

ACIS - 190/85
10 May 1985

Report to the Congress on Verification of Treaties
Limiting Chemical and Biological Weapons (CBW)

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(b)(3)

Background

This report was prepared in response to the Quayle Amendment No. 3182. The "Quayle Amendment" to the 1985 DOD Authorization Bill states that it is the sense of the Congress that the President submit a report identifying and evaluating the following:

- 1) Existing and planned programs to support verification requirements necessary to determine compliance with the 1972 Biological and Toxin Weapons Convention and a chemical weapons ban.
- 2) The budget resources necessary to support verification requirements necessary to determine compliance with the 1972 Biological and Toxin Weapons Convention and a chemical weapons ban.

For completeness, the 1925 Geneva Protocol has been added to the list of treaties that were considered. Annexes that describe in greater detail the basis for the conclusions of this report are submitted separately, because of classification. The Annexes describe:

A. CBW Analysis and Resources

B. Chemical and Biological Weapons Intelligence Collection and Resources

C. Additional Proposed Studies and Analyses Related to "Declared" Stocks and Facilities.

There are three broad issues with which the U.S. is dealing in the general area of chemical weapons arms control: compliance with existing constraints, negotiation of a comprehensive ban on chemical weapons (CW), and development of an international barrier against the proliferation of chemical warfare capability. A related issue is modernization of an aging U.S. chemical weapons stockpile.

The United States is party to two existing international arms control agreements affecting biological, toxin and chemical weapons:



-- Biological Weapons Convention (BWC)

- o prohibits the development, production, acquisition or retention of biological agents or toxins...of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes. Obligation applies also to weapons, equipment or means of delivery to use such agents for hostile purposes or armed conflict.
- o prohibits transfer of agents, toxins, weapons, equipment or means of delivery.
- o obliges each Party to take any necessary measures to prohibit and prevent the development, stockpiling, acquisition or retention of the agents, weapons, equipment and means of delivery. (U)

-- The 1925 Geneva Protocol

- o The Protocol prohibits "the use in war of asphyxiating, poisonous, or other gases and all analogous liquid, material or devices..." It also prohibits "the use of bacteriological methods of warfare."

The Iraqi's use of chemical weapons against Iran and the use of toxin and chemical weapons by the Soviets and their allies were violations of these constraints and associated rules of customary international law.

The overriding U.S. objective with respect to chemical weapons is to ensure that such weapons are not used. To this end, the U.S. is seeking to:

- bring an end to the current use of toxin and chemical weapons;
- negotiate a complete and effective ban on chemical weapons;
- maintain a credible CW deterrent/retaliatory capability until the objective of an effective agreement is reached;
- develop international barriers against the proliferation of chemical warfare capability.

On April 18, 1985, Vice President Bush presented the U.S. draft chemical weapons treaty which would obligate each party not to:

- o develop, produce, otherwise acquire, stockpile, or retain chemical weapons, or transfer chemical weapons to anyone;
- o conduct other activities in preparation for use of chemical weapons;
- o use chemical weapons in any armed conflict; or



- o assist, encourage, or induce, directly or indirectly, anyone to engage in activities prohibited to Parties under this Convention.



Verification

Verification refers to the process of assessing the degree to which an arms control agreement is verifiable, and assessing compliance with the provisions contained in arms control treaties and agreements.

A nation's armaments are an important guarantor of its security, and governments have always sought to deny to potential adversaries precise information regarding the numbers, quality, and disposition of their weapons and armed forces. While in open societies such as the U.S., information on military forces is more readily available, closed societies are capable of denying much of this information to its treaty partners. Moreover, any arms program that is deliberately in violation of arms control agreement is likely to involve a special effort to conceal the fact or at least the extent of the violation. The scope of concealment and deception activities continue to increase, even with regard to areas not subject to arms control agreements. Concealment activities focused on denying evidence of violations should be expected to be carried out on an extensive and rigorous basis. Intensive efforts are required to support verification of arms limitation agreements because the information required to ascertain compliance will probably not be readily available.

Compliance by one party to a treaty in the face of circumvention or violation by other parties is tantamount to unilateral arms control. A nation cannot afford to base its security on trust alone. On the other hand, perfect verification is a myth, and for irremedial technical reasons and realistic fiscal ones, is likely to remain so.

The verification of arms control agreements has three distinct purposes:

First, verification efforts serve to detect violations of an agreement by evaluating pertinent evidence that violation of an agreement may have occurred, thereby furnishing, as far as is possible, timely warning of a threat to the nation's security arising under a treaty regime.

Second, by increasing the risk of detection and complicating any scheme of evasion, verification may help to deter violations of an agreement. This deterrent function presupposes knowledge that detection of a violation will involve some concrete response to counter the illegal activity. The deterrent value of verification also depends to a considerable extent on a potential violator's uncertainty as to the exact capability of the intelligence techniques used to monitor his compliance with an agreement--a fact which helps to explain the importance of secrecy regarding many of these techniques.

Third, effective verification is essential to ensure domestic and international confidence in the viability of a particular arms control



agreement and in the integrity of the entire arms control process. It provides an important safeguard against the pursuit of advantage through one-sided observance of treaty provisions.

The process of assessing the effectiveness of verification of an agreement has two phases:

The first phase is a technical and analytical process, which weights present and programmed U.S. collection, processing, analysis, and reporting capabilities against the activities to be limited, taking into account the standard of evidence that has been required within the U.S. Government in order to reach a decision that noncompliance has occurred. Such an assessment must assume for purposes of analysis that attempted violations would be accompanied by concealment and deception, and take account of alterations in Soviet standard practices that could thwart a determination of noncompliance. This phase provides an assessment of the degree to which compliance with an agreement, including the agreement's object and purpose, can be verified by identifying those evasion scenarios that are the easiest to implement should the Soviets attempt to evade the Treaty.

The second phase involves a broader assessment by the national leadership of whether verification is effective. This assessment must take into account not only potential evasion scenarios but other factors including:

- The degree to which an agreement and its provisions can be verified (results of the first phase);
- The costs and risks of evasion;
- The degree to which Soviet noncompliance would pose a risk to US national security, and the extent to which we could compensate for it;
- The impact of potentially unresolvable compliance concerns on the arms control environment and U.S./Soviet relations in general;
- The specific incentives that a party might have to violate an agreement, and the past compliance record of a party and
- The ease and speed with which it would be possible for the U.S. to deny the benefits gained from noncompliance; and the likely Soviet perceptions about the extent to which the U.S. would be willing and able to deny any benefits gained from noncompliance.

Of particular importance in determining the effectiveness of verification is the degree of risk to those parties that abide by their political and legal commitments to arms control posed by possible violations. At the time of the signing of the Biological and Toxin Weapons Convention (1972), it was widely believed that such weapons held little military promise and that states--particularly nuclear powers--therefore had few incentives to develop them.



The use of toxins by the Soviet Union and several of its allies in recent years has shown that this assessment was incorrect.

A firm and continuing commitment by the United States to negotiate limitations on armaments requires a shared confidence on the part of the concerned branches of government and the public at large that arms control measures are compatible with--and indeed an integral part of--the security of our nation. Such confidence will itself depend in substantial part on our assurance that reciprocal limitations continue to be observed by others. Verification and enforcement of compliance with agreements are essential if we are to have that assurance and are a precondition for further progress in arms control generally.

Current Areas of Concern

The present report deals almost entirely with areas of concern with regard to the first phase of assessing the effectiveness of verification and of assessing compliance. That phase is primarily a technical and analytic process in which intelligence capabilities are weighed against activities that are, or are to be, limited by treaty.

Specific areas of concern in monitoring the chemical weapons treaty include the following:

- Determining whether all existing chemical weapons stocks and production facilities have been declared, and whether new ones have been built subsequently.
- Identification of undeclared stockpiles and production facilities.
- Determining the nature of activity at suspect storage and production sites.
- Distinguishing undeclared chemical weapons facilities from legitimate



commercial plants and government facilities.

- Distinguishing chemical munitions from conventional munitions.
- Determining whether ~~chemical~~ munitions are loaded with agents for riot control purposes or with chemical agents.
- Determining whether portions of commercial plants are being used for production of prohibited chemicals or for the production of commercially-useful chemicals in quantities in excess of those required for legitimate commercial use.
- Distinguishing undeclared chemical weapons storage sites from legitimate military and commercial storage sites.
- Detecting and identifying clandestine sites, or sites being used by treaty signatories in third countries or countries not party to the convention.
- Detecting overt and covert movement of stocks.
- Detecting whether facilities conducting research on toxic agents are making them in quantities in excess of permitted quantities.
- Detecting the development of new chemical agents and delivery systems and identifying the new agents and systems.
- Detecting illicit use of chemical weapons and identifying the weapons used and their source.
- Detecting preparations for use of chemical weapons, including specific testing and training for use.
- Confirm accuracy and completeness of stockpile and production facility declarations.
- Monitor the transfer of specified legitimate chemicals to ensure that they are not diverted for chemical weapons use.

Summary of Monitoring Capabilities

Many of these concerns arise from the nature of CBW programs themselves and have no identifiable solution; other are amenable to at least partial solution through augmentation of resources. This section summarizes current collection and analysis capabilities and notes areas for possible improvement.

Overall Assessment*BW*CBW Analysis and Resources

Additional all-source analysts to monitor Third World CBW production, storage and logistics would provide substantial improvements in our monitoring of existing capabilities and potential proliferation and would be essential for monitoring a global CW treaty.

The trend toward CW proliferation and the potential requirements for monitoring a CW treaty that prohibits transfers of CW agents, technology or materials between nations requires additional resources. At present, the Intelligence Community has only a limited capability to monitor these activities particularly on a worldwide basis. Recently a systematic program to improve this situation has been initiated. This effort has included formation of a full-time five person team of analysts to work the CW proliferation problem. A significantly expanded collection effort also will



be required to enhance our capabilities to detect transfers of chemical agents, and munitions between countries. Even with additional resources these are difficult problems because of their complexity and because of the highly classified nature of some of these activities. [redacted]

Increased analytical resources could usefully be devoted to assessing the potential BW threat on a global basis. If the Soviets and other nations are able to weaponize new BW agents, our problems in monitoring become extremely difficult and probably would not be solved by additional analytic resources. Such activity would be even easier to conceal than traditional BW agents. This is due, in part, to the nature of the production facilities in that they normally are engaged in producing materials for civilian use and the probability that some BW agents would be produced when needed rather than stockpiled. [redacted]

[redacted]

