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Chemical and Biological Warfare Defense Under the Chemical Weapons Convention

by

Major General John K. Stoner, Jr., USA Ret.

The role of chemical warfare (CW) and biological warfare (BW) in the national security posture of the United States has been one of uncertainty throughout modern times. A summary of U.S. national and international actions during the 20th century chronicles this volatility:

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| 1899 | The Hague-The United States was the sole dissenting vote to an international ban on the use of "dangerous gasses." |
| 1925 | The United States signs the Geneva Convention, outlawing the use in war of lethal poisonous gases. |
| 1918 - Present | The United States establishes and maintains a Chemical Corp (Chemical Warfare Service) to ensure chemical warfare readiness, and also: <ul style="list-style-type: none">• adopts a policy of no first use;• unilaterally ceases weapons manufacture (1969);• unilaterally destroys BW stockpile (1970);• unilaterally initiates CW munitions destruction (1972). |
| 1946 - Present | The chemical warfare budget has offered little continuity or stability (see figure 1). |

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- 1972 The United States signs a BW convention prohibiting development, production, or stockpiling of biological weapons.
- 1973 The Army temporarily disestablishes the Chemical Corps.
- 1975 The U.S. Senate ratifies the 1925 Geneva Convention.
- 1984 The United States enters into international negotiations to ban CW development, production or stockpiling.
- 1993 The United States signs the resulting Chemical Weapons Convention (CWC). The convention has as its goal "... to exclude the possibility of the use of chemical weapons by means of a complete and effective prohibition of the development, acquisition, production, retention and transfer of chemical weapons."

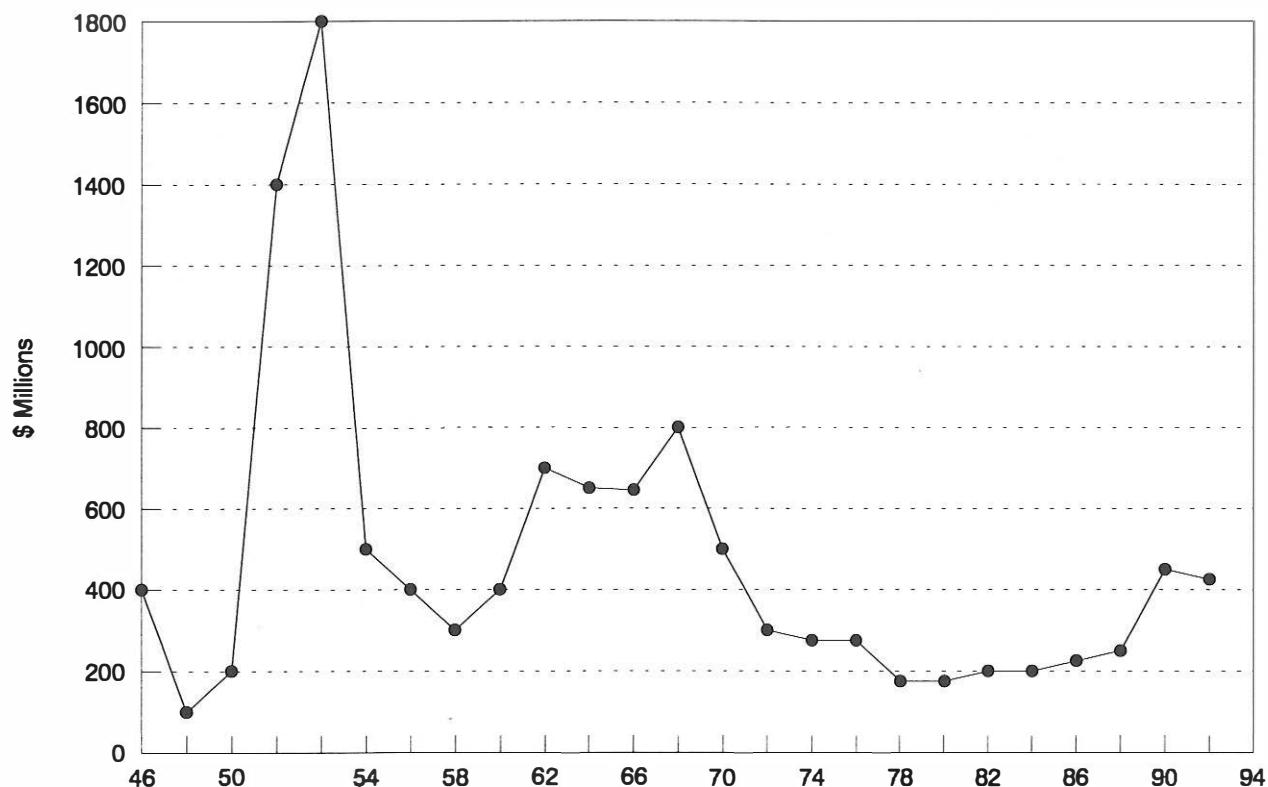


Figure 1. The Chemical Warfare Budget

Paralleling this U.S. history have been some noteworthy international events:

- Chemical warfare attacks have been proven or alleged in:
 - Ethiopia (1935);
 - China (1939-44);

- .. Yemen (1963-67);
- .. Laos/Cambodia (1970);
- .. Ethiopia (1980-83);
- .. Iran/Iraq (1983-88);
- .. Chad (1987).
- A massive biological warfare agent disaster occurred in the Soviet Union in 1979.
- The United States expected that chemical attacks would occur in the Persian Gulf in 1990-1991.
- Libya, Iraq and North Korea are currently among the nonsignators to the CWC.

A synthesis of these national and international events creates a portrait of continuing uncertainty:

- The United States has sought to maintain a credible CW/BW deterrent posture, but for the past two decades has pursued a national security policy that has steadily weakened this credibility.
- At the same time, we have seen an international proliferation of CW/BW capability in various regions of the world, most notably in the Middle Eastern and Asian spheres.
- Successful negotiation/implementation of the 1993 CWC is perceived by some in the United States as a substitute for the declining CW deterrent posture in the U.S. armed services.
- The 1972 BW Convention is flawed because of its lack of on-site inspection provisions, as evidenced by abuses in the Soviet Union and in the Middle East.

A known CW/BW threat to U.S. armed forces has persisted since the beginning of World War II. Further, by virtue of the CWC provisions for challenge inspection of noncompliance, it is prudent to conclude that this threat will continue under the CWC umbrella. To illustrate, in December 1991 Robert M. Gates, Director of the Central Intelligence Agency, testified that “over the next decade we expect chemical-tipped mobile, short range missiles to become widespread from North Africa through South Asia.”

Against the backdrop of a continuing and potentially growing threat and uncertainties under the international convention, the issue presents itself whether the United States can pragmatically rely on the CWC as its principal CW line of defense.

At least 24 nations are suspected of having chemical weapons in their possession or under development, including the three notable nonsignators to the CWC. Nonsignators aside, there is a considerable school of thought in our nation that sees significant military risk in the CWC because:

- its deterrent value is dependent on international consensus — a difficult commodity to achieve;
- cheating by a nation intent on doing so will be extremely difficult to discern, and will demand intense scrutiny by an already volatile international body politic;
- a quantity of chemical agent sufficient to be militarily significant (100 tons) in most current-time conflict scenarios is easily produced and easily stored.

Since the CWC contains no provisions against BW, the international threat of BW use persists unchanged.

It is the view of the authors of this paper that U.S. forces will continue to face the threat of use of offensive chemical and biological weapons in most regions of the world in which deployment is likely to occur. This threat will most likely come from CWC nonsignators, CWC cheating, and the weakness of the BW Convention. Given the provisions of the CWC, this scenario forces the Army and its sister services onto an asymmetric battlefield, with reliance principally on defensive means to contend with any chemical attack.

The notion of an asymmetric CW/BW battlefield derived originally from consideration of the nature of a conventional war in Central Europe subsequent to U.S. unilateral destruction of its offensive CW/BW capability. In such a scenario, U.S. forces would be hostage to an enemy's option to employ CW/BW without the risk of retaliation in kind. The potential now exists under the CWC for such conditions to obtain on regional battlefields involving nations not signator to the convention, or nations intent on cheating.

Where the threat of chemical attack exists, the absence of a U.S. offensive threat predisposes that an attack will take place. The combatant that can choose his option, and knows when he will do so, enjoys a battlefield advantage in the execution of the battle. U.S. forces, in order to be prepared for the situation, can be forced into wearing protective gear routinely in anticipation of an attack and thereby suffer serious degradation in mission performance. Even effective training cannot remove the specter of physical exhaustion that comes from continuous wear of current chemical gear. The alternative is not to wear it — but be prepared to do so — and that demands effective detection and warning. Setting aside for the moment any tactical implications of the asymmetry, there are capability concerns to be considered.

It is widely accepted that significant technology gaps in U.S. defensive preparedness exist in three areas:

- detection and identification;
- protection;
- decontamination.

In the detection arena, the need is for a state-of-the-art, lightweight, universal and automatic detector that can detect, identify, and alert U.S. forces, on an area basis, of the presence of chemical and biological hazards. Theoretical mechanisms exist to solve this detection and identification problem. Progress towards equipping forces is needed.

In the protection arena, the problem is one of burden. Current individual protection systems cause serious degradation of normal battlefield functions. Both psychological and physiological degradation occur from encapsulation. The heat burden constrains duration of wear, communications are hampered (which means command and control suffers), and aimed fire is seriously degraded in both individual and crew-served weapons. A solution to this series of problems must be found.

Current decontamination capabilities are archaic, imposing serious burdens on logistics systems, and certainly not in keeping with a warfighting strategy requiring mobile forces and global employment capabilities.

Closure of these gaps — whether in terms of systems development through research, development and acquisition (RD&A), or by evolution of doctrine, or both — demands the allocation of a steady and adequate level of resources in the budget and a preservation of the military specialties that can address the problem in the Army's RD&A, doctrine and training disciplines.

However, the burden of the challenge does not lie solely on the laboratory. Developers of doctrine, as well as commanders of tactical formations, must also pick up the gauntlet. Doctrine that accommodates the battlefield asymmetry is required; specialists in the application of that doctrine must be trained; and commanders must accept the mantle of assuring that their tactical formations are prepared to use the equipment they are provided, employ the doctrine they are taught, and operate in the battlefield environment which confronts them.

There are several specific matters to be addressed:

- Doctrine developers must come to grips with the nature of the modern chemical battlefield, assess its operational risks, and determine how much decontamination is needed. If necessary, then promulgate a doctrine which will include fighting contaminated, and quantify how much risk that implies. There has been hesitancy to take on this issue — a luxury that no longer exists.
- Specialists in chemical defense techniques and procedures must be trained — officers and noncommissioned officers at the staff levels, members of special chemical units such as smoke companies and decontamination companies, and research and development (R&D) experts who must understand the battlefield for which they are developing equipment.
- A fresh, unconstrained look at the role of smoke and flame on this asymmetric battlefield should also be pursued. Is there a contribution potential here that could offer tactical advantage not currently recognized?

- Tactical formations must be prepared to implement the doctrine, using their staff specialists to assist, but relying on the chain-of-command, without equivocation, to bring it about.

Simply put, U.S. forces face the risk of combat on a chemical battlefield that is tactically tilted in favor of the adversary, and on which current systems and doctrine for defense are inadequate to the challenge. The scenario of an asymmetric battlefield brings into clear focus a regime of responsibility of significant importance to the U.S. Army. In order for the Army of 2000 to be versatile, deployable and lethal, the expertise represented by the Chemical Corps must take on the range of challenges discussed above and achieve a systems resolution to the problem.

One other matter should be addressed. Within the next year or so, the United States Senate will be called upon to ratify the Chemical Warfare Convention. It is incumbent upon the national security establishment to make available a cogent summary of all the ramifications of this treaty. This summary should include the subjects discussed above with their supporting detail. It should also define the procedural support and cooperation required from Congress in the domestic implementation of the convention. In addition, as was done in the case of the Limited Nuclear Test Ban Treaty, a set of risk-minimizing, treaty compliant safeguards should be presented. Examples include:

- a continuing program of research and development in CW/BW defense;
- a continuing program of doctrine development to enhance our soldiers' ability to fight on this asymmetric battlefield; and
- a plan outlining how the United States will respond should the deterrence of the convention fail.

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(MG Stoner was assisted in the preparation of this paper by MG John G. Appel, MG Sampson H. Bass, Jr., MG David W. Einsel, Jr., MG John J. Hayes, MG James R. Klugh, MG Peter G. Olenchuk, MG Gerald G. Watson and BG Peter D. Hidalgo, all USA Retired.)