Chemical Retaliation

—improvements in our chemical warfare capabilities

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"One of the paradoxes of this last half of the century is that if deterrence is your mission, you have to convey that you are prepared to use every system in your inventory in order to defend—otherwise your deterrent isn't credible, and that includes chemical weapons."—General Bernard Rogers, 1985.

Our mission *is* deterrence. The United States maintains its toxic chemical munitions stockpile to deter the enemy from using chemical weapons. Unlike other conventional munitions which are in use throughout the world every day, we do not expect we will ever, and sincerely hope we will never, have to use chemical weapons. But, to be a credible deterrent, these chemical weapons must clearly be ready for use.

Chemical munitions are considered a subset of conventional munitions. "Chemical munitions" include smoke, incendiaries, and riot control munitions as well as what are popularly called "war gases." To clearly differentiate them, we refer to the "war gases" and the weapons that contain them as "toxic chemical munitions" (TCM).

History shows that aggressors do not initiate chemical warfare (CW) against a country prepared to retaliate in kind. The instigators of CW, from Germany in the First World War to Iraq in our own decade, have first used chemicals against those who cannot retaliate with chemical weapons.

However, history also shows that the victims of chemical attack, given time, develop their own chemical weapons and make the chemical war two-sided. The British retaliated with chemicals at the battle of Loos on 25 September 1915, just five months after the Germans launched the first significant gas attack at Ypres on 22 April 1915. It has taken the Iranians longer to develop their counter to Iraqi chemical weapons, but they announced in 1988 that they now have chemical weapons and are widely believed to have made the Iraq-Iran war the second war in history in which both sides have used chemical weapons.

Once loosed in warfare, the chemical genie is hard to put back into the bottle. The best way to prevent CW would seem to be that we must be so strong that the aggressor will not be willing to initiate the use of chemical weapons.

Developing that logic, the best way to deter enemy use of chemical weapons is to be ready to strike back immediately, not after five months or five years of research,

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development, and production. We are ready. To this end—deterrence—we have chemical weapons stored in Europe, on Johnston Island in the Pacific, and in eight continental United States depots. It is to this end—deterrence through preparedness—that we are building a new generation of chemical weapons, the binary chemical munitions.

For deterrence to have any meaning, we must convey to the enemy not only that we have the chemical weapons, but also that we have the skill and the will to use them, and the ability to move them quickly from their storage sites into combat. Seen in this light, deployability is as important to deterrence as is employability. By making chemical deployment and employment capabilities visible, we enhance the deterrent effect of our stockpile while improving its military value.

The United States ceased the production of chemical weapons in the late 1960s and, so it appeared, tried to forget about using them. Chemical munitions were relegated to storage and, while well maintained, were largely ignored. In the early 1980s, after years of neglecting our retaliatory chemical weapons, we did have reason to think that possible enemies doubted our chemical warfare capability. Arguably, there may have been cause for them to think that the United States had not *shown* that we were able to deploy chemical weapons rapidly enough to deter them from initiating chemical warfare.

Let there be no doubt, though, even in the worst years we were fully capable of deploying and employing our chemical munitions. The question for our policy makers was whether we could retaliate with chemical weapons (if necessary) while the enemy's first attack was still fresh enough that he would see the clear linkage between his attacks and our retaliation.

Because we thought that our retaliatory CW capabilities might not be rapid enough to deter an enemy from using chemical weapons, the Department of Defense, on 27 March 1984, established a program to improve those capabilities—JCHEM, the Joint Chemical Warfare Joint Test Force. JCHEM was charged to design and conduct a series of operational tests and analyses to quantitatively define how the retaliatory CW system worked and, perhaps more importantly, to develop alternative procedures and concepts to improve the US CW retaliatory capabilities *in the near future.* JCHEM was not chartered to develop or build new weapons; it was an operational test bed to improve the existing systems.

Not surprisingly, one of the first things that JCHEM did was to better define how the existing system worked. It seemed that almost everyone had a different idea of how retaliatory CW would be conducted. In order to address the problem of quantitatively measuring how the system worked, JCHEM had first to get a consensus on a common frame of reference. The result was the now commonly-used diagram of the functional processes of the retaliatory CW system (figure 1). This functional process diagram is not the final word on the subject; in fact, CHEMCAP (the successor to JCHEM) has revised it to better reflect the system as it now exists. However, the functional process structure did effectively define the retaliatory CW system for the purpose of JCHEM quantitative measurements.

JCHEM also observed that there was no single logistic plan for handling toxic chemical munitions. To bring all the various plans and procedures together, JCHEM and CHEMCAP worked closely with the Joint Staff and Conventional Ammunition Policies and Procedures, a Department of Defense Instruction for the guidance of ammunition logisticians.

In three years, JCHEM participated in eighteen exercises and tests, observing and measuring the operations of the Joint Staff and Service activities carrying out the functional processes. The Institute for Defense Analyses, working with JCHEM, conducted TACWAR computer-assisted simulations to show, in relative tactical terms, the effects of the retaliatory CW system on the battlefield. The principal result of the JCHEM effort was an improved chemical retaliatory system. The primary documentary product of the JCHEM effort was a three-volume (five book) operational test report detailing the results of the testing and the supporting analyses and wargaming.

Copies of the JCHEM reports can be obtained from The Defense Technical Information Center (DTIC), the central Department of Defense office for acquiring, storing, retrieving, and disseminating scientific and technical information. Many Department of Defense activities are registered with DTIC. Account holders are often the library, security office, information office, publications control office, or Staff Judge Advocate. DTIC has a reference service reachable at AV 284-7633 (commercial (202) 274-7633) which can identify the nearest DTIC account holder based on installation, command or APO number, or advise you how to get an account.

The JCHEM reports are classified and some have restricted distribution (see table).

JCHEM's testing and evaluating activities ranged from relatively

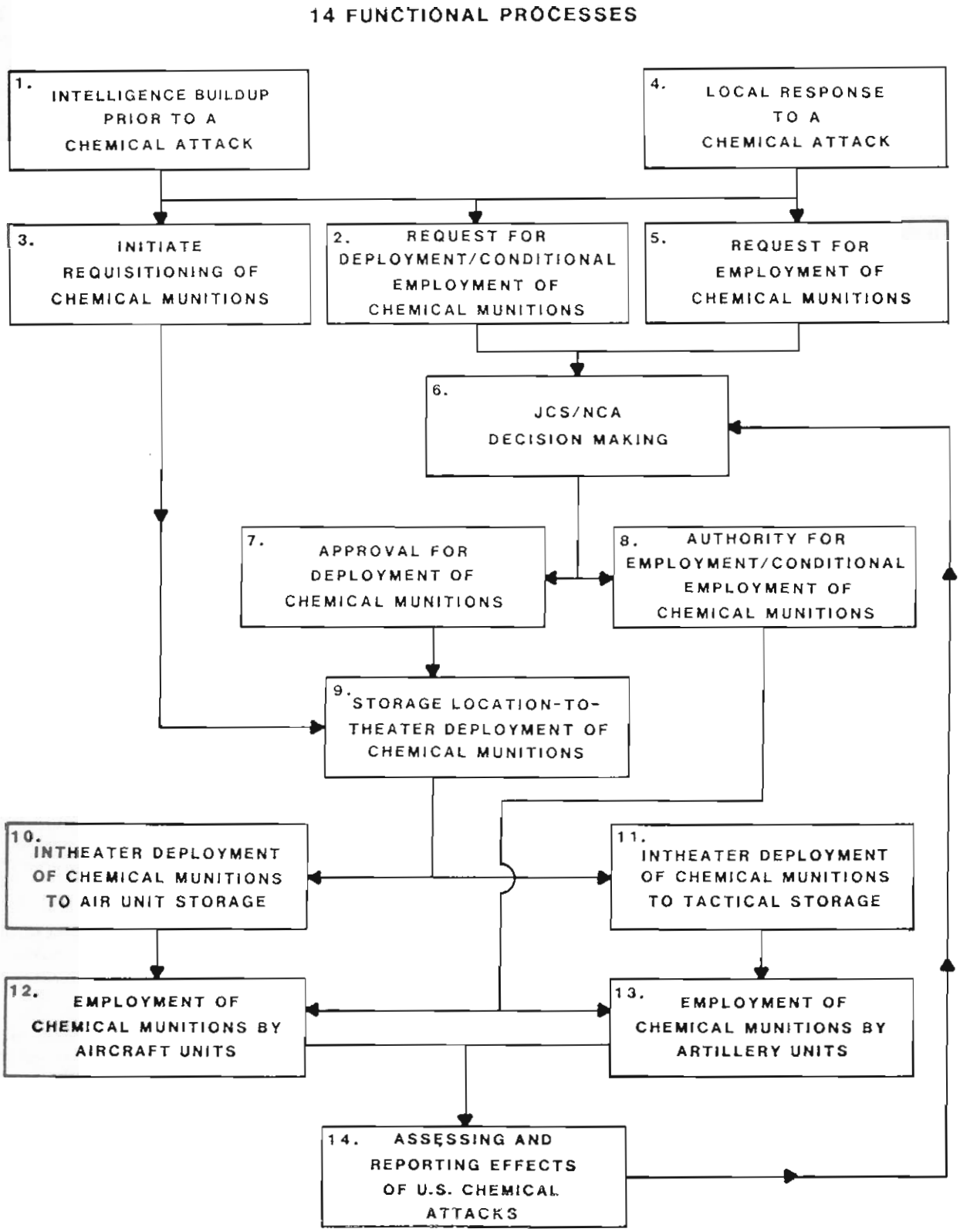
14 FUNCTIONAL PROCESSES
1. INTELLIGENCE BUILDUP PRIOR TO A CHEMICAL ATTACK
4. LOCAL RESPONSE TO A CHEMICAL ATTACK
3. INITIATE REQUISITIONING OF CHEMICAL MUNITIONS
2. REQUEST FOR DEPLOYMENT/CONDITIONAL EMPLOYMENT OF CHEMICAL MUNITIONS
5. REQUEST FOR EMPLOYMENT OF CHEMICAL MUNITIONS
6. JCS/NCA DECISION MAKING
7. APPROVAL FOR DEPLOYMENT OF CHEMICAL MUNITIONS
8. AUTHORITY FOR EMPLOYMENT/CONDITIONAL EMPLOYMENT OF CHEMICAL MUNITIONS
9. STORAGE LOCATION-TO-THEATER DEPLOYMENT OF CHEMICAL MUNITIONS
10. INTHEATER DEPLOYMENT OF CHEMICAL MUNITIONS TO AIR UNIT STORAGE
11. INTHEATER DEPLOYMENT OF CHEMICAL MUNITIONS TO TACTICAL STORAGE
12. EMPLOYMENT OF CHEMICAL MUNITIONS BY AIRCRAFT UNITS
13. EMPLOYMENT OF CHEMICAL MUNITIONS BY ARTILLERY UNITS
14. ASSESSING AND REPORTING EFFECTS OF U.S. CHEMICAL ATTACKS

Figure 1.

JCHEM REPORTS

Volume	Size	DTIC Acquisition No.
Volume 1A, Executive Summary	69 pages	AD: C040845L
Volume 1B, Theater Assessments	535 pages	AD: C954711L
Volume 2A, 1984–1985 Exercise/ Test Data	471 pages	AD: C954758L
Volume 2B, 1986 Exercise/ Test Data	495 pages	AD: C954759L
Volume 3, Studies and Analyses	629 pages	AD: C954772L

unobtrusive observation of CW information flow and decision processes in Joint Staff–sponsored exercises to the sponsoring of auxiliary exercises in which training (simulated) chemical munitions were moved from storage depots to employing units. Although JCHEM had been conceived as an operational *test,* its major contribution may have been the operational *training* which resulted from the auxiliary exercises.

When, in 1987, the operational testing of the current retaliatory system was largely completed, serious consideration was given to dissolving JCHEM. It was then that the lasting benefits of the JCHEM–sponsored and funded auxiliary exercises became clear, for the key combatant commands asked for the continuation of JCHEM's efforts. Although the JCHEM operational testing and documentation of the existing system was largely completed, much yet remained to be done.

As a result of the Unified Commands' interest and interest expressed by the Office of the Secretary of Defense, the Joint Chiefs chartered a new activity, the Joint Task Force for Improvement of Chemical Capabilities—CHEMCAP—with a one–year charter to conduct the auxiliary exercises already planned for and budgeted by JCHEM and to begin implementing the changes recommended by JCHEM in its final report.

In its one year of existence, CHEMCAP participated in the planning and/or conduct of nine chemical deployment and employment exercises, prepared an analysis of the impact of the fielding of binary chemical munitions on the retaliatory CW system, and continued the work of JCHEM in energizing the retaliatory CW system. With CHEMCAP scheduled to wind up operations after completing the last planned year of JCHEM–budgeted activities, the Unified Commands again asked that this CW readiness resource be retained—as an operational exercise activity, not a test agency.

While the Unified Commands and all Services agreed that CHEMCAP's exercise of the CW retaliatory system was extremely valuable, 1988 was not a good year to establish new programs. Faced with manpower cutbacks, the services were not able to justify the personnel billets necessary to support the continuation of CHEMCAP as a separate activity. The operational test, and most of the necessary analyses, having ended, the requirement to maintain retaliatory CW readiness through exercises has returned to the Joint Staff, the Unified and Specified Commands, and the Services.

The operations of the retaliatory CW system have been greatly improved by the JCHEM and CHEMCAP tests, analyses, and exercises. The readiness responsibilities for retaliatory CW rest, as they always have, on the warfighting commanders–in–chief. By repeatedly exercising and fine–tuning an already well– functioning retaliatory CW system, the system will become ever more responsive to the warfighting Unified and Specified Commands and continually improve our deterrence through readiness.

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