipment from the list of approved equipment. The visited State Party may also indicate whether it requires technical advice and information. It shall specify which technical assistance and co-operation activities contained in the programmes specified in Article 14 (23), it requests to be provided by the visiting team. This shall be without prejudice to its right at any time during the visit to request technical advice and information. Any technical advice and information shall be provided to the extent possible after conclusion of the visit.

Mandate:

24. For each visit the Director-General shall issue a standard mandate to the visiting team leader. The mandate shall be confined to the purposes set out in paragraph 15. The mandate shall contain:

(a) The name of the visited State Party;
(b) The name of the host State Party or State, if applicable;
(c) The name and location of the facility to be visited;
(d) The names of the leader and of other members of the visiting team;
(e) The declaration submitted by the facility;
(f) A list of the approved equipment proposed to be brought to the facility in accordance with paragraph 19;
(g) Operational instructions to the visiting team necessary for the visiting team to fulfil its mandate.

25. If the visited State Party has requested, in its acknowledgement of receipt of the visit notification, that the visiting team provide technical advice or information as specified in Article 14 (21), or that it provide any of the technical assistance and co-operation activities contained in the programmes as specified in Article 14 (23), such activities shall, as appropriate, be added to the visit mandate as an addendum and conducted at the end of the visit activities. The addendum to the visit mandate shall also include any additional equipment approved by the visited State Party in accordance with paragraphs 19, 22 (g) and 24 (f). The addendum to the visit mandate shall be made available to the visited State Party as soon as possible before the commencement of the visit.

Appointment of Visiting Team:

26. The Director-General shall appoint the members of the visiting team from among only the full-time personnel of the Technical Secretariat designated in accordance with Annex B (1) to (9), taking into account the specific nature of the facility to be visited. The members of the visiting team shall be selected on as wide an equitable geographical basis as possible. The Director-General shall limit the size of the visiting team to the minimum necessary for the proper fulfilment of the mandate. In any event the team shall not exceed four members.

Designation of Visited State Party Representatives:
27. The visited State Party may designate personnel to assist visited facility personnel to prepare for and host the visiting team. The visited State Party shall designate visited facility personnel to accompany the visiting team for the duration of the visit.

Inspection of Approved Equipment:
28. Equipment shall be sealed by the Technical Secretariat to indicate that the items of equipment are properly authenticated as items of approved equipment. The visited State Party shall have the right to inspect the equipment of the visiting team, including any additional equipment which the visited State Party has approved, to ensure that it is properly sealed, appears on the list of approved equipment and conforms to the standards as set out in Annex B (34). The visited State Party may exclude items of equipment that do not conform to the provisions as set out in Annex B (39), as well as paragraph 19, and may retain them at the point of entry for the duration of the visit.

Rights and Obligations:
29. The visiting team and the visited State Party shall co-operate with each other to fulfil the mandate while protecting the interests of the visited State Party.

30. In this regard the visited State Party shall:
(a) Provide access to the visiting team within the facility to be visited subject to paragraphs 32 to 37, sufficient to fulfil its mandate. The nature and extent of all access inside the facility, and to the information it contains, shall be at the discretion of the visited State Party;
(b) Allow the visiting team to conduct the activities, in accordance with paragraph 36, proposed by the visiting team as relevant to fulfil its mandate;
(c) Have the right to take measures to protect national security and commercial proprietary information;
(d) Make every reasonable effort to provide alternative means to allow the visiting team to fulfil its mandate if any of the activities proposed by the visiting team in accordance with paragraph 36 is not agreed to.

31. The visiting team shall:
(a) Collect only that information necessary to carry out its mandate and treat any information, documents and data obtained during the visit, which contain commercial proprietary or national security information and which are identified as such by the visited State Party, as confidential and handle such information, documents and data in accordance with the confidentiality provisions of this Protocol;
(b) Arrange its activities so as to ensure the timely and effective discharge of its duties in accordance with the visit mandate in the least intrusive manner possible, and make every reasonable effort to avoid inconvenience and disturbance to the visited State Party and to the visited facility;
(c) Make every effort to avoid hampering or delaying the operation of the facility. In particular, the visiting team shall not operate any facility equipment;
(d) Strictly observe established safety and working practices at the facility,whether instituted for the protection of personnel, animals, plants or the environment or of the processes performed or their products;
(e) Provide the visited State Party with copies of all the information and data obtained during the course of the visit;

(f) Have the right to state the relevance of questions asked by the visiting team and objected to by the visited State Party. The team leader may ask the visited State Party to reconsider its objection.

Briefing:

32. Upon arrival at the facility to be visited, the visiting team shall be briefed on the facility and the activities carried out there by a facility representative and, at their discretion, the representatives of the visited State Party. The facility representative may be supported by any other facility personnel as required.

33. The briefing shall not exceed three hours. It shall include, *inter alia*:

(a) The scope and a general description of current declared activities of the facility including a description of the main scientific and technical information relating to the declared activity(ies), including written and visual documentation, if available, such as photographs, brochures, drawings as appropriate;

(b) Short background description of the declared facility covering the date of establishment, current ownership, organisational structure and, wherever possible, general information on the role of the declared facility within the overall structure of the company, government agency or entity operating the
declared facility;

(c) General information on the physical layout including laboratories, equipment and other relevant characteristics of the visited facility, including a map or sketch showing all structures and significant geographic features;

(d) Numbers and types of personnel involved in the declared activity(ies) and whether they are military or civilian, scientific or administrative;

(e) General information concerning the safety regulations in force, including rules of observation and quarantine and vaccination policy, and on any other regulatory frameworks which may apply;

(f) General information on any relevant changes in activities or equipment at the declared facility since the submission of the most recent declaration;

(g) Explanation for any levels of containment and the rationale for operating or not operating at such levels; and for declared work involving listed agents and/or toxins, including main objectives and rationales;

(h) General information on the method used for any treatment or disposal of waste or effluent from the declared facility;

(i) General information on any experimental animal usage at the declared facility;

(j) A description of any technical assistance and co-operation activities requested by the visited State Party in accordance with paragraph 23;

(k) The administrative and logistical arrangements necessary for the visit.

34. The visited facility shall provide to the visiting team a written summary of the key points of the briefing. It may at its discretion also provide additional information, such as documentation related to either the briefing or tour. At its discretion, the visited facility may also provide in writing any additional information relating to the briefing. The visiting team may discuss with the visited State Party and the visited facility personnel the content of the briefing and any other information made available by the visited State Party and visited facility personnel.

Tour of the Visited Facility:

35. To complement the briefing, the visited State Party shall invite the visiting team to tour areas within the declared facility relevant to the visit mandate. The scope and nature of the tour shall be at the discretion of the visited State Party. The duration of the tour shall not exceed two hours.

Visit Plan:

36. After the briefing and the tour the visiting team shall prepare an initial visit plan indicating, in accordance with the provisions of paragraphs 29 to 31, whether it wishes to:

(a) Review and discuss with facility personnel the declaration and the information contained in the briefing and tour provided by the visited facility;

(b) Discuss, with the consent of the visited State Party, specific factual points, related to the visit mandate, on the activities of the declared facility as described in the facility declaration, briefing and tour, with facility personnel who are able to address those factual points. The visited State Party may make available national representatives to respond to questions on matters relating to national health and safety legislation and other regulatory matters, or to provide information on such matters. All discussions shall be conducted in the presence of representatives of the visited State Party. The visiting team shall only request information and data that are necessary for the fulfilment of the visit mandate;

(c) Review, with the consent of the visited State Party, documentation relevant to the mandate in order to facilitate further the understanding of the visiting team of the declared activities as presented in the facility briefing, tour and declaration. The visited State Party, if it agrees to such a review, shall endeavour to provide such documentation, or to provide alternative means to address any questions raised by the visiting team in accordance with this paragraph;

(d) Visit, and revisit if necessary, to ensure fulfilment of the mandate, parts of the facility involved in the declared activities as presented in the facility briefing, tour or declaration;

(e) At any time during the visit, the visited State Party may, at its own initiative or at the suggestion of the visiting team, grant the visiting team the opportunity to conduct other on-site activities to assist in the fulfilment of the visit mandate. It may also offer additional access that the visited State Party believes may help assist the visiting team to fulfil its mandate. Any such on-site activities or access shall be subject to the provisions of paragraphs 29 to 31.

37. Any changes to the visit plan during the visit shall be subject to the consent of the visited State Party.

38. If the visiting team notes any technical inconsistencies during the discussions and activities referred to in paragraph 36 it shall discuss these with the visited State Party.

Debriefing:

39. After completion of the visit activities, the visiting team, facility personnel and visited State Party representatives shall meet to discuss the outcome of the visit and, if necessary, to confirm any details of fact for inclusion in the preliminary report which shall be a factual account of the visit. Such a meeting shall not take place if the visited State Party and the visiting team agree that it is not necessary.

Co-operation and Assistance Activities:

40. If requested in accordance with paragraph 23, after the conclusion of the other activities related to the visit, the visiting team shall provide the technical advice and information and any

of the co-operation and assistance activities contained in the programmes specified in the addendum to the visit mandate in accordance with paragraph 25 or requested during the visit.

Preliminary Report:

41. Within 24 hours of the completion of the visit or debriefing, the visiting team shall provide to the representatives of the visited State Party a preliminary report in written form. The preliminary report shall be a factual account of the visit. The visiting team leader shall sign the preliminary report. In order to indicate that he/she has taken note of the contents of the preliminary report, the representative of the visited State Party shall countersign the preliminary report.

42. If, during the visit, the visited State Party has provided to the visiting team any information which the visited State Party has identified as commercial proprietary or national security information not already included in the declaration, such information shall not be included in the draft or final report.

Departure:

43. On completion of the preliminary report and, if applicable, the relevant co-operation and assistance activities, the visiting team shall depart from the territory of the visited State Party as soon as possible.

Draft report:

44. Not later than 14 days after the visit, the visiting team shall prepare a draft report, which shall include the contents of the preliminary report and an account of any co-operation and assistance activities provided by the visiting team during the visit. The visiting team shall not comment upon any requests for access or information that were made during the visit by the visiting team and which the visited State Party did not accede to. The draft report may identify technical recommendations and possible follow-up
co-operation and assistance activities of the Organisation. The draft report shall include a factual statement of the visit activities conducted. The draft report may also include an account from both the visited State Party and visiting team on the extent to which the information and access provided during the visit furthered the purpose of the visit as specified in paragraph 15.

45. The draft report shall immediately upon completion be submitted to the visited State Party. The visited State Party may make any comments or suggestions on the draft report to ensure factual and technical accuracy and the full protection of any commercial proprietary and national security information. The visited State Party may also identify any information which, due to its confidential nature, or because in the view of the visited State Party is not related to the visit mandate, should not as a rule be included in the final report. Confidential information shall be included in an annex to the visit report . This annex shall not be made available to other States Parties. Any comments by the visited State Party shall be submitted to the visiting team not later than seven days after receipt of the draft report.

Final report:

46. The visiting team shall consider comments received from the visited State Party. In preparing the final report, the visiting team shall, as a rule, adjust the draft report to reflect those comments. The final report shall include as an annex all the comments made by the visited State Party on the draft report, unless otherwise requested by the visited State Party.

47. The final report shall be the draft report adjusted by the visiting team in accordance with paragraph 46. The visiting team shall submit the final report to the Director-General and the visited State Party not later than seven days after receipt of any comments from the visited State Party. The Director-General shall, as a rule, provide copies of the final report, on request to any State Party, unless otherwise indicated by the visited State Party.

48. If the Director-General, in the light of the information contained in the final report, considers it necessary for the visited State Party to submit a new declaration for the facility concerned, the Director-General may make a request to that effect to the visited State Party. The Director-General shall provide the visited State Party with the explanation for such a request.

C. VOLUNTARY ASSISTANCE VISITS

49. Each State Party may, through the Director-General, invite the Technical Secretariat to undertake a visit(s) to a facility(ies) on its territory or in any other place under its jurisdiction or control. In its invitation, the State Party shall indicate the purpose(s) of the visit, which shall be to enhance transparency and promote confidence among States Parties, and specify one or more of the following:
(a) To obtain relevant technical assistance and information;
(b) To obtain any of the technical assistance and co-operation activities contained in programmes as specified in Article 14 (21);
(c) To obtain from the Technical Secretariat technical advice or information on the implementation of the obligations of this Protocol as specified in
Article 14 (24).

Invitations for Visits:
50. Each invitation for a voluntary assistance visit shall be addressed in writing to the Director-General and shall be accompanied by an explanation for the invitation and the purpose(s) of the proposed visit. The Director-General shall handle the invitations in accordance with the provisions set out in paragraphs 5 and 10 to 14.

51. The Director-General shall issue a mandate for each visit, which shall be written in co-operation with the visited State Party.

52. The visited State Party and the visiting team shall co-operate with each other in the achievement of the objectives of the mandate.

53. The detailed arrangements for, and contents of, a voluntary assistance visit, such as size and composition of the visiting team, duration of the visit, and procedures upon arrival of the visiting team at the point of entry, shall be agreed beforehand between the Director-General and the visited State Party.

54. A visit report, prepared jointly by the visiting team in consultation and co-operation with the visited State Party, shall be submitted to the Director-General not later than 14 days after the completion of the visit. The Director-General shall submit the report to the Cooperation Committee for consideration.

D. DECLARATION CLARIFICATION PROCEDURES

55. Concerns related to the declaration of any facility of a State Party in accordance with Article 4 (6) to (14) shall be resolved either through the process of consultation, clarification and co-operation as provided for in Article 8, or through the procedures set out in this section. In the case of a clarification request relating to a facility which is believed to meet the criteria for declaration as set forth in Article 4 (6) to (14), and which has not been included in the declaration of the State Party, the State Party from whom the clarification is sought (hereinafter referred to as the requested State Party), shall at its discretion decide to respond using either the procedures set forth in Article 8, or those set forth in paragraphs 56 to 106. The requested State Party shall notify the Director-General of its choice.

56. Information regarding declaration clarification procedures conducted in accordance with this subsection, including requests for such consultations and information resulting therefrom shall be restricted to the Technical Secretariat, the requested State Party, and, if applicable, the requesting State Party unless further distribution is expressly authorised either in accordance with paragraphs 74 and 77 or by the requested State Party without prejudice to the right of the requesting State Party to refer the issue to the Executive Council.

Requests for Clarification:

57. When a State Party considers that there is an ambiguity, uncertainty, anomaly or omission in the annual declaration concerning any facility of another State Party in accordance with Article 4 (6) to (14), it shall either seek clarification from the other State Party through the process of consultation, clarification and co-operation as provided for in Article 8, or it may submit a request in writing to the Director-General to initiate the clarification procedures set out in this section on its behalf. The request shall include all relevant information on which it is based. In the case of a possible omission from the declaration of a State Party of a facility which meets the criteria for declaration as set forth in Article 4, the request shall also include a precise delimitation of the location of the facility.

58. Upon receipt of a request in accordance with paragraph 57, the Director-General shall submit a written request for clarification to the State Party concerned. The request shall include all the information supplied by the requesting State Party.

59. Any State Party which has not taken any necessary measures it may have been required to take in accordance with a decision of the Executive Council shall not have the right to seek clarification from another State Party under this section until any measures required in accordance with paragraph 104 are implemented.

60. If as a result of his/her analysis in accordance with paragraph 3 (a), the Director-General considers that there is an ambiguity, uncertainty, anomaly or omission of a purely technical nature related solely to the content of the declaration submitted by a State Party, he/she shall submit a written request for clarification to the State Party concerned. The request shall include all relevant information on which it is based.

61. If as a result of his/her analysis in accordance with paragraph 3 (a), the Director-General identifies any facility which he/she believes meets the criteria for declaration as set forth in Article 4 (6) to (14), and which has not been declared in the declaration of a State Party he/she may request the State Party to submit a declaration for the facility concerned. The request shall

include all relevant information on which it is based and shall also include a precise delimitation of the location of the facility.

Consultations Including a Consultative Meeting:
62. The requested State Party shall provide the clarification in writing to the Director-General not later than 30 days after receipt of the request. In cases where a State Party initiated the clarification procedures, such response shall be forwarded to the requesting State Party by the Director-General not later than 24 hours after its receipt by the Director-General.

63. If within 14 days of receipt of the written response either the requesting State Party, for reasons which it shall set out in writing to the Director-General, or the Director-General himself/herself, in cases where he/she requested clarification considers that the written response does not resolve the matter, the Director-General shall submit to the requested State Party a written request for a consultative meeting between staff of the Technical Secretariat and representatives of the requested State Party, which may include representatives of the facility concerned, in order to resolve the matter.

64. Upon receipt of such a request, the requested State Party shall make arrangements for the consultative meeting. The consultative meeting shall take place at any location agreed by the Director-General and the requested State Party. Wherever possible, the consultative meeting shall take place in the capital or at any other location on the territory of the requested State Party, beginning not later than 10 days after receipt of the request for such a meeting, and its duration shall not exceed 48 hours.

65. In cases where a State Party initiated the clarification procedures, the Director-General shall inform the requesting State Party of the outcome of the consultative meeting not later than 24 hours after the end of that meeting.

Initiation of a Voluntary Clarification Visit:
66. The requested State Party may, at its discretion and at any time during the clarification procedure, or in cases where the matter has not been resolved through the processes specified in paragraphs 62 to 65, invite the Director-General to conduct a voluntary clarification visit to the facility in question with a view to resolving satisfactorily and expeditiously any matter which has been raised in accordance with paragraphs 55, 57, 60 or 61.

67. Any such visit shall be conducted in the least intrusive manner and shall as far as possible not affect or interrupt in any way the activities taking place in the facility. The visited State Party and the visiting team shall co-operate with each other in the achievement of the objectives of the mandate.

68. The invitation to visit the facility shall be addressed to the Director-General in writing at any time during the consultations in accordance with paragraphs 62 to 65 or as soon as possible thereafter, but in no case later than 14 days after the completion of the consultative meeting in accordance with paragraph 63. The invitation shall be accompanied by an explanation for the invitation, the purpose of the proposed visit, the specific matter to be clarified, and the precise delimitation of the location of the facility where the visit would occur.

69. The Director-General shall handle the invitation in accordance with the provisions set out in paragraphs 5, 8 and 10 to 14 and shall ensure that the visit request is acceded to in accordance

with the procedures set out in paragraphs 10 to 14. If in implementing the provisions of this paragraph, the Director-General encounters resource constraints, he/she shall report to the Executive Council, which shall decide on how to proceed.

70. The Director-General and the visited State Party shall decide by mutual consent on the time of the visit taking into account the overall visit schedule. If consensus cannot be reached on the dates for the visit, every effort shall be made by the Director-General and the visited State Party to make the visit possible at the earliest possible opportunity.

71. If offering a visit, the State Party shall ensure necessary access to the facility so as to enable the visiting team to fulfil its mandate. The voluntary visit shall be conducted according to the procedures set forth in paragraphs 78 to 103. The State Party may, at its discretion, offer additional access and rights to the visiting team.
72. In the event that a request for an investigation is submitted to the Director-General in connection with the same matter as a voluntary clarification visit invitation, the Director-General shall continue with the preparations for but not proceed with the voluntary visit, pending an Executive Council determination on the investigation request. If the Executive Council does not approve the investigation request, then the voluntary clarification visit shall proceed.

Post-Consultative Meeting Procedures:
73. The requesting State Party may inform the Director-General if it believes that the consultative meeting in accordance with paragraph 63 has not resolved the matter. It shall inform him/her in writing within seven days after the conclusion of the consultative meeting. Any such notification shall include an explanation of why the requesting State Party considers that the previously conducted clarification procedures have not resolved the matter.

74. After receipt of a notification in accordance with paragraph 73, or in cases where the Director-General himself/herself requested clarification and considers that the previously conducted clarification procedures did not resolve the concern, he/she may suggest to the requested State Party that it might offer a voluntary clarification visit. If in accordance with such a suggestion a visit is not offered within 21 days, the Director-General shall submit the information provided by the requesting State Party in accordance with paragraph 57 to the Executive Council together with all relevant information pertaining to the implementation of the clarification procedures set out in this section.

75. In the light of the information submitted by the Director-General in accordance with paragraph 74, the Executive Council shall consider the matter at its next regular session and may decide, *inter alia*:
(a) That no further action is justified;
(b) To recommend further consultations with the requested State Party;
(c) To request further information from the requested and/or requesting State(s) Party(ies);
(d) To seek information from other relevant international organisations in resolving the matter;
(e) By a decision to be taken in accordance with Article 16 (19), to initiate a clarification visit to be conducted according to the procedures set out in paragraphs 78 to 103;
(f) Determine whether the declaration clarification process initiated by a State Party has been abused, and if so, whether the requesting State Party should be held to account for such abuse. If so determined, the Executive Council shall decide on appropriate measures.

76. During consideration of the matter by the Executive Council, the requested and, if applicable, the requesting State Party, whether or not they are members of the Executive Council, shall have the right to participate in the discussions and in any decision on further action.

77. If a visit is required in accordance with paragraph 75 (e), the Director-General shall provide the members of the Executive Council with information on a confidential basis. In the event of a visit, information related to it shall be restricted to the members of the Executive Council, the Technical Secretariat, the requested State Party, and, if applicable, the requesting State Party unless further distribution is expressly authorised by the requested State Party. If a visit occurs, the final report of the visit shall only be distributed to the members of the Executive Council, the Technical Secretariat, the requested State Party, and, if applicable, the requesting State Party unless further distribution is expressly authorised by the requested State Party. Information that the requested State Party considers to be commercial proprietary information or national security information shall not be included in the final report.

Duration:

78. The visited State Party and the Director-General shall determine the duration of the visit, but in no case shall the duration exceed two days. The period of visit means the consecutive period of time from the arrival of the visiting team at the visited facility until the completion of their visit activities provided for in paragraphs 91 to 98.

Equipment:

79. The visiting team shall bring to the visited facility only items from the list of approved equipment in accordance with Annex B (34) and (35). The visiting team shall normally bring to the visited facility only items of equipment meeting the specifications for, instant developing cameras, voice recorders, protective equipment and personal computers. Instant developing cameras and voice recorders shall be used only for collecting factual information for the visit report. Only representatives of the visited State Party shall operate instant developing cameras. The use and disposition of such equipment during the visit shall be at the discretion of the visited State Party. The bringing and use of additional items of approved equipment at the declared facility shall be with the agreement of the visited State Party.

80. If required by the visiting team, the visited State Party shall provide protective equipment meeting the specifications of appropriate items from the list of approved equipment. If the visited State Party is unable to provide such equipment, the visiting team shall be permitted to use its own protective equipment from the list of approved equipment.

Administrative arrangements:

81. The visited State Party shall provide or arrange for the amenities necessary for the visiting team such as communication means, interpretation services to the extent necessary for the performance of interviewing and other tasks, in-country transportation, working space, lodging, meals and urgent medical care. The visited State Party may, to the extent possible, provide equipment on the list of approved equipment on request to the visiting team. The visited State Party shall be reimbursed by the Organisation for any assistance in accordance with this paragraph within 30 days after receipt of a detailed and validated claim from the visited State Party.

Notification:

82. The Director-General shall notify the visited State Party and, if applicable the host State Party or State, confirming the visit not later than seven days in advance of the planned arrival of the visiting team at the point of entry. The notification shall include, *inter alia*:

(a) The name of the visited State Party;
(b) The name of the host State Party or State, if applicable;
(c) The name and location of the facility to be visited;
(d) The purpose of the visit and the specific issue(s) to be clarified;
(e) The point of entry;
(f) The means of arrival;
(g) The date and estimated time of arrival of the visiting team at the point of entry;
(h) The names of the leader and of the other members of the visiting team;
(i) The visit mandate;
(j) Additional equipment on the list of approved equipment, the visiting team requests to bring to the visited facility in accordance with paragraph 79.

Mandate:

83. The Director-General shall issue a mandate for the visit, which shall be limited to the clarification of the specific matter which was the subject of the prior consultations held in accordance with paragraphs 55, 57, 60 or 61. The mandate shall be included in the notification of the visit made by the Director-General. The mandate shall be made available to the representative of the visited State Party immediately upon the arrival of the visiting team at the point of entry. The mandate shall contain at least the following:

(a) The name of the visited State Party;
(b) The name of the host State Party or State, if applicable;
(c) The name and location of the facility to be visited specified as precisely as possible;
(d) The objectives of the visit and the possible means to resolve the specific matter which was the subject of any prior consultations held in accordance with paragraphs 55, 57, 60 or 61;
(e) The names of the leader and of the other members of the visiting team;
(f) The list of approved equipment proposed to be brought to the facility in accordance with paragraph 79;
(g) The declaration submitted by the facility, if appropriate.

84. The visited State Party shall acknowledge receipt of the notification not later than 48 hours after receipt of such notification. In its acknowledgement of receipt, the State Party shall provide its response to the request for additional equipment from the list of approved equipment. The State Party shall confirm acceptance of the proposed dates for the visit or propose alternative dates occurring within seven days of the visit date proposed by the Director-General. If the dates suggested by the visited State Party cannot be met by the Director-General, every effort shall be made by the Director-General and the visited State Party to make the visit possible at the earliest possible opportunity.

Appointment of Visiting Team:

85. The Director-General shall appoint members of the visiting team from among only the full time personnel of the Technical Secretariat designated in accordance with Annex B (1) to (9), taking into account the specific nature of the facility to be visited. Members of the visiting team shall be selected on as wide an equitable geographical basis as possible. The Director-General shall limit the size of the visiting team to the minimum necessary for the proper fulfilment of the mandate. In any event, the team shall not exceed four members. No national of the

requesting State Party, the visited State Party or, if applicable, the host State Party shall be a member of the visiting team.

Designation of Visited State Party Representatives:
86. The visited State Party shall designate personnel to assist visited facility personnel prepare for and host the visiting team and to accompany the visiting team for the duration of the visit.

Inspection of Approved Equipment:
87. The visited State Party shall have the right to inspect the equipment of the visiting team to ensure that it is properly sealed, appears on the list of approved equipment, and conforms to the standards as set out in Annex B (34). The visited State Party may exclude items of equipment that do not conform to the provisions as set out in Annex B (39) and may retain them at the point of entry for the duration of the visit.

Rights and Obligations:
88. The visiting team and the visited State Party shall co-operate with each other to fulfil the mandate while protecting the interests of the visited State Party.

89. In this regard, the visited State Party shall:
(a) Provide access to the visiting team to the facility to be visited and sufficient access to fulfil its mandate within the visited facility. The nature and extent of access inside the facility shall be negotiated between the visiting team and the visited State Party;
(b) Allow the visiting team to conduct the activities, described in paragraph 93 to 97, proposed by the visiting team as necessary to fulfil its mandate;
(c) Have the right to take measures to protect national security and commercial proprietary information;
(d) Have the right to object to questions posed to the facility personnel if it deems that those questions are not relevant to the objectives of the visit mandate or compromise commercial proprietary or national security information;
(e) Make every reasonable effort to provide alternative means to allow the visiting team to fulfil its mandate if any of the activities proposed by the visiting team in accordance with paragraphs 93 to 97 are not possible.

90. The visiting team shall:
(a) Collect only that information necessary to carry out its mandate and treat any information, documents and data obtained during the visit, which contain commercial proprietary or national security information and which are identified as such by the visited State Party, as confidential and handle such information, documents and data in accordance with the confidentiality provisions of this Protocol;
(b) Arrange its activities so as to ensure the timely and effective discharge of its duties in accordance with the visit mandate in the least intrusive manner possible, and make every reasonable effort to avoid inconvenience to the visited State Party and disturbance to the visited facility;
(c) Avoid unnecessarily hampering or delaying the operation of the facility. In particular, the visiting team shall not operate any facility equipment;
(d) Strictly observe established safety and working practices at the facility, whether instituted for the protection of personnel, animals, plants, and the environment or of the processes performed or their products;

(e) Provide the visited State Party with copies of all the documented and electronic information and data obtained during the course of the visit;
(f) Have the right to state the relevance of questions asked by the visiting team and objected to by the visited State Party. The team leader may ask the visited State Party to reconsider its objection. The visiting team may note in the final report any refusal to permit interviews or to allow questions to be answered along with the justification given for any such refusal by the visited State Party.

Briefing:
91. Upon arrival at the facility to be visited, the visiting team shall be briefed by the facility representatives and/or the representatives of the visited State Party. The briefing shall include the scope and a general description of activities of the facility relevant to the issue(s) to be clarified as specified in the visit mandate, details of the physical layout and other relevant characteristics of the facility, including a map or sketch showing the relevant structures and significant geographic features. It shall include information concerning the safety regulations in force, including rules of observation and quarantine. It may also include an indication of areas the visited State Party considers sensitive or not related to the visit
mandate. The briefing shall not exceed three hours.
92. The visited facility shall provide to the visiting team a written summary of the key points of the briefing. At their discretion, the visited facility may also provide in writing any additional information related to the briefing. The visiting team may discuss with the visited State Party and the visited facility personnel the content of the briefing and any other information made available by the visited State Party and visited facility personnel.

Orientation Tour:
93. The visited State Party may offer, or the visiting team may request, an orientation tour of areas within the facility relevant to the matter to be clarified as specified in the visit mandate. The visiting team and the visited State Party shall discuss the arrangements for the tour. The scope and nature of the tour shall be at the discretion of the visited State Party. The orientation tour shall not exceed two hours.
94. After the briefing and any orientation tour, the visiting team shall, in consultation with the representatives of the visited State Party, prepare an initial visit plan and immediately make it available to the visited State Party. The visit plan shall specify the activities the visiting team proposes to carry out, including the specific areas of the facility to be visited and any proposals for the visiting team to subdivide. The visiting team may propose changes to the visit plan at any time to the visited State Party. Any changes to the visit plan made during the visit and any proposals for the visiting team to subdivide shall be agreed by the visited State Party.

Visit Activities:
95. The visiting team may conduct one or more of the following activities:
(a) Ask questions about the declaration relevant to the facility and on the matter to be clarified;
(b) With their consent, interview those individuals responsible, or their representatives, or other knowledgeable personnel in respect of the scientific, technical, medical, accounting or managerial activities relevant to the matter to be clarified as specified in the mandate. At the discretion of the visited State Party, the visiting team may interview other facility personnel who may be able to assist in clarifying the matter specified in the mandate. All interviews shall be conducted in the presence of representatives of the visited State Party, with the purpose of establishing relevant facts. The visiting team shall request only information and data that are necessary for the fulfilment of the visit mandate;

(c) Visually observe parts of the facility as well as equipment, relevant to the mandate.

96. The visited State Party shall, at the request of the visiting team, make available documentation, which, in the judgement of the visited State Party and visiting team, may help clarify the matter in the mandate. The nature and extent of examination of such documentation shall be agreed between the visited State Party and the visiting team.

97. At any time during the visit, the visited State Party may, at its own initiative or at the suggestion of the visiting team, grant the visiting team the opportunity to conduct other onsite activities. It may also offer additional access that the visited State Party believes may help assist the visiting team to fulfil its mandate. Any on-site activities shall be subject to the provisions of paragraphs 88 to 90.

Debriefing and Preliminary Findings:

98. Upon completion of the visit the visiting team shall meet with representatives of the visited State Party and the visited facility at the visited facility to review the preliminary findings of the visiting team and to clarify any remaining ambiguities. The visiting team shall provide to the visited State Party its preliminary findings in written form, together with a list and copies of documents and other material obtained that it proposes, subject to the agreement of the visited State Party, to remove from the facility. The document shall not contain any information or data unrelated to the matter to be clarified as stated in the visit mandate. It shall, as a rule, not contain information or data identified as confidential by the visited State Party and not related to the matter to be clarified as stated in the visit mandate. The document shall be signed by the visiting team leader. In order to indicate that the visited State Party has reviewed the contents of the document, the visited State Party representative shall countersign it. This meeting shall be completed not later than 24 hours after completion of the visit.

Departure:

99. On completion of the debriefing the visiting team shall depart from the territory of the visited State Party as soon as possible.

Reports:

100. The visiting team shall prepare and process a draft report. The draft report shall be considered confidential. The draft report shall summarise the general activities undertaken during the visit and the factual findings of the visiting team. It shall only contain facts relevant to the clarification of the matter to be clarified as stated in the visit mandate. The draft report shall be submitted to the visited State Party not later than 14 days after the end of the visit. The visited State Party may submit to the visiting team any written comments on the draft report not later than 21 days after receipt of the draft report. In particular, it may identify any information and data which, in its view, should not be contained in the final version of the report, either because it considers it to be not relevant to the matter to be clarified as stated in the visit mandate, or due to its confidential nature.

101. The visiting team shall consider any comments received from the visited State Party and incorporate those comments and, as a rule, remove any information and data as requested in accordance with paragraph 100 before submitting the draft final report to the Director-General and the visited State Party not later than seven days after receipt of such comments.

102. The visited State Party may submit further comments to the Director-General on the draft final report within 14 days after receipt of the draft final report. The Director-General shall

annex any such comments to the draft final report, which together shall become the final report. The Director-General shall provide copies of the final report to the visited State Party and, if applicable, to the requesting State Party.

103. The Director-General shall submit the final report to the Executive Council for its consideration only when:
(a) The requesting State Party considers that the matter to be clarified has not been resolved; and/or
(b) The clarification visit resulted from the provisions set forth in
paragraph 75 (e). Executive Council review and decision on any follow-up action
104. In accordance with paragraph 103, the Executive Council shall, in accordance with its powers and functions, review the final report of the visiting team and consider and decide on whether the matter to be clarified has been resolved. If the Executive Council reaches the conclusion that the matter has not been resolved and, in keeping with its powers and functions, that further action may be necessary, it shall take appropriate measures to redress the situation, which may include requiring the visited State Party to take any necessary measures such as revision of, or addition to, the declaration concerned or submission of a new declaration within a specified time limit.

105. During consideration of the matter by the Executive Council, the visited, and if applicable, the requesting State Party, whether or not they are members of the Executive Council, shall have the right to participate in this discussion and in any decision on further action.

106. The Director-General shall inform the visited State Party of the outcome of the review of the report and on any decision on any subsequent measures in accordance with paragraph 104 as soon as possible. The visited State Party shall take the necessary measures as required by the Executive Council. If applicable, the Director-General shall also notify the requesting State Party of the outcome of the review of the report and on any decision on any subsequent measures in accordance with paragraph 104.

Annexure II

IMPLEMENTATION AND VERIFICATION OF CWC

(The Following is a selected Text of the Relevant Parts of the CWC Verification Regime)

GENERAL RULES OF VERIFICATION

A. Designation Of Inspectors And Inspection Assistants
B. Privileges And Immunities
C. Standing Arrangements
Points of entry
Arrangements for use of non- scheduled aircraft
Administrative arrangements
Approved equipment
D. Pre- Inspection Activities
Notification
Entry into the territory of the inspected State Party
or Host State and transfer to the inspection site
Pre- inspection briefing
E. Conduct Of Inspections
General rules
Safety
Communications
Inspection team and inspected State Party rights
Collection, handling and analysis of samples
Extension of inspection duration
Debriefing
F. Departure
G. Reports
H. Application Of General Provisions

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

A. Initial Inspections and Facility Agreements
B. Standing Arrangements
C. Pre- Inspection Activities

DESTRUCTION OF CHEMICAL WEAPONS AND ITS VERIFICATION PURSUANT TO ARTICLE IV

A. Declarations
Chemical weapons
Declarations of chemical weapons pursuant to Article III, paragraph 1 (a) (iii)
Declarations of past transfers and receipts
Submission of the general plan for destruction of chemical weapons
B. Measures To Secure The Storage Facility And Storage Facility Preparation.
C. Destruction
Principles and methods for destruction of chemical weapons

Order of destruction
Modification of intermediate destruction deadlines
Extension of the deadline for completion of destruction
Detailed annual plans for destruction
Annual reports on destruction

D. Verification

Verification of declarations of chemical weapons through on- site inspection
Systematic verification of storage facilities Inspections and visits
Systematic verification of the destruction of chemical weapons
Chemical weapons storage facilities at chemical weapons destruction facilities
Systematic on- site verification measures at chemical weapons destruction facilities

OLD CHEMICAL WEAPONS AND ABANDONED CHEMICAL WEAPONS

A. General
B. Regime for Old Chemical Weapons
C. Regime for Abandoned Chemical Weapons

DESTRUCTION OF CHEMICAL WEAPONS PRODUCTION FACILITIES AND ITS VERIFICATION PURSUANT TO ARTICLE V

A. Declarations

Declarations of chemical weapons production facilities
Declarations of chemical weapons production facilities pursuant to Article III, paragraph 1 (c) (iii)
Declarations of past transfers and receipts
Submission of general plans for destruction
Submission of annual plans for destruction and annual reports on destruction

B. Destruction

General principles for destruction of chemical weapons production facilities
Principles and methods for closure of a chemical weapons production facility
Technical maintenance of chemical weapons production facilities prior to their destruction
Principles and methods for temporary conversion of chemical weapons production facilities into chemical weapons destruction facilities
Principles and methods related to destruction of a chemical weapons production facility
Order of destruction
Detailed plans for destruction
Review of detailed plans

C. Verification

Verification of declarations of chemical weapons production facilities through on- site inspection.
Systematic verification of chemical weapons production facilities and cessation of their activities
Verification of destruction of chemical weapons production facilities
Verification of temporary conversion of a chemical weapons production facility into a chemical weapons destruction facility

CONVERSION OF CHEMICAL WEAPONS PRODUCTION FACILITIES TO PURPOSES NOT PROHIBITED UNDER THIS CONVENTION

Procedures for requesting conversion
Actions pending a decision
Conditions for conversion

C. Transfers To States Not Party To This Convention

ACTIVITIES NOT PROHIBITED UNDER THIS CONVENTION IN ACCORDANCE WITH ARTICLE VI: REGIME FOR OTHER CHEMICAL PRODUCTION FACILITIES

A. Declarations
List of other chemical production facilities
Assistance by the Technical Secretariat
Information to States Parties
B. Verification
General
Inspection aims
Inspection procedures
Notification of inspection
C. Implementation And Review Of Section B
Implementation
Review

CHALLENGE INSPECTIONS PURSUANT TO ARTICLE IX

A. Designation And Selection Of Inspectors And Inspection Assistants
B. Pre- Inspection Activities
Notification
Entry into the territory of the inspected State Party or the Host State
Alternative determination of final perimeter
Verification of location
Securing the site, exit monitoring
Pre- inspection briefing and inspection plan
Perimeter activities
C. Conduct Of Inspections
General rules
Managed access
Observer
Duration of inspection
D. Post- Inspection Activities
Departure
Reports

ART XI: INVESTIGATIONS IN CASES OF ALLEGED USE OF CHEMICAL WEAPONS

A. General
B. Pre- Inspection Activities
Request for an investigation
Notification
Assignment of inspection team
Dispatch of inspection team
Briefings
C. Conduct Of Inspections
Access
Sampling

Extension of inspection site
Extension of inspection duration
Interviews

D. Reports

Procedures
Contents

E. States Not Party To This Convention

DESTRUCTION OF CHEMICAL WEAPONS AND ITS VERIFICATION PURSUANT TO ARTICLE IV : VERIFICATION

Verification of Declarations of Chemical Weapons Through On- site Inspection

37. The purpose of the verification of declarations of chemical weapons shall be to confirm through on-site inspection the accuracy of the relevant declarations made pursuant to Article III.
38. The inspectors shall conduct this verification promptly after a declaration is submitted. They shall, *inter alia*, verify the quantity and identity of chemicals, types and number of munitions, devices and other equipment.

39. The inspectors shall employ, as appropriate, agreed seals, markers or other inventory control procedures to facilitate an accurate inventory of the chemical weapons at each storage facility.

40. As the inventory progresses, inspectors shall install such agreed seals as may be necessary to clearly indicate if any stocks are removed, and to ensure the securing of the storage facility during the inventory. After completion of the inventory, such seals will be removed unless otherwise agreed.

Systematic Verification of Storage Facilities

41. The purpose of the systematic verification of storage facilities shall be to ensure that no undetected removal of chemical weapons from such facilities takes place.

42. The systematic verification shall be initiated as soon as possible after the declaration of chemical weapons is submitted and shall continue until all chemical weapons have been removed from the storage facility. It shall in accordance with the facility agreement, combine on-site inspection and monitoring with on-site instruments.

43. When all chemical weapons have been removed from the storage facility, the Technical Secretariat shall confirm the declaration of the State Party to that effect. After this confirmation, the Technical Secretariat shall terminate the systematic verification of the storage facility and shall promptly remove any monitoring instruments installed by the inspectors.

Inspections and Visits

44. The particular storage facility to be inspected shall be chosen by the Technical Secretariat in such a way as to preclude the prediction of precisely when the facility is to be inspected. The guidelines for determining the frequency of systematic on- site inspections shall be elaborated by the Technical Secretariat, taking into account the recommendations to be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i).

45. The Technical Secretariat shall notify the inspected State Party of its decision to inspect or visit the storage facility 48 hours before the planned arrival of the inspection team at the facility for systematic inspections or visits. In cases of inspections or visits to resolve urgent problems, this period may be shortened. The Technical Secretariat shall specify the purpose of the inspection or visit.

46. The inspected State Party shall make any necessary preparations for the arrival of the inspectors and shall ensure their expeditious transportation from their point of entry to the storage facility. The facility agreement will specify administrative arrangements for inspectors.

47. The inspected State Party shall provide the inspection team upon its arrival at the chemical weapons storage facility to carry out an inspection, with the following data on the facility:

(a) The number of storage buildings and storage locations;

(b) For each storage building and storage location, the type and the identification number or designation, shown on the site diagram; and

(c) For each storage building and storage location at the facility, the number of items of each specific type of chemical weapon, and, for containers that are not part of binary munitions, the actual quantity of chemical fill in each container.

48. In carrying out an inventory, within the time available, inspectors shall have the right:

(a) To use any of the following inspection techniques:

(i) inventory all the chemical weapons stored at the facility;

(ii) inventory all the chemical weapons stored in specific buildings or locations at the facility, as chosen by the inspectors; or

(iii) inventory all the chemical weapons of one or more specific types stored at the facility, as chosen by the inspectors; and

(b) To check all items inventoried against agreed records.

49. Inspectors shall, in accordance with facility agreements:

(a) Have unimpeded access to all parts of the storage facilities including any munitions, devices, bulk containers, or other containers therein. While conducting their activity, inspectors shall comply with the safety regulations at the facility. The items to be inspected will be chosen by the inspectors; and

(b) Have the right, during the first and any subsequent inspection of each chemical weapons storage facility, to designate munitions, devices, and containers from which samples are to be taken, and to affix to such munitions, devices, and containers a unique tag that will indicate an attempt to remove or alter the tag. A sample shall be taken from a tagged item at a chemical weapons storage facility or a chemical weapons destruction facility as soon as it is practically possible in accordance with the corresponding destruction programmes, and, in any case, not later than by the end of the destruction operations.

Systematic Verification of the Destruction of Chemical Weapons

50. The purpose of verification of destruction of chemical weapons shall be:

(a) To confirm the identity and quantity of the chemical weapons stocks to be destroyed; and

(b) To confirm that these stocks have been destroyed.

51. Chemical weapons destruction operations during the first 390 days after the entry into force of this Convention shall be governed by transitional verification arrangements. Such arrangements, including a transitional facility agreement, provisions for verification through on- site inspection and monitoring with on- site instruments, and the time- frame for application of the arrangements, shall be agreed between the Organization and the inspected State Party. These arrangements shall be approved by the Executive Council not later than 60 days after this Convention enters into force for the State Party, taking into account the recommendations of the Technical Secretariat, which shall be based on an evaluation of the detailed facility information provided in accordance with paragraph 31 and a visit to the facility. The Executive Council shall, at its first session, establish the guidelines for such transitional verification arrangements, based on recommendations to be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i). The transitional verification arrangements shall be designed to

verify, throughout the entire transitional period, the destruction of chemical weapons in accordance with the purposes set forth in paragraph 50, and to avoid hampering ongoing destruction operations.

52. The provisions of paragraphs 53 to 61 shall apply to chemical weapons destruction operations that are to begin not earlier than 390 days after the entry into force of this Convention.

53. On the basis of this Convention and the detailed destruction facility information, and as the case may be, on experience from previous inspections, the Technical Secretariat shall prepare a draft plan for inspecting the destruction of chemical weapons at each destruction facility. The plan shall be completed and provided to the inspected State Party for comment not less than 270 days before the facility begins destruction operations pursuant to this Convention. Any differences between the Technical Secretariat and the inspected State Party should be resolved through consultations. Any unresolved matter shall be forwarded to the Executive Council for appropriate action with a view to facilitating the full implementation of this Convention

.

54. The Technical Secretariat shall conduct an initial visit to each chemical weapons destruction facility of the inspected State Party not less than 240 days before each facility begins destruction operations pursuant to this Convention, to allow it to familiarize itself with the facility and assess the adequacy of the inspection plan.

55. In the case of an existing facility where chemical weapons destruction operations have already been initiated, the inspected State Party shall not be required to decontaminate the facility before the Technical Secretariat conducts an initial visit. The duration of the visit shall not exceed five days and the number of visiting personnel shall not exceed 15.

56. The agreed detailed plans for verification, with an appropriate recommendation by the Technical Secretariat, shall be forwarded to the Executive Council for review. The Executive Council shall review the plans with a view to approving them, consistent with verification objectives and obligations under this Convention. It should also confirm that verification schemes for destruction are consistent with verification aims and are efficient and practical. This review should be completed not less than 180 days before the destruction period begins.

57. Each member of the Executive Council may consult with the Technical Secretariat on any issues regarding the adequacy of the plan for verification. If there are no objections by any member of the Executive Council, the plan shall be put into action.

58. If there are any difficulties, the Executive Council shall enter into consultations with the State Party to reconcile them. If any difficulties remain unresolved they shall be referred to the Conference

.

59. The detailed facility agreements for chemical weapons destruction facilities shall specify, taking into account the specific characteristics of the destruction facility and its mode of operation:

(a)Detailed on- site inspection procedures; and

(b) Provisions for verification through continuous monitoring with on- site instruments and physical presence of inspectors.

60. Inspectors shall be granted access to each chemical weapons destruction facility not less than 60 days before the commencement of the destruction, pursuant to this Convention, at the facility. Such access shall be for the purpose of supervising the installation of the inspection equipment, inspecting this equipment and testing its operation, as well as for the purpose of carrying out a final engineering review of the facility. In the case of an existing facility where chemical weapons destruction operations have already been initiated, destruction operations shall be stopped for the minimum amount of time required, not to exceed 60 days, for installation and testing of the inspection equipment. Depending on the results of the testing and review, the State Party and the Technical Secretariat may agree on additions or changes to the detailed facility agreement for the facility.

61. The inspected State Party shall notify, in writing, the inspection team leader at a chemical weapons destruction facility not less than four hours before the departure of each shipment of chemical weapons from a chemical weapons storage facility to that destruction facility. This notification shall specify the name of the storage facility, the estimated times of departure and arrival, the specific types and quantities of chemical weapons being transported, whether any tagged items are being moved, and the method of transportation. This notification may include notification of more than one shipment. The inspection team leader shall be promptly notified, in writing, of any changes in this information.

Chemical Weapons Storage Facilities at Chemical Weapons Destruction Facilities

62. The inspectors shall verify the arrival of the chemical weapons at the destruction facility and the storing of these chemical weapons. The inspectors shall verify the inventory of each shipment, using agreed procedures consistent with facility safety regulations, prior to the destruction of the chemical weapons. They shall employ, as appropriate, agreed seals, markers or other inventory control procedures to facilitate an accurate inventory of the chemical weapons prior to destruction.

63. As soon and as long as chemical weapons are stored at chemical weapons storage facilities located at chemical weapons destruction facilities, these storage facilities shall be subject to systematic verification in conformity with the relevant facility agreements.
64. At the end of an active destruction phase, inspectors shall make an inventory of the chemical weapons, that have been removed from the storage facility, to be destroyed. They shall verify the accuracy of the inventory of the chemical weapons remaining, employing inventory control procedures as referred to in paragraph 62.

Systematic On-site Verification Measures at Chemical Weapons Destruction Facilities

65. The inspectors shall be granted access to conduct their activities at the chemical weapons destruction facilities and the chemical weapons storage facilities located at such facilities during the entire active phase of destruction

66. At each chemical weapons destruction facility, to provide assurance that no chemical weapons are diverted and that the destruction process has been completed, inspectors shall have the right to verify through their physical presence and monitoring with on- site instruments:
(a) The receipt of chemical weapons at the facility;
(b) The temporary holding area for chemical weapons and the specific type and quantity of chemical weapons stored in that area;
(c) The specific type and quantity of chemical weapons being destroyed;
(d) The process of destruction;
(e) The end- product of destruction;
(f) The mutilation of metal parts; and
(g) The integrity of the destruction process and of the facility as a whole.

67. Inspectors shall have the right to tag, for sampling, munitions, devices, or containers located in the temporary holding areas at the chemical weapons destruction facilities.
68. To the extent that it meets inspection requirements, information from routine facility operations, with appropriate data authentication, shall be used for inspection purposes.
69. After the completion of each period of destruction, the Technical Secretariat shall confirm the declaration of the State Party, reporting the completion of destruction of the designated quantity of chemical weapons.

70. Inspectors shall, in accordance with facility agreements:
(a) Have unimpeded access to all parts of the chemical weapons destruction facilities and the

chemical weapons storage facilities located at such facilities, including any munitions, devices, bulk containers, or other containers, therein. The items to be inspected shall be chosen by the inspectors in accordance with the verification plan that has been agreed to by the inspected State Party and approved by the Executive Council;

(b) Monitor the systematic on- site analysis of samples during the destruction process; and

(c) Receive, if necessary, samples taken at their request from any devices, bulk containers and other containers at the destruction facility or the storage facility thereat.

PART V
DESTRUCTION OF CHEMICAL WEAPONS PRODUCTION FACILITIES AND ITS VERIFICATION PURSUANT TO ARTICLE V

C. VERIFICATION

Verification of declarations of chemical weapons production facilities through on- site inspection

43. The Technical Secretariat shall conduct an initial inspection of each chemical weapons production facility in the period between 90 and 120 days after this Convention enters into force for the State Party.

44. The purposes of the initial inspection shall be:

(a) To confirm that the production of chemical weapons has ceased and that the facility has been inactivated in accordance with this Convention;

(b) To permit the Technical Secretariat to familiarize itself with the measures that have been taken to cease production of chemical weapons at the facility;

(c) To permit the inspectors to install temporary seals;

(d) To permit the inspectors to confirm the inventory of buildings and specialized equipment;

(e) To obtain information necessary for planning inspection activities at the facility, including use of tamper- indicating seals and other agreed equipment, which shall be installed pursuant to the detailed facility agreement for the facility; and

(f) To conduct preliminary discussions regarding a detailed agreement on inspection procedures at the facility.

45. Inspectors shall employ, as appropriate, agreed seals, markers or other inventory control procedures to facilitate an accurate inventory of the declared items at each chemical weapons production facility.

46. Inspectors shall install such agreed devices as may be necessary to indicate if any resumption of production of chemical weapons occurs or if any declared item is removed. They shall take the necessary precaution not to hinder closure activities by the inspected State Party. Inspectors may return to maintain and verify the integrity of the devices.

47. If, on the basis of the initial inspection, the Director- General believes that additional measures are necessary to inactivate the facility in accordance with this Convention, the Director- General may request, not later than 135 days after this Convention enters into force for a State Party, that such measures be implemented by the inspected State Party not later than 180 days after this Convention enters into force for it. At its discretion, the inspected State Party may satisfy the request. If it does not satisfy the request, the inspected State Party and the Director- General shall consult to resolve the matter.

Systematic Verification of Chemical Weapons Production Facilities and Cessation of their Activities

48. The purpose of the systematic verification of a chemical weapons production facility shall be to ensure that any resumption of production of chemical weapons or removal of declared items will be detected at this facility.

49. The detailed facility agreement for each chemical weapons production facility shall specify:

(a) Detailed on- site inspection procedures, which may include:
(i) Visual examinations;
(ii) Checking and servicing of seals and other agreed devices; and
(iii) Obtaining and analysing samples;
(b) Procedures for using tamper- indicating seals and other agreed equipment to prevent the undetected reactivation of the facility, which shall specify:
(i) The type, placement, and arrangements for installation; and
(ii) The maintenance of such seals and equipment; and
(c) Other agreed measures.

50. The seals or other approved equipment provided for in a detailed agreement on inspection measures for that facility shall be placed not later than 240 days after this Convention enters into force for a State Party. Inspectors shall be permitted to visit each chemical weapons production facility for the installation of such seals or equipment.

51. During each calendar year, the Technical Secretariat shall be permitted to conduct up to four inspections of each chemical weapons production facility.

52. The Director- General shall notify the inspected State Party of his decision to inspect or visit a chemical weapons production facility 48 hours before the planned arrival of the inspection team at the facility for systematic inspections or visits. In the case of inspections or visits to resolve urgent problems, this period may be shortened. The Director- General shall specify the purpose of the inspection or visit.

53. Inspectors shall, in accordance with the facility agreements, have unimpeded access to all parts of the chemical weapons production facilities. The items on the declared inventory to be inspected shall be chosen by the inspectors.

54. The guidelines for determining the frequency of systematic on- site inspections shall be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i). The particular production facility to be inspected shall be chosen by the Technical Secretariat in such a way as to preclude the prediction of precisely when the facility is to be inspected.

Verification of Destruction of Chemical Weapons Production Facilities

55. The purpose of systematic verification of the destruction of chemical weapons production facilities shall be to confirm that the facility is destroyed in accordance with the obligations under this Convention and that each item on the declared inventory is destroyed in accordance with the agreed detailed plan for destruction.

56. When all items on the declared inventory have been destroyed, the Technical Secretariat shall confirm the declaration of the State Party to that effect. After this confirmation, the Technical Secretariat shall terminate the systematic verification of the chemical weapons production facility and shall promptly remove all devices and monitoring instruments installed by the inspectors.

57. After this confirmation, the State Party shall make the declaration that the facility has been destroyed.

Verification of Temporary Conversion of a Chemical Weapons Production Facility into a Chemical Weapons Destruction Facility

58. Not later than 90 days after receiving the initial notification of the intent to convert temporarily a production facility, the inspectors shall have the right to visit the facility to familiarize themselves with the proposed temporary conversion and to study possible inspection measures that will be required during the conversion.

59. Not later than 60 days after such a visit, the Technical Secretariat and the inspected State Party shall conclude a transition agreement containing additional inspection measures for the temporary conversion period. The transition agreement shall specify inspection procedures, including the use of seals, monitoring equipment, and inspections, that will provide confidence that no chemical weapons production takes place during the conversion process. This agreement shall remain in force from the beginning of the temporary conversion activity until the facility begins operation as a chemical weapons destruction facility.

60. The inspected State Party shall not remove or convert any portion of the facility, or remove or modify any seal or other agreed inspection equipment that may have been installed pursuant to this Convention until the transition agreement has been concluded.

61. Once the facility begins operation as a chemical weapons destruction facility, it shall be subject to the provisions of Part IV (A) of this Annex applicable to chemical weapons destruction facilities. Arrangements for the pre- operation period shall be governed by the transition agreement.

62. During destruction operations the inspectors shall have access to all portions of the temporarily converted chemical weapons production facilities, including those that are not directly involved with the destruction of chemical weapons.

63. Before the commencement of work at the facility to convert it temporarily for chemical weapons destruction purposes and after the facility has ceased to function as a facility for chemical weapons destruction, the facility shall be subject to the provisions of this Part applicable to chemical weapons production facilities.

PART VI:
ACTIVITIES NOT PROHIBITED UNDER THIS CONVENTION IN ACCORDANCE WITH ARTICLE VI:
E. VERIFICATION

Single Small- scale Facility

21. The aim of verification activities at the single small- scale facility shall be to verify that the quantities of Schedule 1 chemicals produced are correctly declared and, in particular, that their aggregate amount does not exceed 1 tonne.

22. The facility shall be subject to systematic verification through on- site inspection and monitoring with on- site instruments.

23. The number, intensity, duration, timing and mode of inspections for a particular facility shall be based on the risk to the object and purpose of this Convention posed by the relevant chemicals, the characteristics of the facility and the nature of the activities carried out there. Appropriate guidelines shall be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i).

24. The purpose of the initial inspection shall be to verify information provided concerning the facility, including verification of the limits on reaction vessels set forth in paragraph 9.

25. Not later than 180 days after this Convention enters into force for a State Party, it shall conclude a facility agreement, based on a model agreement, with the Organization, covering detailed inspection procedures for the facility.

26. Each State Party planning to establish a single small- scale facility after this Convention enters into

force for it shall conclude a facility agreement, based on a model agreement, with the Organization, covering detailed inspection procedures for the facility before it begins operation or is used.

27. A model for agreements shall be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i).

Other Facilities Referred to in Paragraphs 10 and 11

28. The aim of verification activities at any facility referred to in paragraphs 10 and 11 shall be to verify that:

(a) The facility is not used to produce any Schedule 1 chemical, except for the declared chemicals;
(b) The quantities of Schedule 1 chemicals produced, processed or consumed are correctly declared and consistent with needs for the declared purpose; and
(c) The Schedule 1 chemical is not diverted or used for other purposes.

29. The facility shall be subject to systematic verification through on- site inspection and monitoring with on- site instruments.

30. The number, intensity, duration, timing and mode of inspections for a particular facility shall be based on the risk to the object and purpose of this Convention posed by the quantities of chemicals produced, the characteristics of the facility and the nature of the activities carried out there. Appropriate guidelines shall be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i).

31. Not later than 180 days after this Convention enters into force for a State Party, it shall conclude facility agreements with the Organization, based on a model agreement covering detailed inspection procedures for each facility.

32. Each State Party planning to establish such a facility after entry into force of this Convention shall conclude a facility agreement with the Organization before the facility begins operation or is used.

PART VII
ACTIVITIES NOT PROHIBITED UNDER THIS CONVENTION IN ACCORDANCE WITH ARTICLE VI
B. VERIFICATION

General

12. Verification provided for in Article VI, paragraph 4, shall be carried out through on- site inspection at those of the declared plant sites that comprise one or more plants which produced, processed or consumed during any of the previous three calendar years or are anticipated to produce, process or consume in the next calendar year more than:

(a) 10 kg of a chemical designated "*" in Schedule 2, part A;
(b) 1 tonne of any other chemical listed in Schedule 2, part A; or
(c) 10 tonnes of a chemical listed in Schedule 2, part B.

13. The programme and budget of the Organization to be adopted by the Conference pursuant to Article VIII, paragraph 21 (a) shall contain, as a separate item, a programme and budget for verification under this Section. In the allocation of resources made available for verification under Article VI, the Technical Secretariat shall, during the first three years after the entry into force of this Convention, give priority to the initial inspections of plant sites declared under Section A. The allocation shall thereafter be reviewed on the basis of the experience gained.

14. The Technical Secretariat shall conduct initial inspections and subsequent inspections in accordance with paragraphs 15 to 22.

Inspection Aims

15. The general aim of inspections shall be to verify that activities are in accordance with obligations under this Convention and consistent with the information to be provided in declarations. Particular aims of inspections at plant sites declared under Section A shall include verification of:

(a) The absence of any Schedule 1 chemical, especially its production, except if in accordance with Part VI of this Annex;
(b) Consistency with declarations of levels of production, processing or consumption of Schedule 2 chemicals; and
(c) Non- diversion of Schedule 2 chemicals for activities prohibited under this Convention.

Initial Inspections

16. Each plant site to be inspected pursuant to paragraph 12 shall receive an initial inspection as soon as possible but preferably not later than three years after entry into force of this Convention. Plant sites declared after this period shall receive an initial inspection not later than one year after production, processing or consumption is first declared. Selection of plant sites for initial inspections shall be made by the Technical Secretariat in such a way as to preclude the prediction of precisely when the plant site is to be inspected.

17. During the initial inspection, a draft facility agreement for the plant site shall be prepared unless the inspected State Party and the Technical Secretariat agree that it is not needed.

18. With regard to frequency and intensity of subsequent inspections, inspectors shall during the initial inspection assess the risk to the object and purpose of this Convention posed by the relevant chemicals, the characteristics of the plant site and the nature of the activities carried out there, taking into account, *inter alia,* the following criteria:

(a) The toxicity of the scheduled chemicals and of the end- products produced with it, if any;
(b) The quantity of the scheduled chemicals typically stored at the inspected site;
(c) The quantity of feedstock chemicals for the scheduled chemicals typically stored at the inspected site;
(d) The production capacity of the Schedule 2 plants; and
(e) The capability and convertibility for initiating production, storage and filling of toxic chemicals at the inspected site.

Inspections

19. Having received the initial inspection, each plant site to be inspected pursuant to paragraph 12 shall be subject to subsequent inspections.

20. In selecting particular plant sites for inspection and in deciding on the frequency and intensity of inspections, the Technical Secretariat shall give due consideration to the risk to the object and purpose of this Convention posed by the relevant chemical, the characteristics of the plant site and the nature of the activities carried out there, taking into account the respective facility agreement as well as the results of the initial inspections and subsequent inspections.

21. The Technical Secretariat shall choose a particular plant site to be inspected in such a way as to preclude the prediction of exactly when it will be inspected.

22. No plant site shall receive more than two inspections per calendar year under the provisions of this Section. This, however, shall not limit inspections pursuant to Article IX.

Inspection Procedures

23. In addition to agreed guidelines, other relevant provisions of this Annex and the Confidentiality Annex, paragraphs 24 to 30 below shall apply.

24. A facility agreement for the declared plant site shall be concluded not later than 90 days after completion of the initial inspection between the inspected State Party and the Organization unless the inspected State Party and the Technical Secretariat agree that it is not needed. It shall be based on a model agreement and govern the conduct of inspections at the declared plant site. The agreement shall specify the frequency and intensity of inspections as well as detailed inspection procedures, consistent with paragraphs 25 to 29.

25. The focus of the inspection shall be the declared Schedule 2 plant(s) within the declared plant site. If the inspection team requests access to other parts of the plant site, access to these areas shall be granted in accordance with the obligation to provide clarification pursuant to Part II, paragraph 51, of this Annex and in accordance with the facility agreement, or, in the absence of a facility agreement, in accordance with the rules of managed access as specified in Part X, Section C, of this Annex.

26. Access to records shall be provided, as appropriate, to provide assurance that there has been no diversion of the declared chemical and that production has been consistent with declarations.

27. Sampling and analysis shall be undertaken to check for the absence of undeclared scheduled chemicals.

28. Areas to be inspected may include:
(a) Areas where feed chemicals (reactants) are delivered or stored;
(b) Areas where manipulative processes are performed upon the reactants prior to addition to the reaction vessels;
(c) Feed lines as appropriate from the areas referred to in subparagraph (a) or subparagraph (b) to the reaction vessels together with any associated valves, flow meters, etc.;
(d) The external aspect of the reaction vessels and ancillary equipment;
(e) Lines from the reaction vessels leading to long- or short- term storage or to equipment further processing the declared Schedule 2 chemicals;
(f) Control equipment associated with any of the items under subparagraphs (a) to (e);
(g) Equipment and areas for waste and effluent handling;
(h) Equipment and areas for disposition of chemicals not up to specification.

29. The period of inspection shall not last more than 96 hours; however, extensions may be agreed between the inspection team and the inspected State Party.

Notification of Inspection

30. A State Party shall be notified by the Technical Secretariat of the inspection not less than 48 hours before the arrival of the inspection team at the plant site to be inspected.

PART VIII
ACTIVITIES NOT PROHIBITED UNDER THIS CONVENTION IN ACCORDANCE WITH ARTICLE VI

REGIME FOR SCHEDULE 3 CHEMICALS AND FACILITIES RELATED TO SUCH CHEMICALS

B. VERIFICATION

General

12. Verification provided for in paragraph 5 of Article VI shall be carried out through on- site inspections at those declared plant sites which produced during the previous calendar year or are anticipated to produce in the next calendar year in excess of 200 tonnes aggregate of any Schedule 3 chemical above the declaration threshold of 30 tonnes.

13. The programme and budget of the Organization to be adopted by the Conference pursuant to Article VIII, paragraph 21 (a), shall contain, as a separate item, a programme and budget for verification under this Section taking into account Part VII, paragraph 13, of this Annex.

14. Under this Section, the Technical Secretariat shall randomly select plant sites for inspection through appropriate mechanisms, such as the use of specially designed computer software, on the basis of the following weighting factors:

(a) Equitable geographical distribution of inspections; and
(b) The information on the declared plant sites available to the Technical Secretariat, related to the relevant chemical, the characteristics of the plant site and the nature of the activities carried out there.

15. No plant site shall receive more than two inspections per year under the provisions of this Section. This, however, shall not limit inspections pursuant to Article IX.

16. In selecting plant sites for inspection under this Section, the Technical Secretariat shall observe the following limitation for the combined number of inspections to be received by a State Party per calendar year under this Part and Part IX of this Annex: the combined number of inspections shall not exceed three plus 5 per cent of the total number of plant sites declared by a State Party under both this Part and Part IX of this Annex, or 20 inspections, whichever of these two figures is lower.

Inspection Aims

17. At plant sites declared under Section A, the general aim of inspections shall be to verify that activities are consistent with the information to be provided in declarations. The particular aim of inspections shall be the verification of the absence of any Schedule 1 chemical, especially its production, except if in accordance with Part VI of this Annex.

Inspection Procedures

18. In addition to agreed guidelines, other relevant provisions of this Annex and the Confidentiality Annex, paragraphs 19 to 25 below shall apply.

19. There shall be no facility agreement, unless requested by the inspected State Party.

20. The focus of the inspections shall be the declared Schedule 3 plant(s) within the declared plant site. If the inspection team, in accordance with Part II, paragraph 51, of this Annex, requests access to other parts

of the plant site for clarification of ambiguities, the extent of such access shall be agreed between the inspection team and the inspected State Party.

21. The inspection team may have access to records in situations in which the inspection team and the inspected State Party agree that such access will assist in achieving the objectives of the inspection.

22. Sampling and on- site analysis may be undertaken to check for the absence of undeclared scheduled chemicals. In case of unresolved ambiguities, samples may be analysed in a designated off- site laboratory, subject to the inspected State Party's agreement.

23. Areas to be inspected may include:
(a) Areas where feed chemicals (reactants) are delivered or stored;
(b) Areas where manipulative processes are performed upon the reactants prior to addition to the reaction vessel;
(c) Feed lines as appropriate from the areas referred to in subparagraph (a) or subparagraph (b) to the reaction vessel together with any associated valves, flow meters, etc.;
(d) The external aspect of the reaction vessels and ancillary equipment;
(e) Lines from the reaction vessels leading to long- or short- term storage or to equipment further processing the declared Schedule 3 chemicals;
(f) Control equipment associated with any of the items under subparagraphs (a) to (e);
(g) Equipment and areas for waste and effluent handling;
(h) Equipment and areas for disposition of chemicals not up to specification.

24. The period of inspection shall not last more than 24 hours; however, extensions may be agreed between the inspection team and the inspected State Party.

Notification of Inspection

25. A State Party shall be notified by the Technical Secretariat of the inspection not less than 120 hours before the arrival of the inspection team at the plant site to be inspected.

PART IX

ACTIVITIES NOT PROHIBITED UNDER THIS CONVENTION IN ACCORDANCE WITH ARTICLE VI

REGIME FOR OTHER CHEMICAL PRODUCTION FACILITIES
B. VERIFICATION

General

9. Subject to the provisions of Section C, verification as provided for in Article VI, paragraph 6, shall be carried out through on- site inspection at:
(a) Plant sites listed pursuant to paragraph 1 (a); and
(b) Plant sites listed pursuant to paragraph 1 (b) that comprise one or more PSF- plants which produced during the previous calendar year more than 200 tonnes of a PSF- chemical.

10. The programme and budget of the Organization to be adopted by the Conference pursuant to Article VIII, paragraph 21 (a), shall contain, as a separate item, a programme and budget for verification under this Section after its implementation has started.

11. Under this Section, the Technical Secretariat shall randomly select plant sites for inspection through appropriate mechanisms, such as the use of specially designed computer software, on the basis of the following weighting factors:

(a) Equitable geographical distribution of inspections;
(b) The information on the listed plant sites available to the Technical Secretariat, related to the characteristics of the plant site and the activities carried out there; and
(c) Proposals by States Parties on a basis to be agreed upon in accordance with paragraph 25.

12. No plant site shall receive more than two inspections per year under the provisions of this Section. This, however, shall not limit inspections pursuant to Article IX.

13. In selecting plant sites for inspection under this Section, the Technical Secretariat shall observe the following limitation for the combined number of inspections to be received by a State Party per calendar year under this Part and Part VIII of this Annex: the combined number of inspections shall not exceed three plus 5 per cent of the total number of plant sites declared by a State Party under both this Part and Part VIII of this Annex, or 20 inspections, whichever of these two figures is lower.

Inspection Aims

14. At plant sites listed under Section A, the general aim of inspections shall be to verify that activities are consistent with the information to be provided in declarations. The particular aim of inspections shall be the verification of the absence of any Schedule 1 chemical, especially its production, except if in accordance with Part VI of this Annex.

Inspection Procedures

15. In addition to agreed guidelines, other relevant provisions of this Annex and the Confidentiality Annex, paragraphs 16 to 20 below shall apply.
16. There shall be no facility agreement, unless requested by the inspected State Party.

17. The focus of inspection at a plant site selected for inspection shall be the plant(s) producing the chemicals specified in paragraph 1, in particular the PSF- plants listed pursuant to paragraph 1 (b). The inspected State Party shall have the right to manage access to these plants in accordance with the rules of managed access as specified in Part X, Section C, of this Annex. If the inspection team, in accordance with Part II, paragraph 51, of this Annex, requests access to other parts of the plant site for clarification of ambiguities, the extent of such access shall be agreed between the inspection team and the inspected State Party.

18. The inspection team may have access to records in situations in which the inspection team and the inspected State Party agree that such access will assist in achieving the objectives of the inspection.

19. Sampling and on- site analysis may be undertaken to check for the absence of undeclared scheduled chemicals. In cases of unresolved ambiguities, samples may be analysed in a designated off- site laboratory, subject to the inspected State Party's agreement.

20. The period of inspection shall not last more than 24 hours; however, extensions may be agreed between the inspection team and the inspected State Party.

Notification of Inspection

21. A State Party shall be notified by the Technical Secretariat of the inspection not less than 120 hours before the arrival of the inspection team at the plant site to be inspected.

PART IX

ACTIVITIES NOT PROHIBITED UNDER THIS CONVENTION IN ACCORDANCE WITH ARTICLE VI

REGIME FOR OTHER CHEMICAL PRODUCTION FACILITIES
B. VERIFICATION

General

9. Subject to the provisions of Section C, verification as provided for in Article VI, paragraph 6. shall be carried out through on- site inspection at:
(a) Plant sites listed pursuant to paragraph 1 (a); and
(b) Plant sites listed pursuant to paragraph 1 (b) that comprise one or more PSF- plants which produced during the previous calendar year more than 200 tonnes of a PSF- chemical.

10. The programme and budget of the Organization to be adopted by the Conference pursuant to Article VIII, paragraph 21 (a), shall contain, as a separate item, a programme and budget for verification under this Section after its implementation has started.

11. Under this Section, the Technical Secretariat shall randomly select plant sites for inspection through appropriate mechanisms, such as the use of specially designed computer software, on the basis of the following weighting factors:
(a) Equitable geographical distribution of inspections;
(b) The information on the listed plant sites available to the Technical Secretariat, related to the characteristics of the plant site and the activities carried out there; and
(c) Proposals by States Parties on a basis to be agreed upon in accordance with paragraph 25.

12. No plant site shall receive more than two inspections per year under the provisions of this Section. This, however, shall not limit inspections pursuant to Article IX.

13. In selecting plant sites for inspection under this Section, the Technical Secretariat shall observe the following limitation for the combined number of inspections to be received by a State Party per calendar year under this Part and Part VIII of this Annex: the combined number of inspections shall not exceed three plus 5 per cent of the total number of plant sites declared by a State Party under both this Part and Part VIII of this Annex, or 20 inspections, whichever of these two figures is lower.

Inspection Aims:

14. At plant sites listed under Section A, the general aim of inspections shall be to verify that activities are consistent with the information to be provided in declarations. The particular aim of inspections shall be the verification of the absence of any Schedule 1 chemical, especially its production, except if in accordance with Part VI of this Annex.

Inspection Procedures:

15. In addition to agreed guidelines, other relevant provisions of this Annex and the Confidentiality Annex, paragraphs 16 to 20 below shall apply.

16. There shall be no facility agreement, unless requested by the inspected State Party.

17. The focus of inspection at a plant site selected for inspection shall be the plant(s) producing the chemicals specified in paragraph 1, in particular the PSF- plants listed pursuant to paragraph 1 (b). The inspected State Party shall have the right to manage access to these plants in accordance with the rules of managed access as specified in Part X, Section C, of this Annex. If the inspection team, in accordance

with Part II, paragraph 51, of this Annex, requests access to other parts of the plant site for clarification of ambiguities, the extent of such access shall be agreed between the inspection team and the inspected State Party.

18. The inspection team may have access to records in situations in which the inspection team and the inspected State Party agree that such access will assist in achieving the objectives of the inspection.
19. Sampling and on- site analysis may be undertaken to check for the absence of undeclared scheduled chemicals. In cases of unresolved ambiguities, samples may be analysed in a designated off- site laboratory, subject to the inspected State Party's agreement.

20. The period of inspection shall not last more than 24 hours; however, extensions may be agreed between the inspection team and the inspected State Party.

Notification of Inspection:

21. A State Party shall be notified by the Technical Secretariat of the inspection not less than 120 hours before the arrival of the inspection team at the plant site to be inspected.

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