FM 3-11

CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR OPERATIONS



APRIL 2025

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*This publication supersedes FM 3-11, dated 23 May 2019.

HEADQUARTERS, DEPARTMENT OF THE ARMY

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Foreword

As the United States Army operates in potential chemical, biological, radiological, or nuclear (CBRN) environments in the 21st century, we must account for new and emerging CBRN threats. Many peer, near-peer, and even sub-peer adversaries make operating in a CBRN environment inherent to conducting operations. Compounding this challenge is 20 years of CBRN skills atrophy created by support to counterinsurgency operations that lacked large-scale CBRN threat. Additionally, the Army's approach to countering CBRN threats and hazards capabilities is outdated - avoid by detecting hazards using equipment that cannot detect all hazards and which require personnel to manually place into operation, protect with burdensome and cumbersome equipment which reduces combat effectiveness, and decontaminate employing old resource intensive equipment.

The proliferation of weapons of mass destruction (WMD) and the inability of the international community to deter, attribute, and impose costs for their use indicate that CBRN threats will likely continue to increase. In the past ten years, the Syrian, Russian and North Korean governments have approved and employed WMD. The Syrian government used WMD on its own population while Russia and North Korea employed WMD for small scale assassinations in England and Malaysia respectively. In contravention of international treaties, these and other state actors continue to maintain formidable stockpiles and the ability to rapidly increase production of CBRN capabilities. Ever improving technologies make it easier to develop and manufacture WMD or transition dual-use facilities which do not violate treaty requirements. Also, nonstate actors continue to pursue proliferation agendas, making WMD a global challenge. Recent experimentation focused on 2040 depicts a more transparent future battlefield for both friendly and enemy forces—if you can be seen you can be hit. We can also expect a hyperactive tactical area making situational understanding critical for commanders and leaders at every echelon. The ability to make proactive risk-based decisions before entering a potential hazard area will prove critically important to ensure both Soldier survivability and mission success.

Friendly forces must retain freedom of action to employ the full breadth of capabilities under complex battlefield conditions and within all environments, including CBRN environments. FM 3-0 and the Army multidomain operations concept outline the essential elements for success against peer and near-peer adversaries. FM 3-11 supports FM 3-0 by providing doctrine to enable U.S. forces to conduct CBRN operations and prevail in CBRN environments. U.S. forces must restore CBRN training proficiency at the tactical and operational levels while building and maintaining operational readiness for the next large-scale conflict.

FM 3-11 provides doctrine for tactical and operational level forces to employ tailorable, scalable CBRN capabilities during large scale combat and other operations. It provides guidance for integrating CBRN units at multiple tactical and operational headquarters to enhance capabilities, allowing the commander to retain operational flexibility during CBRN operations. Most importantly, it transforms the CBRN enterprise from a passive, reactionary force to a proactive one able to gather and analyze information, share hazard awareness and understanding, and provide flexible options.

All leaders must integrate CBRN hazards into training. Building agile and adaptive leaders who can fight and win in a CBRN environment, neutralize the perceived advantage to threat forces, and thus deter enemy employment of CBRN weapons. FM 3-11 provides leaders and staffs options to best incorporate CBRN units into their formations and to counter CBRN hazards in large-scale combat operations.



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This publication is available at the Army Publishing Directorate site (https://armypubs.army.mil) and the Central Army Registry Site (https://atiam.train.army.mil/catalog/dashboard).

Field Manual
No. 3-11

Headquarters
Department of the Army
Washington, DC, 10 April 2025

CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR OPERATIONS

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Preface

FM 3-11 provides commanders and staffs with overarching doctrine for operations which require employment of capabilities that assess, protect, and mitigate the range of CBRN threats and hazards—including support to countering weapons of mass destruction (WMD) activities. It addresses principles, fundamentals, planning, operational considerations, and training and support functions. It provides a common framework and language for CBRN operations and constitutes the doctrinal foundation for developing tactics, techniques, and procedures detailed in subordinate doctrine manuals. This manual is a key integrating publication that links the doctrine for the CBRN units and staffs with Army operational doctrine and joint doctrine.

The principal audience for FM 3-11 is commanders, staffs, and leaders of theater armies, corps, divisions, and brigades and CBRN units that integrate into those formations. However, FM 3-11 is applicable to all members of the profession of arms. To comprehend the doctrine in FM 3-11 readers must understand the fundamentals of multidomain operations in ADP 3-0 and FM 3-0. The reader must also understand tactics to include the fundamentals of the offense and defense in ADP 3-90, and operational terms and graphics in FM 1-02.1 and FM 1-02.2. Commanders and staffs of Army headquarters should also refer to applicable joint or multinational doctrine concerning the range of military operations and joint or multinational forces.

Commanders, staffs, and subordinates ensure that their decisions and actions comply with applicable United States, international, and in some cases host-nation laws and regulations. Commanders at all levels ensure that their Soldiers operate in accordance with the law of armed conflict and the rules of engagement. (See FM 6-27.)

FM 3-11 uses joint terms where applicable. Selected joint and Army terms and definitions appear in both the glossary and the text. Terms for which FM 3-11 is the proponent publication (the authority) are italicized in the text and are marked with an asterisk (*) in the glossary. Definitions for which FM 3-11 is the proponent publication are boldfaced in the text. For other definitions shown in the text, the term is italicized and the number of the proponent publication follows the definition.

FM 3-11 applies to the Active Army, Army National Guard/Army National Guard of the United States and United States Army Reserve unless otherwise stated.

The proponent of FM 3-11 is the United States Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS). The preparing agency is the Maneuver Support Center of Excellence (MSCOE) Fielded Force Integration Directorate (FFID), Doctrine Branch. Send comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to Commander, MSCOE, ATTN: ATZT-FFD, 14000 MSCOE Loop, Suite 246, Fort Leonard Wood, MO 65473-8929; by e-mail to usarmy.leonardwood.mscoe.mbx.cbrndoc@army.mil; or submit an electronic DA Form 2028.

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Introduction

From the Cold War into the 1990s, United States (U.S.) Army training and doctrine expected enemy CBRN threats to shape the battlefield. Training at Combat Training Centers frequently involved reacting to chemical strikes within division and brigade operational areas. In addition to demonstrating core task proficiency, Army units also required subordinate elements to perform their tasks in a CBRN environment.

Over the past 20 years of conflict in the Middle East, U.S. defense policy prioritized contemporary asymmetric threats over CBRN and other large-scale combat operations threats. Operational and strategic emphasis on counterinsurgency operations in the Middle East, combined with the asymmetric threat's inferior technical capability to pursue a robust WMD program, led tactical echelons to prioritize training toward tasks more pertinent to the conflicts at hand. After 20 years, this significantly reduced the Army's CBRN training and readiness.

Today, peer threats recognize that developing CBRN capability provides them an opportunity to exploit the reduced capability of U.S. forces to operate in a CBRN environment. With an integrated air defense capability and superiority in fires, adversaries might leverage CBRN capabilities to induce battlefield complexity, creating conditions for regional overmatch.

In 2015, Russia realigned its CBRN forces, allocating a CBRN brigade to support every combined arms and tank army. The Russian Army trains extensively in CBRN conditions during annual training exercises. Much like the Soviet Army of the past, they see CBRN as an exploitable condition on the battlefield that provides conditions for force overmatch when employed on constrictive, canalizing terrain. North Korea also maintains a robust CBRN program that threatens the Republic of Korea and surrounding countries, focusing their recent efforts on theater and intercontinental ballistic missiles that plausibly could strike the U.S. mainland. Iran remains a destabilizing regional adversary in the Middle East, with nuclear ambitions and a government adversarial to U.S. interests. China maintains a covert CBRN program that continues to grow and may be used in future conflicts.

Each of these CBRN capable peer threats represents a challenge to the United States Army's readiness across the competition continuum. It is highly anticipated that these threats will use multiple approaches and in different phases to leverage CBRN capabilities to their advantage.

The Chemical Corps and other technical forces (such as force health protection and area laboratories) exist to enable the joint force to prevail in a CBRN-contested environment. The U.S. Army’s CBRN force is an agile, adaptive team that provides critical capability to enhance the Army’s ability to fight and win in a complex CBRN environment. This manual describes how to employ CBRN defense capabilities to enable freedom of action within U.S. Army formations and how CBRN staffs provide expertise to maximize survivability, exploit enemy CBRN use, and prevail in large-scale combat operations.

FM 3-11 serves as a foundation of knowledge and provides the professional language articulating how CBRN Soldiers perform tasks related to the Army's role—the employment of land power to support joint operations. Familiarity with FM 3-0 will help the reader understand how CBRN operations enable the Army to accomplish missions, defeat enemy forces, and consolidate gains.

This revision aligns with the Army’s focus on multidomain operations in large-scale combat operations. It represents a significant change from the previous version. The most significant changes to FM 3-11 include—

- Organizing and aligning content with the changes in FM 3-0 and FM 3-90.
- Aligning the logic chart with the form and function of that in FM 3-0.
- Modifying the definition of CBRN operations.
- Providing conceptual context for the role of CBRN operations in the Army’s operational concept.
- Updating the organizations, capabilities, and training tasks that support CBRN operations.

The following is a brief introduction and summary of the chapters:

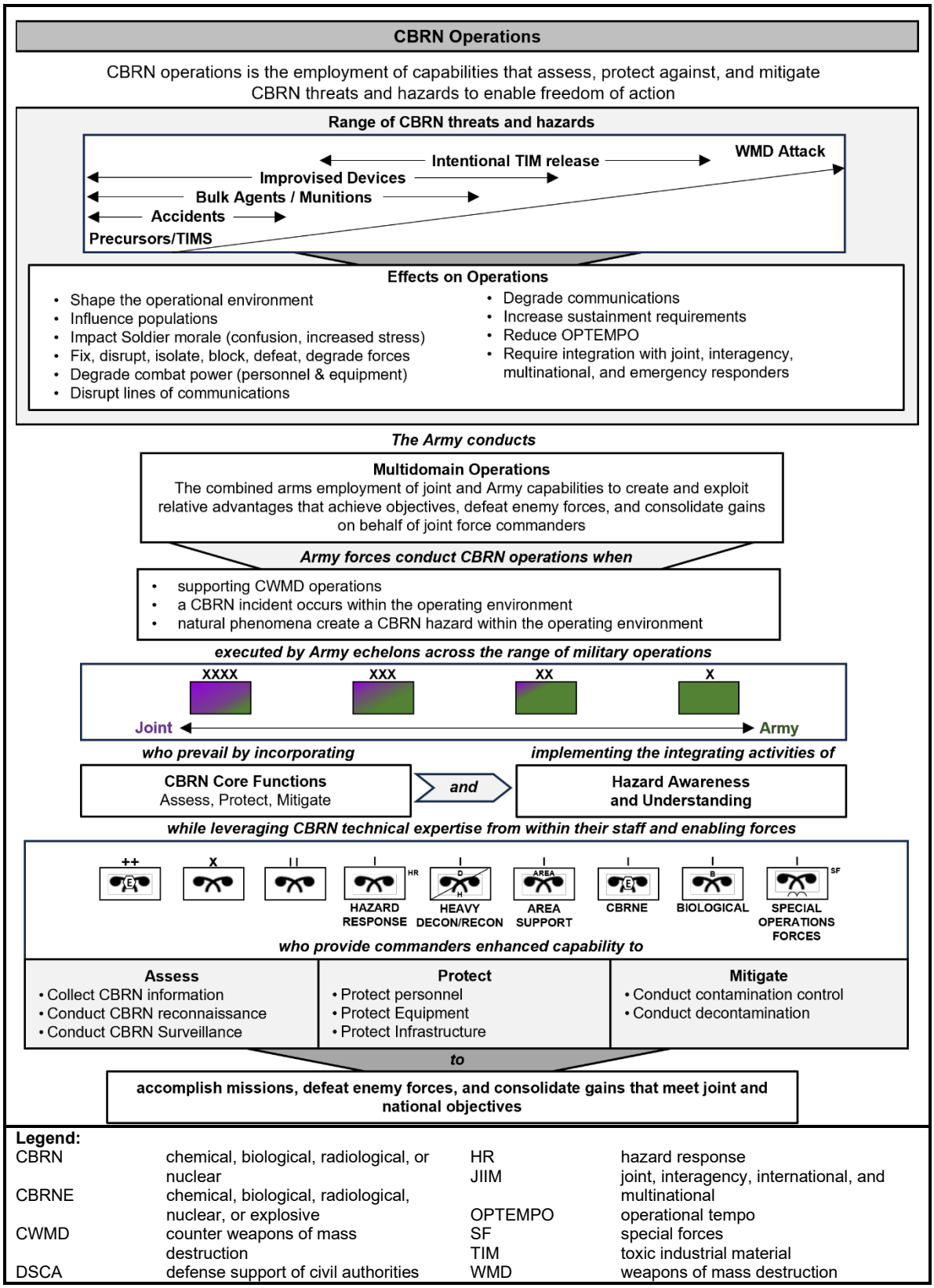
- **Chapter 1** provides a framework for the core functions and for the operational environment (OE) in which CBRN operations are conducted.
- **Chapter 2** describes the capabilities of CBRN forces and ties their core functions directly to the support of operations tasks for the offense, defense, and stability operations. It illustrates examples of how CBRN forces support maneuver in CBRN environments in order to enable combined arms operations and achieve freedom of action.
- **Chapter 3** is broken into two sections; section one covers CBRN organizations and capabilities, and section two covers CBRN training guidance for all organizations.
- **Appendix A** highlights the relationship between the CBRN staff and each warfighting function.
- **Appendix B** outlines the Army's role in domestic and international CBRN response operations.
- **Appendix C** describes the role of the CBRN staff within the protection working groups, the CBRN control center, and the warning and reporting system.
- **Appendix D** lists individual and collective CBRN training tasks.

The glossary contains acronyms and defined terms. Based on current doctrinal changes, certain terms for which FM 3-11 is proponent have been modified. See introductory table-1 for specific term changes.

Introductory table-1. Modified Army term

Term	*Remarks*
chemical, biological, radiological, and nuclear operations	Modified definition.

Introductory figure 1 depicts a logic chart showing how CBRN operations nest with FM 3-0 and joint efforts. The Army conducts multidomain operations in support of the joint force. When CBRN threats and hazards are present or suspected, Army forces conduct CBRN operations with support from CBRN units and staffs. The Chemical Corps provides tailorable, scalable, and adaptive CBRN reconnaissance, hazard mitigation, and technical expertise in support of operations to ensure freedom of action and survivability at home and abroad. CBRN forces are task-organized at echelon with leaders, Soldiers, and the right tools and skills for supporting Army maneuver, countering and exploiting the use of WMD, and providing layered and integrated protection from hazards. This is executed through the CBRN core functions and the integrating activities to enhance protection, preserve combat power, and enable the force to prevail in CBRN environments.



Legend:

CBRN	chemical, biological, radiological, or nuclear	HR	hazard response
CBRNE	chemical, biological, radiological, nuclear, or explosive	JIIM	joint, interagency, international, and multinational
CWMD	counter weapons of mass destruction	OPTEMPO	operational tempo
DSCA	defense support of civil authorities	SF	special forces
		TIM	toxic industrial material
		WMD	weapons of mass destruction

Introductory figure 1. Logic chart

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Chapter 1
CBRN Operations Overview

This chapter describes the challenges that commanders and staffs must consider when conducting large-scale combat operations in chemical, biological, radiological, or nuclear (CBRN) environments. It introduces the CBRN core functions, highlights the roles of CBRN units and staffs within Army strategic roles and the competition continuum, and describes the anticipated operational environment (OE).

OVERVIEW

1-1. The current OE presents conditions that challenge current and future commanders conducting operations. State and nonstate actors continue to develop weapons of mass destruction (WMD) programs to gain an advantage against the United States and its allies. The proliferation of WMD (and the constant pursuit of the materials, expertise, and technology required to employ WMD) will increase in the future. Through proxy forces, peer threats operationalize emerging pathogens and new agents against civilian populations to increase confusion and inflict mass casualties. Peer adversaries may create novel chemical warfare agents. These nontraditional agents may present unique challenges to CBRN defense capabilities and are expected to be employed for purposes that parallel those for traditional chemical agents if used on a smaller scale. The anticipated CBRN OE will contain dense urban environments and subterranean environments. Troop formations will contend with highly restrictive terrain because employed CBRN agents will limit freedom of maneuver and industrial facilities may cause exposure to manufactured agents or toxic industrial materials (TIMs). Despite these potential challenges, the Army accomplishes its mission as part of a joint team by shaping the OE, preventing conflict, conducting large-scale combat, and consolidating gains against peer threats. To accomplish this mission, the Army conducts multidomain operations.

1-2. *Multidomain operations* are the combined arms employment of joint and Army capabilities to create and exploit relative advantages to achieve objectives, defeat enemy forces, and consolidate gains on behalf of joint force commanders (ADP 3-0). Commanders balance the inherent risks of military operations with mission accomplishment. Commanders achieve this balance in part through the protection warfighting function.

1-3. The *protection warfighting function* is the related tasks, systems, and methods that prevent or mitigate detection, threat effects, and hazards to preserve the force, deny the enemy freedom of action, and enable commanders to apply combat power (ADP 3-0). Protection integrates all protection capabilities to safeguard the force, personnel (combatants and noncombatants), systems, and physical assets of the United States and its mission partners. Protection is not a linear activity—planning, preparing, executing, and assessing protection is continuous and enduring. One of the primary protection tasks is conduct CBRN operations.

1-4. ***Chemical, biological, radiological, and nuclear operations*** **is the employment of capabilities that assess, protect against, and mitigate chemical, biological, radiological, and nuclear threats and hazards to enable freedom of action.** CBRN operations support operational and strategic objectives to counter WMD and increase lethality, survivability, and readiness to operate in CBRN environments while executing large-scale combat operations.

1-5. The likelihood of enemy WMD use increases during large-scale combat operations—particularly against mission command nodes, massed formations, and critical infrastructure. Commanders ensure as much dispersion as is tactically prudent. In the offense, Army forces maneuver quickly along multiple axes, concentrate to mass effects, and then disperse to avoid becoming lucrative targets for enemy WMD and conventional fires. In the defense, Army forces improve the condition and capability of existing buildings or fortifications against CBRN hazards, issue medical countermeasures, and cover or disperse supplies to limit the effects of contamination.

1-6. The capabilities provided by CBRN units and staff support the Army operational concept—multidomain operations. The implications of CBRN operations have operational and strategic impacts, even if the actions are tactical. Army actions in CBRN environments described in this field manual are linked to joint doctrine (JP 3-11, JP 3-40, JP 3-41, JP 4-02) and Army and multi-Service tactics, techniques, and procedures

publications. The CBRN core functions of assess, protect, and mitigate are the strength that CBRN units and staffs provide in support of operations in CBRN environments, countering weapons of mass destruction (CWMD), and CBRN response.

1-7. The following vignette describes the application of CBRN functions used by the Allied Expeditionary Force newly formed 1st Gas Regiment in World War I. The emergent use of chemicals to shape the battlefield impacted tactics and nearly changed the outcome of World War I.

Gas Warfare in the Meuse-Argonne Offensive

Over 47 days (from 26 September to the Armistice on 11 November 1918), the American Expeditionary Force was engaged in the largest battle yet fought in the history of the United States—the Meuse-Argonne Offensive. More than 1.2 million American Servicemembers were committed to the battle in a combined allied effort to finally break through German lines and once again combat the enemy on an open battleground.

Throughout this campaign, toxic chemical agents first introduced on the battlefield in April 1915 were used effectively by German forces, inflicting a great number of casualties among American forces building up for the attack. From 1915 to 1918, the Germans held the initiative in most areas of gas warfare by introducing agents (such as phosgene and mustard gas) that allowed them to alter the tactical situation rapidly and by using gas to support maneuver during an infantry attack.

Initially, having no prior experience in addressing gas threats, the allies struggled to keep up with such offensive doctrine. The use of toxic chemicals by the enemy effectively hindered Allied forces freedom of maneuver, isolating forces from one another and denying key terrain. Areas saturated by chemicals could be impenetrable for days and disrupt operations. The key to the success of the campaign was the newly organized Chemical Warfare Service, which was tasked to provide offensive and defensive assistance to the American advance by providing gas training and smoke screens and by eliminating German machine gun positions with thermite. On 28 June 1918, the 1st Gas Regiment (also known as The Hellfire Boys) was formed. The tactical employment of the gas troops was to support the infantry before and during the battle.

The 1st Gas Regiment's ability to assess German intelligence and exploit captured German chemical warfare material was critical to understanding how the enemy could and would employ gas in future battles. They were able to rapidly develop new equipment and tactics to protect the force and preserve combat power for major operations. Lastly, their ability to provide decontamination within trench warfare allowed the 1st Gas Regiment to mitigate desired enemy effects on the terrain.

The success of the 1st Gas Regiment in support of American Expeditionary Forces highlights one of the very best examples of how CBRN forces support maneuver to win in a complex battlefield. The German Army's tactical advantage in using gas warfare was defeated because of the 1st Gas Regiment's ability to assess the enemy, protect the force, and mitigate the effects of gas warfare on the American Expeditionary Force.

1-8. CBRN units and staffs provide the maneuver commander dynamic options to address CBRN threats and hazards. In turn, CBRN staffs and formations evolve so that when units encounter a CBRN hazard, appropriate assets operate within, assess, characterize, battle track in real time, and exploit the hazard. CBRN staffs also provide hazard mitigation strategies, leveraging responsive applications, systems, and tactics.

1-9. The conduct CBRN operations task includes the employment of tactical capabilities that anticipate and counter the range of CBRN threats and hazards necessary to enable freedom of action. It preserves the force

so that commanders can apply maximum combat power to accomplish the mission. Commanders and staffs synchronize, integrate, and organize CBRN operations and resources with other protection capabilities to preserve combat power and identify and prevent or mitigate the effects of threats and hazards.

Note. For additional information on protection, see ADP 3-37.

1-10. Effective CBRN operations require the full integration of CBRN Soldiers, units, and staffs as members of the combined arms team. CBRN forces integrated with maneuver forces contribute to a shared understanding of the OE and an integrated and synchronized approach to conducting operations in a complex CBRN environment. As Army professionals, shared understanding and mutual trust are established and maintained through habitual training, persistent liaison, collaborative planning and preparation, standard operating procedures, clear command and support relationships, and effective mission rehearsals.

CORE FUNCTIONS

1-11. The actions of assess, protect, and mitigate constitute the CBRN core functions. Functions are the assigned duties, responsibilities, missions, or tasks of an individual, office, or organization. The CBRN functions communicate the CBRN tasks that provide the Army the means to accomplish its mission in a CBRN environment. When applied correctly, units maintain the ability to assess CBRN threats and hazards, protect personnel and equipment in CBRN environments, and mitigate the potential for or effects of CBRN incidents. These core functions may be executed individually, simultaneously, or sequentially. All units possess the ability to perform the CBRN core functions; however, CBRN forces provide commanders an enhanced capability to perform these functions. These functions define the contribution of CBRN units and staffs to the Army and joint force. These core functions provide a focus for task and unit training, leader development, and force design. Hazard awareness and understanding (HAU) is an integrating activity that links information obtained from these functions to better understand the OE. HAU involves battle tracking, reporting, and common operational picture (COP) management to integrate information obtained. Understanding and excelling at these functions contributes to units prevailing in CBRN environments across the range of military operations.

1-12. The functions are not discrete; they overlap and recur as circumstances demand. They feed into each other in either direction and contribute to HAU. Tasks conducted in the assess function provide necessary information for making proactive decisions. CBRN capabilities integrated into a reconnaissance and surveillance plan help assess enemy capabilities and provide early warning of a CBRN attack. Actions to mitigate the potential for or effects of CBRN incidents conserve combat power for future operations. Mitigation also provides insight into further assessments that can drive future operations. All the functions provide the basis for developing HAU. Tasks within each function build on an initial awareness of threats and hazards. Actions taken and information collected from assessing, protecting against, and mitigating CBRN incidents furthers the commander's situational understanding of the environment and the impact CBRN threats and hazards may have on current and future operations.

1-13. CBRN functions support CBRN defense tasks, including active and passive CBRN defense. *Chemical, biological, radiological, or nuclear defense* is the actions taken to counter chemical, biological, radiological, or nuclear hazards; reduce their risks; and prepare for, respond to, and recover from chemical, biological, radiological, or nuclear incidents (JP 3-11). CBRN defense tasks are connected from joint doctrine through the multi-Service doctrine and intersect with all the CBRN functions. The combination of active and passive CBRN defensive measures reduces the effectiveness and success of CBRN weapons and improvised CBRN device employment and mitigates the risks associated with hazards. See ATP 3-11.32 for a description of CBRN active and passive defense.

ASSESS

1-14. Through information collection and dissemination, effective warning and reporting, modeling, and HAU, CBRN staffs and units provide the Army the ability to estimate the potential for (or the existence of) CBRN threats and hazards. Assessing hazards allows proactive decision making and encompasses all the capabilities to evaluate the potential for CBRN threats and hazards in the OE, detect and model CBRN hazards, and determine the characteristics and parameters of hazards throughout the OE that bear on

operational and tactical decisions. This function addresses the progression of CBRN capabilities—from just sensing hazards to avoid them to assessing hazards at a distance to enable the freedom of maneuver.

1-15. CBRN staffs provide commanders and planners assessments of CBRN threats and hazards in the OE to integrate information from operations and intelligence. CBRN staffs provide the commander an evaluation of the risks and advise the commander in course of action (COA) development. Assessing hazards allows the commander to better understand the CBRN environment, assess the risk, and consider alternative options in the area of operations (AO). See ATP 3-11.36 for details on conducting CBRN assessments and analysis.

1-16. At the tactical level, reconnaissance, surveillance, security, and intelligence operations are the primary means by which a commander conducts information collection to answer the commander's critical information requirements (CCIRs) to support essential tasks and purposes. (See FM 3-55 for more information.) A *chemical, biological, radiological, or nuclear incident* is any accidental or intentional release of a chemical, biological, radiological, or nuclear hazard (JP 3-11). Assessing CBRN hazards provides the foundation for an accurate and timely understanding of CBRN impacts on the OE. The tasks that are associated with this function are related to assessing and characterizing sites, reconnaissance and surveillance, and staff actions to provide assessments in the planning process.

1-17. Information collection tasks conducted during the planning and preparation phases of the operations process provide CBRN and intelligence staffs information about CBRN threats and hazards in the OE. The connection to the assistant chief of staff, intelligence (G-2)/battalion or brigade intelligence staff officer (S-2), surgeon sections, and civil military planners is necessary to feed information into threat assessments and aid in intelligence preparation of the operational environment (IPOE). Information about CBRN threats and hazards in the OE helps the CBRN staff advise the commander so that he can assess and manage risk and consider which vulnerabilities to accept or mitigate. Primary tasks associated with this function include the following:

- Contribute to the IPOE process.
- Conduct CBRN threat and hazard assessments.
- Provide operational and technical advice and planning recommendations on intelligence, surveillance and reconnaissance, and operations.
- Collect information on CBRN threats and hazards through reconnaissance and surveillance (R&S).
- Advise the commander on the impact of CBRN threats and hazards on the mission.
- Detect, locate, report, and mark hazards.
- Manage chemical, biological, and radiological survey and monitoring tasks.
- Analyze effects of CBRN hazards for risk to force and risk to mission.
- Provide operational advice to isolated elements on how to avoid or mitigate CBRN exposure or effects.

1-18. The Army intelligence process consists of four steps (plan and direct, collect and process, produce, and disseminate and integrate) and five continuing activities (synchronize; conduct intelligence operations; perform processing, exploitation, and dissemination; analyze; and assess). Assessing threats and hazards contributes to this process and uses products from it to further HAU.

PROTECT

1-19. CBRN staffs and units provide the Army capabilities for protection against CBRN incidents. *Protection* is the preservation of the effectiveness and survivability of mission-related military and nonmilitary personnel, equipment, facilities, information, and infrastructure deployed or located within or outside the boundaries of a given operational area (JP 3-0). It encompasses the execution of physical defenses to negate the effects of CBRN hazards on personnel and material. Protection conserves the force by providing individual and collective protection postures and capabilities. Protecting the force from CBRN incidents includes hardening systems and facilities, preventing or reducing individual and collective exposures, or applying medical prophylaxes.

1-20. If the capability is available, an adversary may create CBRN hazards against mission command nodes, massed formations, or infrastructure to deny freedom of action or key terrain during large-scale combat operations. Commanders balance the need to mass effects against the requirement to concentrate forces and ensure as much dispersal as is tactically prudent to avoid presenting lucrative targets for enemy fires and to

mitigate the effects of CBRN incidents. Army units deliberately incorporate CBRN defense training into all training tasks to successfully operate under CBRN conditions.

1-21. Tasks that support this function may occur throughout all phases of the operations. Examples of protect tasks include the following:

- Train units to operate within CBRN environments.
- Employ assessments of unit capabilities and vulnerabilities.
- Protect personnel, equipment, and facilities from CBRN, including TIM effects.
- Advise the commander on CBRN readiness.
- Coordinate the sustainment of CBRN defense equipment and medical chemical defense material.
- Employ proactive risk-based decision making.

MITIGATE

1-22. CBRN units and staffs provide the Army the ability to mitigate CBRN incidents by responding with personnel, subject matter expertise, and equipment to reduce or neutralize the hazard. *Contamination mitigation* is described as the planning and actions taken to prepare for, respond to, and recover from contamination associated with all chemical, biological, radiological, and nuclear threats and hazards to continue military operations (JP 3-11). The mitigate function includes capabilities to negate hazards, such as the decontamination task.

1-23. Mitigating a CBRN incident encompasses a range of tasks to mitigate hazard effects after a CBRN incident. A CBRN incident can include deliberate attacks or accidental releases from technological or natural disasters. It includes all efforts to respond to CBRN incidents and reduce hazard effects on forces, populations, facilities, and equipment, including contamination mitigation and domestic and international CBRN response. Contamination mitigation contains two subsets—contamination control and decontamination—which are described in detail in ATP 3-11.33. Tasks for mitigating CBRN incidents include the following:

- Provide a scalable response to CBRN incidents.
- Provide decontamination expertise and support.
- Conduct WMD defeat, disablement, and/or disposal.
- Support health service support patient decontamination.
- Conduct CBRN modeling to assess the impact on operations.
- Perform CBRN response in support of defense support of civil authorities (DSCA) and international partners.

1-24. The tasks conducted within domestic and international CBRN response are the same decontamination or hazard mitigation tasks conducted in tactical operations. The equipment and environment in which they occur changes some operational considerations. These tasks are described in chapter 3.

HAZARD AWARENESS AND UNDERSTANDING

1-25. CBRN HAU is an integrating activity implemented at the individual and collective level to comprehend implications of CBRN environments on operations. HAU integrates all of the CBRN core functions (assess, protect, mitigate), preincident through postincident, to facilitate situational understanding. HAU aids the CBRN staff in the collaborative process of IPOE to provide the commander an understanding of how CBRN hazards in the AO affect mission accomplishment.

1-26. CBRN hazard awareness is achieved through the gathering of information or data from individuals; sensors; or intelligence assessments, reports, and products. The chemical, biological, radiological, and nuclear warning and reporting system (CBRNWRS) and CBRN unit reports are sources of CBRN information that help the CBRN staff build their COP and enhance hazard awareness. CBRN hazard understanding is achieved through the fusion of all information. This fusion results in the ability to comprehend the implication, character, nature, or subtleties of CBRN hazards and their impact on the OE, mission, and force. CBRN staffs integrate all available information and translate technical information about the hazard into information that is useful to the commander in making risk decisions.

1-27. The tasks associated with HAU occur throughout the operations process and throughout all phases of operations. Information collected from the execution of the tasks within the functions of assess, protect, and mitigate contributes to enhanced HAU.

ARMY STRATEGIC ROLES

1-28. The Army's primary mission is to organize, train, and equip its forces to conduct prompt and sustained land combat to defeat enemy ground forces and seize, occupy, and defend land areas. It supports four strategic roles for the joint force. Army forces shape OEs, counter aggression on land during crisis, prevail during large-scale ground combat, and consolidate gains. This publication focuses primarily on countering aggression on land during crisis, prevailing during large-scale combat operations, and consolidating gains. CBRN support to shape the OE is critical for the joint force to implement the national strategy and set desirable conditions to prevent and deter the adversary’s undesirable actions.

CBRN CAPABILITIES ACROSS THE RANGE OF MILITARY OPERATIONS

1-29. The Army operates in a strategic environment that can result in military operations under many conditions. These operations are conducted within increasing violence and an increasing level of national interests (see figure 1-1). CBRN capabilities exist to support contingency and large-scale combat operations and to aid in DSCA, security cooperation, military engagement, and CWMD.

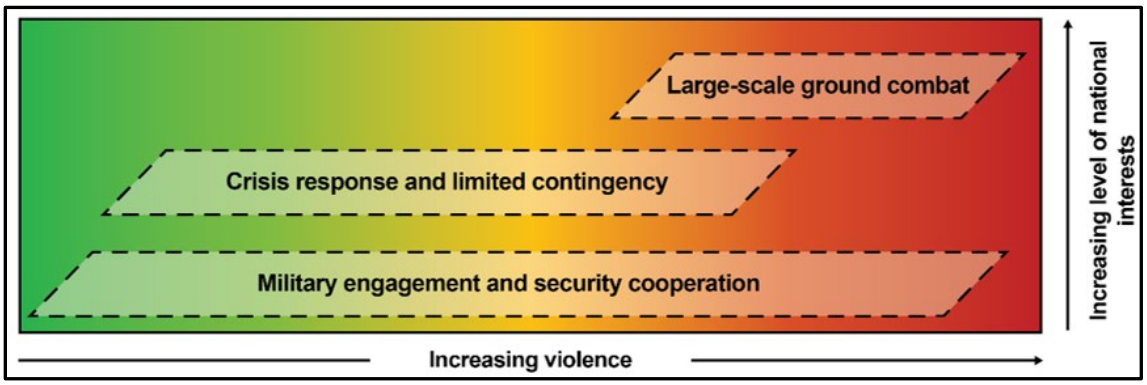


Figure 1-1. Operational categories and the range of military operations

1-30. Force projection usually begins as a contingency operation or as a rapid response to a crisis. Contingency operations may be required for combat or noncombat situations. Contingency operations could be joint, interagency, intergovernmental, or multinational. Committed forces are tailored and task-organized for rapid deployment, effective employment, and mission accomplishment.

1-31. As WMD materials, technology, and expertise proliferate across the globe, it is likely that the United States will encounter them in military operations across the range of military operations. Because CBRN threats and hazards make any operation more difficult, detailed planning is crucial. Many CBRN unit capabilities reside in the reserve component; therefore, operational planners consider the time required for mobilization. The amount and type of mobilized reserve forces depend on the strategic context.

1-32. CBRN capabilities support operations by assessing CBRN threats and hazards, providing protection against CBRN hazards, mitigating CBRN incidents, and providing HAU. All CBRN functions share a common fundamental purpose that fits within the protection warfighting function to achieve or contribute to national objectives.

1-33. While the United States (U.S.) Army is manned, equipped, and trained to operate across the range of military operations, large-scale combat operations against a peer threat represents the most significant readiness requirement. Chapter 3 provides an overview of how CBRN forces support combined arms operations. See FM 3-0 for a discussion on large-scale ground combat operations.

OPERATIONAL ENVIRONMENT

1-34. The *operational environment* is the aggregate of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander (JP 3-0). Commanders and leaders charged with conducting operations in a CBRN environment begin planning with a thorough understanding of the OE, the risks and opportunities associated with the OE, and the ways and means available for preserving combat power through protection. Seeing the enemy and understanding the OE is imperative to defeating enemy forces and achieving objectives. Leaders view the OE in terms of domains, dimensions, operational variables (political, military, economic, social, information, infrastructure, physical environment, and time), and mission variables (mission, enemy, terrain and weather, troops and support available, time available, civil considerations, and informational considerations [METT-TC(I)]) to provide an understanding that helps identify current, developing, and potential hazards and threats and enable the tasks to mitigate or eliminate them. Through continuous analysis of the OE, civil affairs staff can provide analyzed and evaluated civil considerations data concerning the host nation and indigenous populations and institutions. Military and civil capabilities include CBRN defense and decontamination capabilities; general information regarding the existence or movement of CBRN materials; local expertise, resources, or technology related to CBRN operations; and industrial CBRN processing, storage, or experimental facilities.

Note. See ATP 3-11.36 and FM 2-0 for more information about analyzing the OE through operational variables and METT-TC(I). See FM 3-57 for more information on civil considerations.

1-35. CBRN survivability addresses protection or mitigation for chemical, biological, and radiological contamination of personnel and equipment. Also included are prompt nuclear effects including blast, thermal radiation, prompt radiation, and electromagnetic pulse. AR 70-75 and DODI 3150.09 establish policies and procedures for ensuring the survivability of the force to operate in chemical, biological, and radiological or nuclear environments as a deterrent to adversary use of WMDs against the United States, its allies, and interests. *Chemical, biological, radiological, nuclear, and explosives* are components that are threats or potential hazards with adverse effects in the operational environment (ATP 3-37.11). Commanders and planners assess, on a regular basis, the ability of their forces to operate in these environments.

1-36. Large urban areas and complex subterranean environments continue to present a concern for CBRN operations. Dense populations create concerns for pandemic diseases, the rapid spread of infections, mass casualties, and chaos created by panicked individuals. Operations in subterranean environments have unique hazards, such as poor air circulation from insufficient ventilation or a lack of breathable air due to toxic vapor displacement. Subterranean environments exist in three major categories—tunnels or natural cavities and caves, urban subsurface systems, and underground facilities. The production and storage of CBRN materials and WMD (which may occur in subterranean environments and can increase atmospheric hazards) requires the alignment of CBRN enablers with maneuver forces. This combined arms effort allows forces to successfully manage, plan/account for, isolate, clear, exploit, and transition underground facilities.

Note. See ATP 3-21.51 for more information on subterranean environments and operations.

CBRN THREATS AND HAZARDS

1-37. Planning for large-scale combat operations deliberately accounts for possible enemy use of CBRN weapons and allied retaliatory response options. Planning also accounts for toxic industrial hazards caused by combat operations. Enemy employment of CBRN weapons or an allied response would affect all domains, but they present a disproportionate effect in the land domain. The use of these weapons does not terminate a conflict and may cause it to escalate. Units prepare to preempt the use of and operate in, around, and through contaminated environments. This is fundamental to deterring adversaries from employing WMD through the denial of benefit.

1-38. An awareness of the fundamental aspects of CBRN threats and hazards aids in the understanding of the associated risks. Threats and hazards have the potential to cause personal injury, illness, or death; equipment or property damage or loss; or mission degradation. CBRN threats include chemical, biological, or nuclear weapons; WMD programs; and improvised devices with a CBRN payload that produce CBRN hazards. When

an improvised explosive device also utilizes a CBRN hazard to produce effects, it becomes an improvised chemical device, improvised biological device, or improvised radiological device. A brief overview of the considerations associated with each of the C-B-R and N threats and hazards is important to fully grasp the influences each has on the decisions of the commander.

Note. Technical information about these hazards can be found in TM 3-11.91.

1-39. CBRN threats include the intent and capability to employ weapons or improvised devices to produce CBRN hazards. In contrast, CBRN hazards include CBRN material created from accidental or deliberate releases of TIMs, chemical and biological agents, nuclear materials, radiological materials, and hazards resulting from the employment of WMD or encountered by U.S. Armed Forces during the execution of military operations.

1-40. Commanders and staffs consider CBRN threats and hazards during integrating processes (IPOE, targeting, risk management) and continuing activities (liaison, information collection, security operations, protection, terrain management, airspace control). IPOE provides CBRN planners intelligence regarding CBRN threats and hazards that impact freedom of maneuver. The continuing activity of information collection directs reconnaissance and surveillance toward confirming CBRN-specific priority intelligence requirements (PIRs). These actions are critical to the CBRN integrating activities of HAU, which supports the maneuver commander's ability to seize, retain, and exploit the initiative to maintain a relative position of advantage.

Note. See ADP 5-0 for additional information on integrating processes and operational or mission variables.

Threat

1-41. A *threat* is any combination of actors, entities, or forces that have the capability and intent to harm United States forces, United States national interests, or the homeland (ADP 3-0). The use of CBRN weapons by the enemy can have an enormous impact on all combat actions. Chemical weapons are more commonly available; therefore, they are more readily integrated into battle plans at the tactical level. The enemy may also have biological, nuclear, and radiological capabilities that deserve consideration. These capabilities have lethal effects over much larger areas than do chemical weapons. The effects of biological weapons can be difficult to localize and employ in combat without them also affecting enemy forces.

1-42. In response to foreign development, peer or near-peer threats maintain the capability to conduct chemical, nuclear, and possibly biological or radiological warfare. However, they initially prefer to avoid the use of CBRN weapons to prevent an international or multilateral response. Force modernization has introduced a degree of flexibility that was previously unavailable to combined arms commanders. It creates multiple options for the employment of forces at strategic, operational, and tactical levels with or without the use of CBRN weapons.

1-43. Many of the same delivery means available for CBRN weapons can also be used to deliver precision weapons that can often achieve desired effects without the stigma associated with CBRN weapons. The threat might use CBRN weapons to deter aggression or as a response to an enemy attack. It could use CBRN against a neighbor as a warning to a potential adversary to let the adversary know that it is willing to use such a weapon. It may use, or threaten to use, CBRN weapons that have collateral effects on noncombatants as a way of applying political, economic, or psychological pressure to show its determination and scope of aggression. Peer or near-peer threats have surface-to-surface missiles that can carry chemical, biological, or nuclear warheads. (Refer to the Worldwide Equipment Guide: https://odin.tradoc.army.mil, for specific unclassified threat weapon capabilities.) Additionally, a peer threat could use aircraft systems and cruise missiles to deliver a CBRN attack. They also maintain the capability of using special-purpose forces as an alternate means of delivering CBRN munitions packages. It is important to note the increased likelihood of peer threats employing tactical nuclear capabilities when there is a perceived threat to their sovereign borders or government regime.

1-44. The likelihood of the threat use of CBRN weapons increases during large-scale combat operations. The use of CBRN weapons and the constant pursuit of the materials, expertise, and technology to employ them will increase in the future. State and nonstate actors continue to develop programs to gain advantage against the United States and its allies.

1-45. Threat forces determine suitable targets for CBRN weapons based on their perception of friendly vulnerabilities on that kind of attack and how the attack achieves their desired effects. The threat considers the following targets to be suitable for the employment of CBRN weapons:

- Precision weapons.
- Prepared defensive positions.
- Reserve and troop concentrations.
- Communication centers.
- Targets that support the threat's tactical scheme of offensive or defensive maneuver.
- Targets that support the threat's shaping, disruption, or canalization of friendly forces.

Hazard

1-46. A *hazard* is a condition with the potential to cause injury, illness, or death of personnel; damage to or loss of equipment or property; or mission degradation (JP 3-33). CBRN hazards are CBRN elements that can create adverse effects due to an accidental or deliberate release and dissemination. Understanding hazards also helps the commander visualize potential impacts on operations. CBRN hazards create conditions that can damage or destroy life or vital resources or prevent mission accomplishment. CBRN hazards include toxic industrial chemicals (TICs), toxic industrial biologicals, toxic industrial radiologicals, and special nuclear materials collectively known as TIM.

CHEMICAL HAZARDS

1-47. The types of chemical hazards that are of concern to the military have expanded tremendously over the last decade and now include a large number of TICs. Chemical hazards are any chemicals (manufactured, used, transported, or stored) that can cause death or other harm through the properties of those materials. Adversaries have the potential to employ these hazards to limit the friendly scheme of maneuver.

1-48. Chemical hazards can be divided into the following categories:

- **Chemical warfare agents**. These are specific agents that are developed as military weapons and designed to kill or severely incapacitate personnel and disrupt movement. Chemical warfare agents are generally considered lethal. It includes traditional agents such as nerve and blister and agents newly added to the Chemical Warfare Convention (like fourth generation agents).
- **Military chemical compounds** (other than chemical warfare agents). These are chemical compounds that are developed, in part, for military use (riot control agents, smokes, obscurants), but not as weapons. Military chemical compounds are generally considered nonlethal and cause temporary illness. Toxic properties are primarily associated with improper use.
- **TICs**. *Toxic industrial chemical* is any chemical developed, manufactured, used, transported, or stored by industrial, agricultural, medical, or commercial processes which could pose a hazard (JP 3-11). These same chemicals are considered plausible candidates for terrorist activities. In general, the risk of a TIC being used as a weapon depends on the severity of effects that it may cause and the probability that it may be obtained and released in dangerous quantities.

1-49. A chemical agent is a chemical substance that is intended for use in military operations to kill, seriously injure, or incapacitate, mainly through physiological effects. The term excludes riot control agents when used for law enforcement purposes, herbicides, smoke, and flame. Chemical agents are classified according to the following:

- **Physical state**. Agents may exist as a solid, liquid, or vapor.
- **Physiological action**. Based on their physiological effects, there are nerve, blood, blister, choking, and incapacitating agents.
- **Use**. The terms persistent and nonpersistent describe the time that an agent stays in an area. An adversary may have to expend large quantities of chemical agents to cause mass casualties or achieve area denial.

- **Persistent agent**. A chemical agent that is able to cause casualties for hours or longer. (JP 3-11)
- **Nonpersistent agent**. A chemical agent that, when released, dissipates or loses its ability to cause casualties rapidly, in a matter of minutes. (JP 3-11)

1-50. Nontraditional chemical agents are a broad group of chemicals that are not included in the Chemical Weapons Convention schedules, which were designed to prevent the development of traditional chemical warfare agents. While nontraditional agents possess some of the properties of traditional chemical agents, these properties often present unique challenges. Some nontraditional agents include lethal and incapacitating agents.

BIOLOGICAL HAZARDS

1-51. A biological hazard includes any organism, or substance derived from an organism, that poses a threat to the health of any living thing. Biological hazards may be biological weapons, naturally occurring endemic and zoonotic diseases, or natural emerging or reemerging disease outbreaks. Biological agents are microorganisms that can spread disease through humans and agriculture (plants and animals). Biological agents are dispersed or employed as pathogens or toxins that cause disease in personnel, animals, and plants.

- **Pathogens**. Pathogens are disease-producing microorganisms (bacteria, viruses, fungi) that directly attack human, plant, or animal tissue and biological processes.
- **Toxins**. Toxins are poisonous substances that are produced naturally by bacteria, plants, fungi, snakes, insects, and other living organisms and may also be produced synthetically. Naturally occurring toxins are nonliving byproducts of cellular processes that can be lethal or highly incapacitating.

1-52. Biological agents generally have short-lived activity (less than 24 hours) in the environment since oxygen and exposure to sunlight render most organisms nonviable. However, spores in dormant form, notably anthrax, may survive for decades and reactivate in warm, moist environments. This is also true for endemic anthrax that, while not intentional, still has the same operational effects. The longevity of biological threats is greatly dependent on their environmental stability, the success or failure of force health protection measures, and the hardiness or adaptability of microorganisms.

1-53. Pathogens require an incubation period to establish themselves in the body of a host and produce disease symptoms. The onset of visible symptoms may occur days or weeks after exposure. Some toxins can remain active for extended periods in the natural environment. This stability creates a persistent transfer hazard. Unlike chemical, radiological, and nuclear hazards, biological hazards, especially infectious pathogens, are less predictable and more challenging to classify the extent of the hazard.

1-54. Toxic industrial biologicals are a form of biological hazard. *Toxic industrial biological* is any biological material manufactured, used, transported, or stored by industrial, agricultural, medical, or commercial processes which could pose a hazard. They are often generated as infectious waste, such as on sharp-edged medical instruments (needles, syringes, and lancets) and material contaminated by bodily fluids.

1-55. Biological hazards can provide important advantages to adversaries who use them because of factors such as—

- Easy clandestine employment.
- Delayed onsets of symptoms.
- Detection, identification, and verification difficulties.
- Agent persistence.
- Communicability. These factors, combined with the factors listed below, increase the threat of biological agents:
  - Small doses can produce lethal or incapacitating effects over an extensive area.
  - They are difficult to detect in a timely manner.
  - They are easy to conceal.
  - They can be covertly deployed.
  - The variety of potential biological agents significantly complicates effective preventative or protective treatment.

RADIOLOGICAL HAZARDS

1-56. Radiological hazards include any source of nuclear radiation (such as electromagnetic or particulate radiation) that can produce ions or energy that causes damage, injury, or destruction. The Army is responsible for enforcing precautions and establishing tactics, techniques, and procedures for handling conventional munitions that employ radioactive materials, such as depleted uranium. This includes enforcing standards that protect personnel against inhalation and ingestion of radioactive material and external radiation exposure. In addition, dangerous levels of radiation can result from damaged industrial radiation sources. Due to the downwind hazards that such damage can produce, avoidance is the most effective individual and unit protective measure against industrial radiation hazards.

1-57. Radiological materials are those materials that emit ionizing radiation in the form of charged particles (alpha or beta particles, neutral particles [neutrons]), or electromagnetic energy (gamma rays or X-rays).

- **Alpha particles**. Alpha particles are positively charged, highly energetic nuclei (two protons, two neutrons, but no electrons) that travel through air only a few inches from the nuclei that emit them. Alpha particles are easily stopped by thin materials (such as a piece of paper or human skin). Alpha particles pose an internal hazard to the body and can be very damaging if small particles are inhaled into the respiratory system, deep into the lungs.
- **Beta particles**. Beta particles are electrons or positrons that are ejected from the nucleus of an unstable atom. They travel further than alpha particles (up to 30 feet in air) and can be effectively stopped by a sufficient thickness of low-density materials such as aluminum, plastic, or tightly woven fabric. Beta particles are an external hazard to the eyes and skin but also pose an internal hazard if taken into the body.
- **Neutrons**. Neutrons originate in the nucleus of an atom. They have no charge, but they do have a substantial mass, travel long distances, and are slowed and absorbed by a significant portion of hydrogenated materials (water and plastics). Neutrons pose variable hazards based on energy. They may activate nonradioactive material into radioactive material, they may be captured and emit other types of hazardous radiation, and they are not detected as easily as other radiations.
- **Gamma particles and X-rays**. Gamma particles and X-rays are electromagnetic energy with no mass and no charge. Gamma rays originate in the nucleus of the atom, while X-rays originate from an electron change in energy. They can travel large distances (hundreds of meters), have no defined maximum range in material (like alpha or beta particles do), and are more effectively attenuated to lower levels by high density materials.

Note. See TM 3-11.91 for more information.

RADIOLOGICAL DEVICES

1-58. A *radiological dispersal device* is an improvised assembly or process used to disseminate radioactive material to cause destruction, damage, or injury (JP 3-11). In a radiological dispersal device, conventional explosives are bundled with radioactive materials. The intent of a radiological dispersal device is to contaminate an area with radioactive material, cause avoidance and evacuation of the area, and induce terror and anxiety. This can be done with conventional explosives, otherwise known as a dirty bomb.

1-59. A *radiological exposure device* is a penetrating radiation source (gamma or neutron) that is placed or buried where people may be exposed to the radiation emitted (JP 3-11). A radiological exposure device uses a conventional explosive to disseminate radioactive material. If it remains undetected, the potential dose to the intended target increases.

1-60. Adversaries can disperse radioactive material in many ways; for example, they can use a conventional platform to deliver radioactive materials that may be obtained from industrial sources, such as radioactive material from a power-generating nuclear reactor or from use in industry, medicine, or research. Unless radioactive sources are thoroughly shielded, improvised devices employing these materials will likely have a significant radiological signature that can be detected before detonation, dispersal, or deployment. The dispersal of radioactive material represents an inexpensive capability that requires limited resources and technical knowledge.

NUCLEAR HAZARDS

1-61. The severity of nuclear hazards depends on the weapon yield, intervening terrain, and distance to the target. Severity also depends on the height of burst, especially for fallout production and electromagnetic pulse. Residual radiation effects are due to emissions (typically alphas, betas, and low-energy gammas) from fission fragments (atoms produced during fission) and activated environmental materials (material that absorbs radiation and becomes radioactive itself). Collectively, these sources are called fallout.

1-62. Nuclear hazards are the applied effects on personnel, equipment, units, and systems. Nuclear hazards are produced by the energy released from a nuclear weapon employed offensively or defensively. When detonated, a typical nuclear weapon releases its energy as blast, thermal radiation, nuclear radiation (including prompt radiation-gamma, X-rays and neutron, and alpha and beta particles), and electromagnetic pulse.

1-63. Nuclear weapon effects are qualitatively different from biological or chemical weapon effects. The nature and intensity of nuclear detonation effects are determined by the type of weapon, its yield, and the physical medium in which the detonation occurs. Weather conditions affect fallout immensely. Some characteristics of nuclear weapon effects include the following:

- The distribution of energy and the relative effects of blast, heat, and radiation depend largely on the weapon and the altitude at which it is detonated.
- A typical nuclear detonation releases most of its yield as blast energy, followed by thermal pulse and initial radiation.
- The amount of fallout depends on the weapon yield, weapon type, and height of the burst.
- The area affected depends on geography and environmental conditions.
- Surface bursts produce the most fallout.
- The hazard to personnel primarily depends on the level of radiation present and the duration of exposure.

Note. See ATP 3-72 for more information on how to understand and mitigate nuclear hazards.

Chapter 2

Support to Army Operations

This chapter discusses how CBRN operations enable Army operations in the operational framework. It describes the CBRN core functions within support to large-scale combat operations.

SECTION I — ARMY OPERATIONS

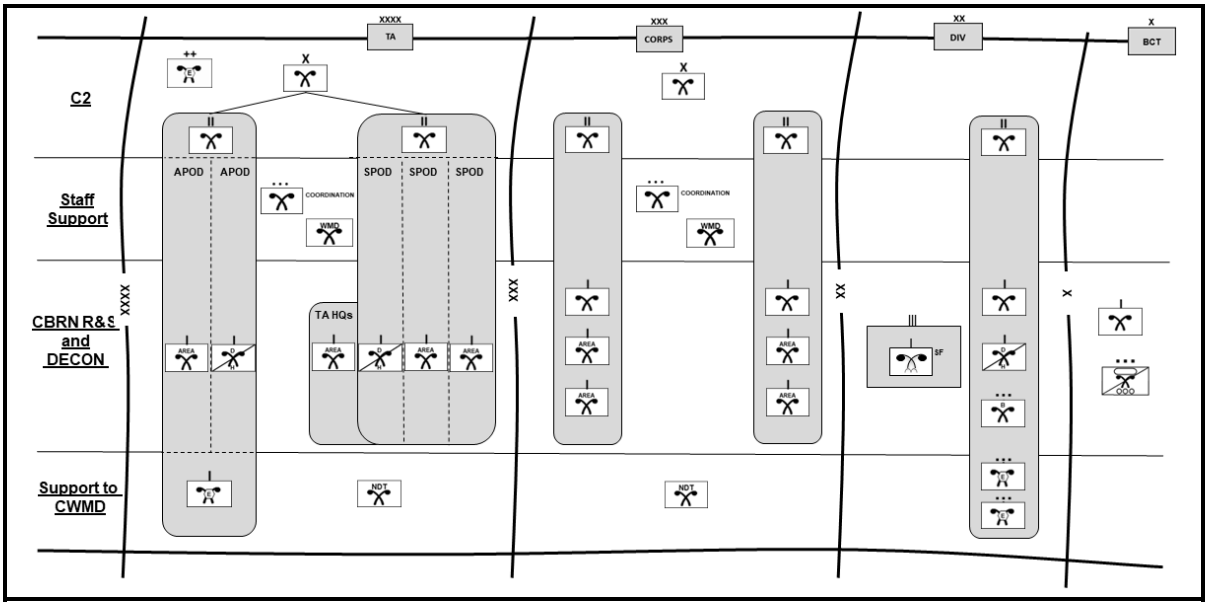
2-1. The Army's primary mission is to organize, train, and equip its forces to conduct prompt and sustained land combat to defeat enemy ground forces and seize, occupy, and defend land areas. It supports four strategic roles for the joint force. Army forces shape OEs, counter aggression on land during crises, prevail during large-scale ground combat, and consolidate gains. This publication focuses primarily on countering aggression on land during crises, prevailing during large-scale combat operations, and succeeding through consolidation of gains. CBRN support to shape the OE is critical for the joint force to be able to implement the national strategy and set desirable conditions to prevent and deter the adversary's undesirable actions.

2-2. The operational framework provides a tool for visualizing and describing operations by echelon in time and space within the context of an AO, area of influence, and area of interest. Three models commonly used to build an operational framework include—

- Assigned areas (AO, zone, and sector).
- Deep, close, and rear operations.
- The main effort, supporting effort, and reserve.

2-3. CBRN forces support Army operations across the operational framework. Figure 2-1, page 14, describes an example for the alignment of CBRN support against a peer threat from the theater to the brigade combat team (BCT). Any alignment would include units from multiple components and echelons:

- **CBRN at theater echelon.** The chemical, biological, radiological, nuclear and explosives (CBRNE) command coordinates CBRN and explosive ordnance disposal (EOD) operations in theater. If the CBRNE command is not deployed, the CBRN brigade may coordinate CBRN operations for the theater. The CBRN brigade also advises on the employment of task-organized CBRN units and laboratories and other units. The CBRN staff conducts a CBRN threat assessment, maintains CBRN hazards on the theater COP, supports CWMD, and provides plans with intelligence support. CBRN units that are aligned to support the theater provide support by decontaminating equipment, personnel, fixed sites, and terrain and by identifying CBRN hazards through reconnaissance and surveillance.
- **CBRN at corps echelon.** The CBRN staff conducts a threat assessment, provides information to the production of the joint target list and the restricted target list, coordinates with other agencies in support of CWMD operations, and maintains CBRN units and hazards on the corps COP. The staff provides staff support to plans and operations. CBRN units that are aligned to support the corps decontaminate equipment, personnel, fixed sites, and terrain; conduct reconnaissance and surveillance of CBRN hazards; and submit reports.
- **CBRN at division echelon.** The CBRN staff operates the CBRN control center, confirms CBRN units and hazards on the division COP, develops the CBRN defense plan, and provides staff support to plans and operations. CBRN units that are aligned to support the division conduct reconnaissance and surveillance of CBRN hazards; provide early warning of CBRN hazards; and decontaminate equipment, personnel, fixed sites, and terrain. CBRN units also take samples, conduct ground and air escort of CBRN materials, and submit reports.
- **CBRN at BCT echelon.** The CBRN staff maintains CBRN units and hazards on the BCT COP, develops the CBRN defense plan, and provides staff support to plans and operations. CBRN elements that are aligned to support the BCT provide early warning of CBRN hazards, conduct reconnaissance and surveillance of CBRN hazards, and support operational decontamination.

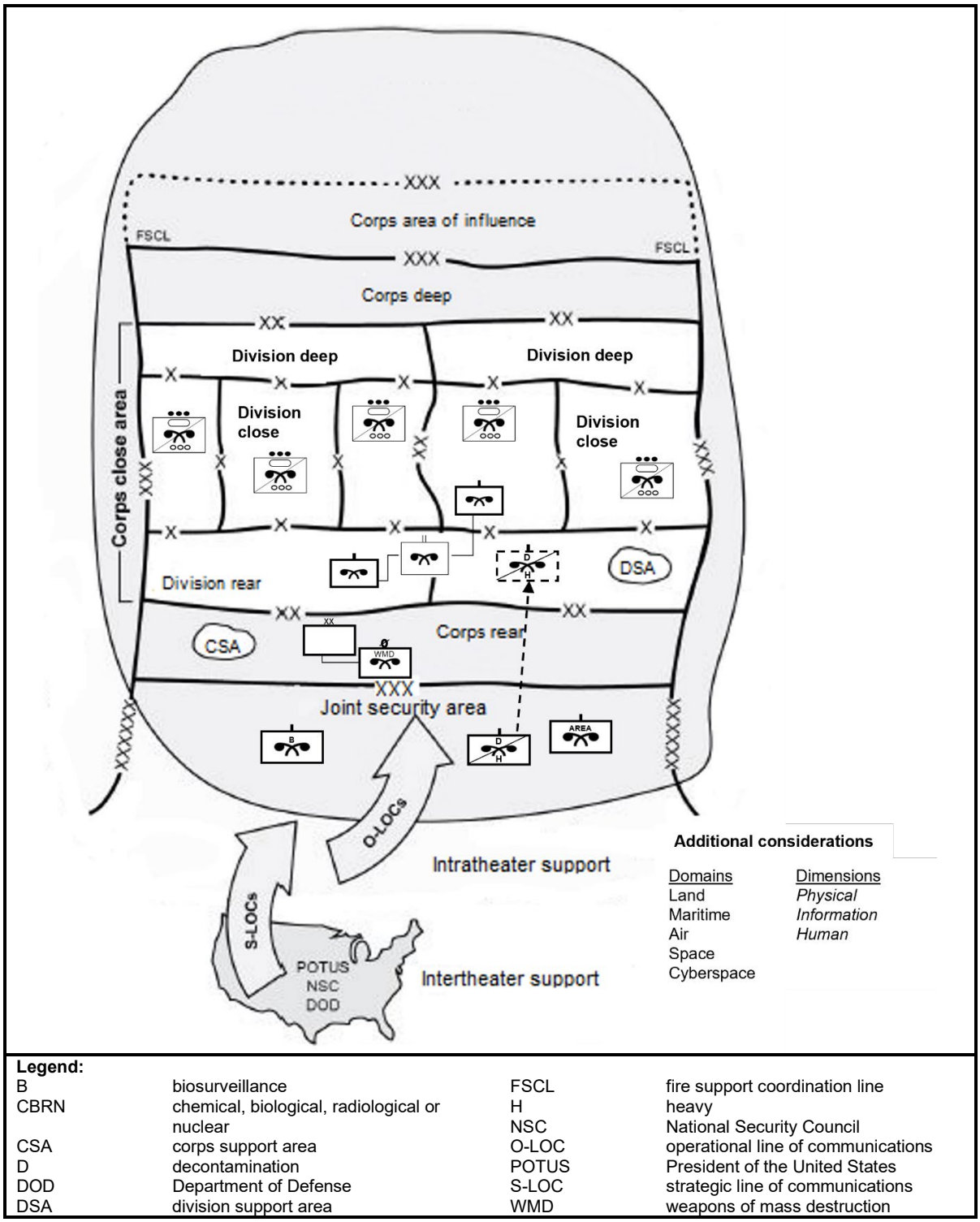


Legend:

APOD	aerial port of debarkation	DIV	division
B	biosurveillance	H	heavy
BCT	brigade combat team	HQs	headquarters
C2	command and control	NDT	nuclear disablement team
CBRN	chemical, biological, radiological, or nuclear	R&S	reconnaissance and surveillance
		SF	special forces
CWMD	countering weapons of mass destruction	SPOD	seaport of debarkation
		TA	theater Army
D	decontamination	WMD	weapons of mass destruction
DECON	decontamination		

Figure 2-1. Force illustration from theater to BCT

2-4. Figure 2-2, page 15, illustrates the use of CBRN forces in the operational framework. CBRN reconnaissance forces may conduct mounted or dismounted reconnaissance and surveillance or site assessments in the close area. To enable freedom of action and operations, a CBRN battalion may support the division by using assigned companies that have decontamination and reconnaissance assets. CBRN battalions may task-organize hazard response companies to BCTs. (For additional information regarding military symbols, see FM 1-02.2.) WMD coordination teams may be assigned to corps through theater headquarters, as needed. The graphic does not depict the CBRN staff elements that support the framework at echelon during operations. Area support, heavy decontamination and reconnaissance, and biological companies may support the joint security area with decontamination, reconnaissance, and surveillance to protect the force. See ATP 3-11.36 for more information on planning CBRN support to operations.



Legend:

B	biosurveillance	FSCL	fire support coordination line
CBRN	chemical, biological, radiological or nuclear	H	heavy
		NSC	National Security Council
CSA	corps support area	O-LOC	operational line of communications
D	decontamination	POTUS	President of the United States
DOD	Department of Defense	S-LOC	strategic line of communications
DSA	division support area	WMD	weapons of mass destruction

Figure 2-2. Example CBRN forces in corps deep, close, and rear areas

SECTION II — CBRN SUPPORT TO COMPETITION BELOW ARMED CONFLICT

2-5. Competition below armed conflict is a state of tension that exists when most of a specific adversary's national interests are incompatible with U.S. interests but it is still willing to actively pursue them. Army

operations during competition below armed conflict bring together all of the activities intended to promote regional stability through theater security cooperation plans and—if the situation elevates to crisis or conflict—to set conditions for a favorable outcome.

2-6. Operations during competition below armed conflict include security cooperations and military engagements that encompass training, and operations to build the cohesion and large-scale combat readiness of the United States and its allies and partners. Security cooperation builds relationships that promote specific U.S. security interests, develop allied and friendly capabilities, and provide U.S. forces with access to partner nations during peacetime. Security cooperation allows the transfer of technology and knowledge to partner nations and allows for direct observation and interaction to ensure that equipment and training are used properly and that they identify interoperability challenges.

2-7. CBRN forces participate in combined arms exercises and training and with national assistance efforts (such as security assistance and foreign internal defense) to improve cooperation. In addition, these activities foster tactical CBRN interoperability in between the United States and other partner nation forces.

SECTION III — CBRN SUPPORT TO CRISIS

2-8. A crisis is characterized by high degrees of volatility and uncertainty and may erupt with little to no warning. A crisis could end as quickly as it began with a return to competition below armed conflict or it could escalate to armed conflict, possibly lasting for an extended period. CBRN staffs are prepared to quickly assess CBRN threats and vulnerabilities during a crisis.

2-9. Army operations during a crisis are those activities designed to deter an adversary's undesirable actions or to overcome incidents involving TIM hazards. Commanders generally focus on actions that protect friendly forces, assets, and partners that could indicate U.S. intent to execute subsequent phases of a planned operation. A thorough assessment of the OE allows CBRN staffs to advise commanders regarding informed risk decisions for protecting the force.

2-10. It is challenging to quickly provide CBRN forces to support an operation. The majority of the CBRN force structure resides in the reserve forces, which is a significant consideration for the deployment of forces. To meet the priorities of the combatant commanders, critical planning considerations require that the correct CBRN capabilities be identified within the required timeframe.

2-11. As part of a combined arms team, CBRN forces deter aggression and the use of CBRN by their need to take action to deny the adversary's benefit to employ them. Deterrence of the use of CBRN is accomplished through visible displays of readiness and the capability to operate in a CBRN environment. Commanders maximize readiness exercises to demonstrate CBRN schemes of protection that deter undesirable actions involving CBRN.

2-12. During and following a crisis response, Army forces consolidate gains to deny adversary forces the means to extend the crisis or create a similar crisis in the future. CBRN forces provide expert support to humanitarian assistance, host-nation leader engagement, security cooperation engagement, and foreign internal defense. To understand mutual capabilities, synchronize effects, and gain efficiencies within the relationship and to deter a threat's potential employment of CBRN capabilities in theater, combatant commanders coordinate security cooperation engagements with adjacent neutral and allied countries and the Department of State. CBRN forces, in conjunction with other governmental agencies, increase the effectiveness and efficiency of neutral and allied internal infrastructure assessments, demilitarization, and rebuilding efforts. Consolidate gains activities include CBRN response tasks that restore and protect critical infrastructure, equipment, and personnel.

2-13. Army forces may be required to conduct reconnaissance or decontamination. The discovery of WMD sites, TIMs, or CBRN contamination during a crisis presents unique challenges for consolidating gains. For example, during international CBRN response operations, host-nation CBRN forces may confirm or deny the presence of CBRN hazards. U.S. forces may be required to help the host nation to achieve a level of control or to create conditions to mitigate CBRN hazards. Commanders may need to address the decontamination, disposal, and/or destruction of CBRN material.

2-14. Tasks within CBRN functions support the consolidation of gains. Activities within the assess function (such as information collection) feed CCIR and allow the commander to exploit further tactical gains. The assess function also feeds into HAU, which increases the commander's situational understanding and allows for the refinement of follow-on operations. As gains are consolidated, the CBRN function of protect includes tasks such as protecting the forces from CBRN hazards. Tasks within the mitigate function respond to CBRN hazards to negate effects.

2-15. A crisis has two outcomes: a de-escalation to competition or an escalation to armed conflict. To return to competition, Army forces seek to restore partner security forces and government institutions as quickly as possible to maintain popular support. Army forces responding to a crisis are prepared for and expect to fight.

SECTION IV — CBRN SUPPORT TO ARMED CONFLICT AND LARGE-SCALE COMBAT OPERATIONS

2-16. Armed conflict encompasses the conditions of a strategic relationship in which opponents use lethal force as the primary means to achieve objectives and impose their will on the other. The characteristics of large-scale combat operations vary based on many factors, including the enemy.

2-17. When fighting against a less capable enemy, the U.S. joint force often has significant advantages in most domains. The principal concerns during such operations include winning rapidly at minimal cost, consolidating gains, and transitioning the responsibility for an area to legitimate authorities. The OE becomes much more difficult when fighting against a peer or near-peer enemy who is able to contest the joint force in all domains. CBRN capabilities can create parity or significant enemy advantages, particularly early during a conflict when CBRN defense capabilities may not be fully established in theater.

2-18. During large-scale combat operations, Army forces conduct offensive, defensive, and stability operations to defeat enemy forces. Divisions and corps are the formations central to the conduct of large-scale combat operations, as they are organized, trained, and equipped for the deep, close, and support area operations that enable subordinate success during close combat. Divisions and higher echelons typically perform some combination of all three operations simultaneously. However, the lower the echelon, the more likely it is that the formation will be focused on one element at a time.

2-19. CBRN units operate as part of larger combined arms task forces (TFs) or teams to enable the freedom of action during large-scale combat operations. Due to the range of capabilities within CBRN units, CBRN planners ensure that units and capabilities are correctly applied for the execution of specific tactical tasks.

2-20. In large-scale combat operations against a peer threat, commanders conduct operations to seize, retain, and exploit the initiative. CBRN tasks within large-scale combat operations introduce levels of complexity, lethality, ambiguity, and hindrance to military activities that are uncommon in other operations. These operations require the execution of multiple tasks synchronized and converged across multiple domains to defeat enemy forces, control terrain, protect populations, and preserve the freedom of action.

CBRN CAPABILITIES IN SUPPORT OF DEFENSIVE OPERATIONS

2-21. CBRN personnel contribute to the defense through protection tasks and the support of large-scale decontamination efforts. The CBRN defense plan, which is continually updated to reflect the heightened or lowered defense capabilities of a force, provides a tiered set of response actions. Vulnerability reduction measures mitigate weaknesses in the defense against CBRN threats. These measures provide a list of recommended actions based on the threat situation, including protection measures for personnel, supplies, facilities, and equipment from contamination, collective protection (COLPRO), and contamination mitigation.

2-22. Defensive operations are conducted to defeat an enemy attack, gain time, economize forces, and develop conditions that are favorable for offensive or stability tasks. There are three types of defensive operations—area defense, mobile defense, and retrograde defense. Although the names of these defensive tasks convey the overall aim of a selected defense, each typically contains static and mobile elements.

2-23. The defending forces use CBRN defensive principles to protect the force, avoid contamination where possible, and conduct decontamination to preserve combat power. Some characteristics of defense that are of concern for CBRN operations include the following:

- **Flexibility**. Flexible plans anticipate enemy actions and allocate resources accordingly. Commanders defend against the enemy's use of CBRN through the preparation of protection measures and necessary resources that are capable of disrupting the enemy's desired effects.
- **Preparation**. The defender uses the available time before an attack to prepare. CBRN staffs understand considerations of the environment to improve the survivability of the unit. Hazard prediction models can identify critical areas to focus preparations. Examples of improving the survivability of a unit include improving the condition and capability of existing buildings or fortifications against CBRN hazards, using COLPRO, issuing medical countermeasures, and covering or dispersing supplies as preparation measures.
- **Security**. Security tasks provide early warnings and preserve combat power. The integration of CBRN detection systems within the whole spectrum of early warning systems provides increased situational awareness and security.

THREAT OVERVIEW

2-24. The threat overview describes how threat forces organize against U.S. forces that are in the defense. This allows CBRN forces to understand potential courses of enemy action.

2-25. If the strategic or operational situation warrants the use of CBRN capabilities, peer threats typically use more substantial volumes of fire for the support of offensive operations in comparison with the support of defensive operations. To achieve desired effects and to conceal the use of CBRN capabilities, an increased volume of fires is needed. CBRN planners assess the positions of the enemy's multiple rocket launchers, various large caliber projectile artillery batteries, and theater ballistic missiles within the range of friendly close and support areas. CBRN support of the offense is more likely because adversaries would normally be in a defensive posture in which the locations of critical nodes or significant positions are more defined or known due to the static nature of the defense. As previously stated, the threat's use of nonpersistent or persistent chemical agents—rather than biological or nuclear—is more likely to be used offensively and defensively because enemy forces are able to anticipate and control the effects.

2-26. It is common for enemies to mix chemical rounds with high-explosive rounds to achieve desired effects. In the offense, the enemy may use chemical agents to restrict the use of terrain, especially at the key points along an adversary's lines of communication. Nonpersistent agents are suitable for use against targets on an axis of advance that the enemy intends to exploit, especially when an enemy knows the adversary's positions in detail. The most likely role of nonpersistent agents is to prepare the way for an assault force or an exploitation force. They can also be used against civilian population centers to sow panic and create a flood of refugees. Persistent agents are suitable against targets the enemy cannot destroy through the use of conventional or precision weapons—such as targets that are too large or targets that are unable to be accurately targeted for attack except by an area weapon. Persistent agents neutralize such targets without having to pinpoint them. The enemy may target bypassed pockets of resistance with persistent agents, especially those posing a threat to an exploitation force. If the threat determines possible assembly areas (AAs) for its adversary's counterattack forces, it will likely target those locations with persistent agents. Finally, the threat could use persistent agents deep within its adversary's rear area and along troop flanks in order to protect advancing units. When the threat is conducting offensive operations, typical target options for all types of chemical agents include troop concentration areas, headquarters, and artillery positions. The threat could use chemical attacks against such targets, simultaneously, throughout an adversary's defense. Combined with other forms of conventional attack, these chemical attacks neutralize the adversary's nuclear capability, command and control systems, aviation, and logistics facilities. Delivery options include tube artillery, multiple rocket launchers, surface-to-surface missiles, and aircraft.

2-27. Peer threats have the same considerations in the offense as they do in the defense for the release authority and for the employment of biological and radiological capabilities. If the release authority for nuclear weapons has approved the use of tactical weapons, a peer threat may conduct a nuclear attack in coordination with nonnuclear fires to destroy an adversary's main combat formations, command and control systems, and precision weapons. The attack can be used to target and destroy the adversary's defense to set the conditions for an exploitation force. In those situations, the threat may plan high-speed air and ground

actions to further exploit the nuclear attack. As an adversary withdraws, the threat may use a subsequent nuclear attack on choke points where retreating forces present lucrative targets.

2-28. The CBRN planners advise commanders on expected actions that enemies may take to employ CBRN against U.S. forces in the defense. Examples of enemy CBRN uses include—

- Using CBRN to prevent the strike force from being committed in a mobile defense.
- Isolating and dividing portions of maneuver space for persistent chemical strikes.
- Using CBRN to create simultaneous dilemmas, especially in support areas.
- Degrading friendly forces at the point of penetration for nonpersistent chemical strikes.

Note. For more information about threat tactics, see TC 7-100.2.

ASSESS

2-29. The CBRN assess function provides input for the collection of information to assess the enemy's CBRN capabilities and to determine vulnerabilities. These activities further support CBRN active defense measures for friendly forces. As part of deep operations, commanders require the continuous refinement of the intelligence picture of enemy forces throughout their area of interest. Corps and divisions focus on the timely, accurate identification of high-payoff targets during defensive preparations. Constant surveillance of the AO and effective reconnaissance are necessary for the acquisition of targets and to verify or evaluate potential enemy courses of action with respect to CBRN capabilities. In the close area, commanders use intelligence assessments, reports, and products to identify probable enemy objectives and approaches. From those probable objectives and approaches, named areas of interest (NAIs) and targeted areas of interest can be developed. To shape the battle to their advantage, commanders also examine the enemy's ability to conduct air attacks, insert forces behind friendly units, and employ CBRN capabilities.

2-30. The CBRN staff, CBRN reconnaissance assets, and non-CBRN units that have organic CBRN equipment provide information that assists corps and division level G-2 sections during the preparation phase to complete the integration and synchronization of information collection. Corps and divisions rely on joint and national systems for the detection and tracking of targets beyond their organic capabilities. Organic and assigned information collection assets identify friendly vulnerabilities and key terrain. A division headquarters conducts periodic information collection on unassigned areas to prevent the enemy from exploiting those areas to achieve surprise. They use available reconnaissance, surveillance, and engineer assets to study the terrain. By studying the terrain, commanders determine the principal enemy and friendly avenues of approach. Commanders determine the most advantageous area for the enemy's main attack and conduct other terrain analyses to observe the fields of fire, avenues of approach, key terrain, obstacles, and cover and concealment.

2-31. During planning, BCT commanders establish PIR and assign available CBRN assets to collect information. The unit positions CBRN reconnaissance assets where they can gather critical information, which increases HAU. Commanders consider employing CBRN reconnaissance and surveillance elements along critical movement routes and potential choke points. CBRN reconnaissance units also provide the security force commanders with the increased capacity for conventional surveillance. During the defense's execution phase, CBRN reconnaissance determines the status (clear or contaminated) of passage lanes, which simultaneously supports the withdrawal of a security force and forward the movement of a strike force. CBRN reconnaissance units locate and mark contaminated routes and help identify new clear routes.

2-32. The nature of the defense allows for a more robust and reliable CBRNWRS that quickly anticipates and reacts to the enemy use of CBRN capabilities. Because the threat often mixes CBRN and conventional munitions during precision or area strikes, an effective reporting system allows commanders to fully understand enemy commanders' COAs. In the preparation and execution phases of the operations, CBRN staffs recommend adjustments and work through the appropriate echelon's assistant chief of staff, operations (G-3) or battalion or brigade operations staff officer (S-3) to task subordinate units for additional active and passive sensors in order to enable timely and accurate reporting.

PROTECT

2-33. Unit survivability is critical to the success of defensive operations, regardless of the form of the operation. The protection function provides commanders with freedom of action by preserving subordinate unit capabilities so that the maximum combat power is able to be applied at the desired time and location. Criticality and vulnerability and recuperability are some of the most significant considerations for commanders in determining priorities for the protection function. Because defending units are often in fixed and concentrated positions, they increase their vulnerability to CBRN threats and hazards. All units have an inherent responsibility to improve the survivability of their own fighting positions, AAs, and bases. The defending force BCTs occupy their respective AOs as soon as possible to maximize preparation time for defensive positions and obstacles. Survivability operations enhance the ability to avoid or withstand hostile actions by altering the physical environment. Units accomplish this through four tasks: constructing fighting positions, constructing protective positions, hardening facilities, and employing camouflage and concealment. Commanders consider tactical dispersion to prevent identification and acquisition for enemy CBRN strikes and to reduce hazard exposure postincident.

2-34. CBRN staffs play a greater role in the defense through the protection function by performing a larger volume of vulnerability assessments. They advise the commander on the employment of CBRN passive defense measures (detection and warning equipment, individual protective equipment, COLPRO) to protect personnel, equipment, and facilities from CBRN/TIM effects. The commander positions forces and installations to avoid congestion but does not disperse them to the extent that there is a risk of defeat in detail by an enemy that is just employing conventional munitions. Protecting critical assets, sites, and lines of communication in the corps support area and in division support areas require a sufficient complement of CBRN units to provide versatility in procedures and to increase overall survivability. CBRN staffs consider how to best maintain freedom of maneuver for reserve or strike forces and apply sufficient priority in the CBRN defense plan. These forces are highly valued, lucrative targets for the enemy to attack with their CBRN capabilities. Considerations include establishing for protective posture status, tactical dispersion, and alternate routes to prevent cross contamination.

MITIGATE

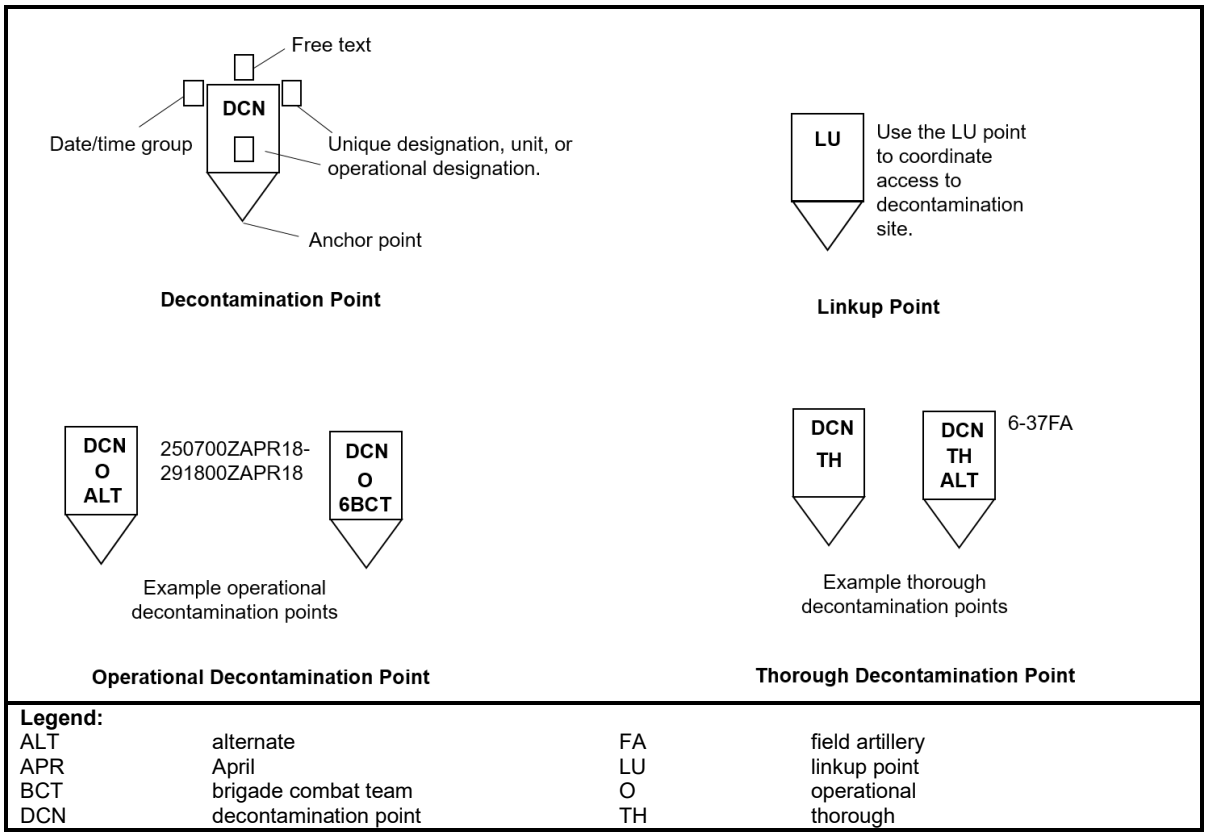
2-35. The focus of the mitigate function in defensive operations is to quickly restore combat power if the threat employs CBRN capabilities. The CBRN staff assists the targeting section at the corps and division echelon to adjust the attack guidance matrix to exploit opportunities and target those CBRN capabilities that the enemy commander requires most. In general, corps deep operations occur beyond the area in which divisions can effectively employ combat power. Division deep operations are limited using control measures imposed by the corps and the ranges of the capabilities it controls. During large-scale combat operations, units in the defense likely receive higher CBRN exposure than in the offense. Commanders, supported by their CBRN staff, ensure that subordinate units are capable of conducting operational decontamination of military personnel and equipment and that they are prepared to execute thorough decontamination based on the priority and type of CBRN exposure. The priority of decontamination support is established by orders in advance of the operations; this expedites action in the event a unit becomes contaminated. These priorities directly support the commander's concept of the operation and scheme of maneuver. Operational decontamination may be conducted in support of committed forces in order to sustain combat operations. Thorough decontamination sites should be established away from major avenues of approach into the sector and outside the range of the enemy's indirect fire systems.

2-36. The planning, preparation, and execution of uncontaminated (clean) and contaminated (dirty) routes during the defense increase in emphasis due to the higher volume and depth of CBRN exposure to friendly forces. The CBRN staff assists the operations sections at the division and BCT level with the inclusion of CBRN route graphics on operational overlays. Real-time weather and other environmental factors may change the predictable contamination of routes; therefore, CBRN staff are required to synchronize with each current operations section at echelon.

Contamination Mitigation Considerations

2-37. Commanders decide to conduct decontamination only after considering all contamination mitigation options. Important considerations include the type of contamination (chemical, biological, and radiological),

persistency (persistent, nonpersistent), time available, tactical situation, weather, and readiness of the forces in protective gear. For example, if the agent is a nonpersistent chemical vapor hazard and weather conditions are conducive for weathering of the agent, the optimal decision may be to move upwind, dispose of potentially contaminated protective clothing, conduct unmasking procedures, and continue the mission. The risk is not completely mitigated but based on the tactical situation, the risk of low-level vapor hazards may be more acceptable than the risk of continuing operations with the limitations of mission-oriented protective posture (MOPP). Figure 2-3 depicts operational graphics for decontamination sites.



Legend:			
ALT	alternate	FA	field artillery
APR	April	LU	linkup point
BCT	brigade combat team	O	operational
DCN	decontamination point	TH	thorough

Figure 2-3. Decontamination point operational graphics

2-38. Decontamination is made in consideration of the following four decontamination principles:

- **Speed**. Decontaminate as soon as possible.
- **Need**. Decontaminate only what is necessary.
- **Priority**. Decontaminate the most essential items first.
- **Limited area**. Decontaminate as far forward as possible to limit the spread to clean areas.

Decontamination Methods

2-39. Contamination occurring on the battlefield is a disastrous possibility, but planning and training can mitigate the severity of potential effects. There are four levels of decontamination: immediate, operational, thorough, and clearance:

- **Immediate**. Immediate skin decontamination is a lifesaving measure that is most effective when conducted as soon as possible by the individual or buddy. Techniques for immediate decontamination available include—
  - Skin decontamination.
  - Personal wipe down.
  - Operator wipe down.
  - Spot decontamination.

- **Operational**. Operational decontamination limits the spread of contamination, allows the force to continue operations within the contaminated area, and enables the freedom of maneuver. Army units typically have the lead for operational decontamination operations using organic decontamination apparatuses. Operational decontamination includes—
  - MOPP gear exchange.
  - MOPP drop.
  - Tactical decontamination.
  - Supported/unsupported vehicle wash-down.
- **Thorough**. Thorough decontamination provides a reduction of risk that allows long-term MOPP reduction. CBRN units typically have the lead for thorough decontamination operations. Thorough decontamination includes:
  - Detailed equipment decontamination.
  - Detailed troop decontamination.
- **Clearance**. Clearance decontamination allows for the unrestricted transportation, maintenance, and employment or disposal of equipment.

Note. For detailed information on decontamination methods, see ATP 3-11.33.

2-40. Commanders under advisement from CBRN staffs consider METT-TC(I), risks to mission, and risks to forces when determining the contamination mitigation technique that is right for the situation. Considerations for operational decontamination include the following:

- **When**. What is the risk to force when fighting contaminated? What is the risk to mission to conduct decontamination?
- **Why**. MOPP4 degrades performance, and MOPP gear exchange provides an opportunity for relief. Decontamination may allow for the removal of contamination so that the unit can conduct unmasking and lower protective posture. Human factor limitations, retrograde, and reconstitution are considerations for operational decontamination.
- **Where**. Immediate and tactical decontamination are conducted as far forward as possible. Decontamination sites are selected via map and site reconnaissance before they are needed. Sites are selected close to a water source, if possible. Designated routes are planned for clean and dirty travel. Preplanning decontamination sites and preparing the site with pre-positioned water speeds up execution, when needed.
- **Limiting factors**. Time and resources limit decontamination capabilities. Planners account for the time required to conduct the different decontamination techniques, water supply, engineer support for drainage, medical support for those working in MOPP, contaminated casualties, individual protective equipment and decontaminant supply replenishment, and the availability of CBRN support. For more planning factors to consider for sustaining decontamination, see ATP 3-11.74 and ATP 3-11.33.
- **Echelon**. Decontamination should be conducted as close as possible to the point of contamination in order to limit spread; therefore, it is best conducted by organic assets of the contaminated unit. If a larger organization with more vehicles and personnel requires operational decontamination and speed is required, the decontamination can be supported by centralized control and supported by the brigade and supporting CBRN units.

2-41. If time and the situation allow, commanders consider thorough decontamination to allow complete reconstitution of the force.

HAZARD AWARENESS AND UNDERSTANDING

2-42. During the defense, providing increased HAU of potential CBRN threats aids the commander's ability to make protection decisions. The CBRNWRS plays a critical role for the early warning of CBRN threats and hazards. The preparation phase of the defense is usually larger than the offense because the defense is resource intensive. Establishing engagement areas (EAs), obstacle belts, battle positions, and other defensive tasks is ongoing. CBRN staffs encourage commanders to fully train and rehearse CBRN defense plans, which are developed through a proactive risk-based decision-making system. This information improves the

evaluation and application of assess/protect/mitigate. HAU makes use of information gained from assess tasks to identify protection and mitigation tasks.

2-43. Through the CBRNWRS, commanders and staffs obtain information on contaminated areas. HAU is used to provide the commander with information on areas of residual contamination that affect COA planning for the transition back to offense.

PLANNING CONSIDERATIONS

2-44. The purpose of a defense is to create conditions for the offense that allow Army forces to regain the initiative; counter enemy action; retain decisive terrain or deny a vital area to an enemy; attrit or fix an enemy as a prelude to the offense; or increase an enemy's vulnerability by forcing and enemy commander to concentrate subordinate forces. CBRN staffs, units, teams, and elements provide the necessary assessment, mitigation and protection expertise that enable units in the defense. They recommend effective protective postures, maintain surveillance on CBRN NAIs, recommend or establish fixed decontamination positions and routes, assigned collective protection shelters, and mark CBRN hazard areas to facilitate forward movement and retrograde.

2-45. CBRN staffs support the defense throughout the operations process by applying expertise about friendly and threat capabilities. CBRN expertise is applied to all aspects of the military decision-making process (MDMP). Through HAU, CBRN staffs provide advice to the commander on the implications of potential CBRN hazards and on the impacts of those hazards on COA development. This requires study and analysis to ensure that the right decisions and actions are taken at the right time to get positive outcomes. To prevent the use of WMD, Army forces develop an understanding of the threat and materials that affect an AO as part of the CWMD mission.

2-46. Planners assess the employment of enemy CBRN capabilities across the operational framework of deep, close, support, and consolidation areas to provide predictive analysis for CBRN threats and hazards that may disrupt units preparing defensive positions and performing terrain-shaping functions. CBRN planners consider the allocation and disposition of decontamination platoons, which can be fixed or mobile throughout the preparation and execution of the defense. The correct placement of these assets limits the spread of contamination, especially for forces retrograding from battle positions. A clear understanding of decontamination control points allows commanders and subordinate units to quickly reconstitute combat power, prioritizing forces assigned to a counterattack.

2-47. Commanders consider mission variables when designating objectives. Special considerations for CBRN environments that the commander and staff consider within the complementary elements when planning defensive operations include the scheme of maneuver, planning operations, reconnaissance and security operations, reserve or strike force operations, retrograde in the defense, and support area operations described in the following:

- **The scheme of maneuver**. In the defense, commanders combine the advantages of fighting from prepared positions, obstacles, planned fires, and counterattacks to isolate and overwhelm selected enemy formations. Commanders prepare to rapidly shift the nature and location of their main efforts, repositioning units to mass fires against the attacker to prevent breakthroughs or preserve the integrity of the defense. The defending commander assigns missions, allocates forces, and apportions resources within the construct of priorities of effort and the operational framework. A defensive plan designates axes of advance and routes for the commitment or movement of forces or for the forward or rearward passage of one unit through another. It identifies air movement corridors and other airspace coordination measures to enhance aerial maneuver. The operations process identifies decision points or triggers associated with the initiation of counterattacks, repositioning of forces, commitment of the reserve, execution of situational obstacles, and other actions. All these actions work to draw advancing enemy formations into the EAs that eventually defeat enemy offensive operations. CBRN planners understand the scheme of maneuver at echelon to recommend the correct allocation, mission alignment, and positioning of limited assets according to the CBRN protect, assess, and mitigate functions.
- **Planning operations**. A corps or division commander employs fires to neutralize, suppress, or destroy enemy forces. Fires disrupt an enemy's ability to execute a preferred COA. Corps and division staffs assist their commanders to integrate indirect fires, electromagnetic attacks, aviation

maneuver, and joint fires into the defensive plan. This allows the defending commander to degrade the enemy before entering the main battle area. Part of the targeting process is deciding which enemy systems and capabilities to attack. The CBRN staff makes use of assessments from the planning process to recommend adjustments to the attack guidance matrix to mitigate the enemy's CBRN capability before employment. In the defense, expect a higher volume of enemy fires, some of which could be mixed with CBRN munitions. When planning fires, the commander considers intelligence about the enemy's CBRN capabilities, and the impact of hazard areas created from the targeting of sensitive sites. CBRN planners advise the commander on the employment of CBRN reconnaissance assets in deep operations. Planners consider the protection of supporting assets to counter enemy fires.

- **Reconnaissance and security operations**. Commanders use reconnaissance and security operations to deceive the enemy about the location of friendly EAs. These operations prevent enemy observation of friendly defensive preparations which limits their ability to use observed fires on those positions. The use of active and passive counter-reconnaissance efforts prevents the enemy from determining the location and strength of the defense. The size, position, and fires of forward security forces causes an enemy on attack to deploy prematurely. These forces perform actions—such as occupying concealed hide-positions or conducting a rearward passage of lines—before the enemy's main attack enters EAs. Aggressive security operations in the close and support areas deprive the enemy of special purpose and irregular forces reconnaissance and other operations. CBRN planners support reconnaissance and security operations by advising the commander on the proper allocation of CBRN assets to support the scheme of maneuver. This may include tasking maneuver CBRN R&S assets to support reconnaissance and security operations or answer specific CBRN PIR within the close areas. Similarly, Army special operations forces (ARSOF) CBRN assets answer CBRN PIR in deep areas. CBRN R&S elements can provide early warning of CBRN hazards. All forces use the CBRNWRS to provide early warning of CBRN hazards to protect friendly forces. CBRN defense measures protect friendly forces, installations, routes, and actions within a specific area. The proper allocation of decontamination assets assists the commander with reconstituting security forces contaminated by CBRN hazards. For more information about CBRN reconnaissance (such as route, area, and zone), see ATP 3-11.37.
- **Reserve or strike force operations**. The defense plan retains a reserve regardless of the form of the defense. Mobile defenses at division levels and higher call for a robust strike force, which can be as large as one-third of the commander's available combat power but is normally not smaller than a BCT size element for a corps. A tactical reserve or strike force is an uncommitted force that is available for commitment at the decisive moment. Commanders designate planning priorities with supporting on-order graphic control measures for commitment of the reserve. Commanders plan the movement of the reserve from its AA to probable commitment locations to deconflict with other movements, including sustainment convoys, artillery repositioning, and other maneuver forces within their AOs. Upon commitment, the reserve or strike force is supported with additional assets (artillery, close air support, attack aviation, electromagnetic warfare, CBRN defense, sustainment). CBRN planners prioritize their protect, assess, and mitigate functions to support the reserve or strike force and enable freedom of maneuver.
- **Retrograde in the defense**. The most common retrograde in the defense is the rearward passage of lines for a forward security force. The area defense or mobile defense includes other retrograde tasks (delay, withdrawal, and retirement). In certain circumstances, a retrograde may be forced or voluntary. In all cases, the higher echelon commander approves the retrograde because improper synchronization could place multiple forces at a higher vulnerability to enemy attacks. The complexity and fluidity of retrograde require centralized planning and decentralized execution. CBRN planners support retrograde by advising commanders about the likelihood of enemy CBRN employment to fix friendly forces and how to best mitigate contamination as these elements move rearward.
- **Support area operations**. The success of the defense depends heavily on protecting the corps and division support area from enemy attack. Planning for area security is a critical role for the CBRN force because these areas have the preponderance of critical assets and infrastructure. The wide range of threats to key nodes in the support area include, but are not limited to, individual saboteurs, airborne or air assault insertions, long-range artillery and missile strikes, and ground maneuver penetrations. Attacks against friendly forces in the support area, especially from small units, may

precede the onset of large-scale combat operations and be indistinguishable from terrorist acts. The commander defines responsibilities for the security of units within the support area. The maneuver enhancement brigade (MEB) commander's AO is a support area. The MEB commander is responsible for area security within the AO and sets protection standards. Corps and division commanders carefully balance available assets against requirements to determine acceptable risks for the support area during the defense. The dissemination of mission command nodes and support capabilities prevent the enemy from identifying lucrative targets. The MEB makes use of military police or other assigned security forces to provide area security. CBRN planners further advise corps and division commanders about additional considerations to mitigate risks to the support area by aligning priorities and assets that support the concept of operations for the defense. They consider the protection of, and recommend alternatives for, ground lines of communications that support movement to the close area and may be at risk to CBRN contamination.

DEFENSIVE OPERATIONS

2-48. The three defensive operations are area defense, mobile defense, and retrograde. Operational and tactical commanders can use these when assuming or transitioning to the defense. Commanders make decisions on the appropriate operation based on the current conditions of the OE and the strength or will of the enemy. Although these operations can have static and mobile elements, they are significantly different concepts and pose unique challenges in planning and execution. Using only static defensive elements puts friendly forces at a greater disadvantage, especially when the enemy can outrange the defender's fire support systems or when it has a larger capacity to engage with indirect fires. All three operations use terrain, depth, and mutual supporting fires as force multipliers. Typically, divisions are the lowest level of command that are capable of successfully executing a mobile defense because of the combat power, planning, and resources that are required. The same consideration is applied to complex retrograde tasks that involve the delay or the withdrawal or the retirement of multiple battalions.

2-49. The variations of an area defense are defense of a linear obstacle, perimeter defense, and reverse-slope defense. Each form of defense has a special purpose and different planning considerations. The mobile aspects of the defense use appropriate forms of maneuver (such as frontal attack, flank attack, envelopment, and turning movement). Other mobile aspects involve simple forms of retrograde (such as the rearward passage of lines from forward security elements). During planning and execution, commanders and staffs consider seven characteristics of the defense (disruption, flexibility, maneuver, mass and concentration, depth, preparation, and security).

Note. For additional information on defensive tasks and subordinate forms and characteristics of the defense, see FM 3-90.

2-50. Commanders organize friendly forces for defensive operations based on the echelon engaged in defensive tasks, how the terrain allows major avenues of approach, the attacking enemy's size and capabilities, and the type of defensive task applied to achieve the intent of the operation. Corps and division commanders organize their defense in depth along a contiguous or noncontiguous framework for large-scale combat operations with deep, close, support, and consolidation areas. The decision for a noncontiguous framework is weighted by the size and type of terrain and the available avenues of approach. Regardless of the framework, the preponderance of ground combat power is focused on defeating the enemy in a main battle area aligned to key terrain inside the close area. The general organization for the defense includes information collection, security, main battle area, reserve, and sustaining forces.

2-51. Ideally, committed divisions and BCTs have enough depth to provide security through the employment of a covering or a guard force. BCT commanders typically assign their reconnaissance squadron as a forward security force to maintain contact with enemy reconnaissance elements to deny observation of defensive preparations and to prevent disruption through observed fires and limited forms of contact. A sustaining force with imbedded fires in the support area is critical to any defense because of the resources required for defensive preparation and the necessity to shape the deep fight with long-range fires and combat aviation. The subordinate commander who controls the support area (typically the MEB for divisions) has a tactical combat force that provides area security capable of reacting to a level III threat, which involves enemy armor organized at company team size or larger. Corps commanders normally assign a BCT as a tactical combat

force if all subordinate forces are involved in a defense. Commanders always maintain a reserve, regardless of the defensive task. A mobile defense requires the commander to maintain a strike force, which takes up to one-third of the available combat power.

2-52. Based on the size, composition, and direction of the enemy attack, commanders select the best location to defeat or destroy enemy assault exploitation forces at the point of penetration. The reserve may counterattack into the enemy flank, or it may establish a defensive position in depth to defeat or block further enemy advances. The corps and division staffs establish control measures for counterattacks by developing a supporting scheme of fires with target areas of interests.

2-53. The defense at the corps level typically requires the involvement of a CBRN brigade headquarters that has an allocation of at least one CBRN battalion headquarters to the division conducting the operational essential task and purpose. Because of a higher likelihood of enemy CBRN employment and a higher expected volume of fire, these headquarters augment planning and recommend the allocation of their companies in support of CBRN passive defense measures.

2-54. CBRN R&S assets support the depth of the defense to provide detection and marking along key terrain and essential movement corridors required to successfully execute the concept of operations and the scheme of maneuver. These assets are organized, allocated, and assigned at the platoon level and focus on information collection in support of CBRN PIRs for commanders at the BCT level and higher. CBRN staffs recommend employing mounted CBRN R&S at echelons above brigade in the defense to monitor key ground lines of communication that support main supply routes essential for defensive preparations. CBRN R&S elements and platoons are employed with security forces to provide early warning of CBRN attacks. CBRN R&S (mounted and dismounted) and bio-detection units support critical assets and sites by providing versatile capabilities to inform the commander of any detection of CBRN employment and likely hazard areas. CBRN mounted and dismounted platoons, teams, and elements mark the extent of contamination and bypass routes to afford combat power to enter and move throughout the defensive area.

2-55. Additional CBRN decontamination units are task-organized with divisions and BCTs and are pre-positioned to support the reconstitution of essential combat power contaminated during CBRN attacks on likely targets. Within the scope of a mobile defense, CBRN decontamination assets should be weighted toward ensuring that the strike force maintains freedom of action. For an area defense, decontamination assets should be positioned to maximize support to artillery assets; they are essential to mission accomplishment and to the ability to wither enemy offensive capability. CBRN staffs plan and prepare for contaminated equipment to retrograde along designated planned contaminated routes for decontamination support. Contaminated units and teams prepare to conduct MOPP gear exchange and detailed troop decontamination. CBRN information is reported to enhance HAU.

2-56. CBRN staffs recommend employing mounted CBRN R&S at echelons above brigade in the defense to monitor key lines of communication that support key routes for all classes of supply to build and improve defenses and sustain the force. CBRN R&S elements and platoons are employed with scouts to monitor the enemies that are probing and posturing for the attack. CBRN mounted and dismounted R&S detect and identify enemy CBRN employment and hazard areas. CBRN mounted and dismounted platoons, teams, and elements mark the extent of contamination and bypass routes to afford combat power to enter and move throughout the defense area.

2-57. CBRN decontamination teams or elements are pre-positioned and prepared for contaminated equipment to retrograde along planned contaminated routes for decontamination support. Contaminated units and teams are prepared to conduct MOPP gear exchange and detailed troop decontamination when necessary. CBRN information is reported for situational awareness and situational understanding. CBRN decontamination units are task-organized to maximize the decontamination of equipment to enable maneuver, fires, and sustainment personnel to continue the mission.

Area Defense

2-58. An area defense capitalizes on the inherent strength of closely integrated defensive operations. An area defense enables forces to consolidate, reorganize, and transition to other tactical operations (such as the offense). Units normally establish an area defense after they deploy the force into theater, complete their offensive actions, or move into assembly areas.

2-59. Units conduct an area defense when they—

- Are directed to defend or retain specified terrain.
- Cannot resource a striking force.
- Have available forces that possess less mobility than enemy forces.
- Encounter terrain that affords natural lines of resistance and limits the enemy force to a few well-defined avenues of approach, thereby restricting the enemy force's maneuver.
- Have enough time to organize their defensive positions.
- Encounter constraints within the terrain and lack of friendly air superiority that limits the striking force's options in a mobile defense to a few probable employment options.
- Require the preservation of forces when transitioning from a focus on the performance of offensive operations to stability tasks.

2-60. Units conducting an area defense combine static and mobile tasks to accomplish their missions. Static actions usually consist of fires from prepared positions. Mobile actions include using the fires provided by units in prepared positions as a base for counterattacks and repositioning units between defensive positions. Units are able to use reserves and uncommitted forces to conduct counterattacks and spoil attacks to desynchronize enemy forces or prevent them from massing.

2-61. An area defense is organized with a security force, main body, and a reserve. Because an area defense focuses on retaining key terrain, most of the unit's combat power in the main battle area is positioned to support the defense of that terrain, while security forces provide early warning.

2-62. When planning for an area defense, units focus their collection activities on confirming templated enemy courses of action, identifying favorable terrain for the defense, and answering the commander's critical information requirements. Information obtained from those activities may or may not cause units to refine their plans. Defensive preparations allow time for any necessary additional coordination and synchronization among different headquarters. They allow for the conduct of those supporting efforts that fall within their defensive capabilities and operations security guidelines. Defending units may have to commit substantial forces to security operations or conduct spoiling attacks if they know that enemy forces will attack before they finish their defensive preparations.

2-63. CBRN staffs support the area defense throughout the operations process by applying expertise about friendly and threat capabilities. CBRN expertise is applied to all aspects of the MDMP. Through HAU, CBRN staffs provide advice to the commander on the implications of potential CBRN hazards and on the impacts of those hazards on COA development. This requires study and analysis to ensure that the right decisions and actions are taken at the right time to get positive outcomes.

2-64. Planners assess the employment of enemy CBRN capabilities across the operational framework of deep, close, support, and consolidation areas to provide predictive analysis for CBRN threats and hazards that may disrupt units preparing defensive positions and performing terrain-shaping functions. CBRN planners consider the allocation and disposition of decontamination platoons, which can be fixed or mobile throughout the preparation and execution of the defense. The correct placement of these assets limits the spread of contamination, especially for forces retrograding from battle positions. A clear understanding of decontamination control points allows commanders and subordinate units to quickly reconstitute combat power, prioritizing forces assigned to a counterattack.

2-65. The CBRN planner advises the commander on expected actions the enemy may take with the employment of CBRN against U.S forces in the defense. Examples of enemy CBRN use include—

- The use of CBRN to prevent the strike force from being committed in a mobile defense.
- Persistent chemical strikes to isolate and divide portions of maneuver space.
- The use of CBRN to create simultaneous dilemmas, especially in support areas.
- Nonpersistent chemical strikes to degrade friendly forces at the point of penetration.

2-66. The planning, preparation, and execution of uncontaminated (clean) and contaminated (dirty) routes during the defense increase in emphasis due to the higher volume and depth of CBRN exposure to friendly forces. The CBRN staff assists the operations sections at the division and brigade combat teams level with the inclusion of CBRN route graphics on operational overlays. Real-time weather and other environmental factors may change the predictable contamination of routes; therefore, CBRN staff are required to synchronize with each current operations section at echelon.

Mobile Defense

2-67. A mobile defense focuses on destroying the attacking force by permitting the enemy to advance into a position where the striking force is able to conduct a decisive counterattack. The commander retains most of the available combat power in a striking force for the major counterattack. The commander commits the minimum possible combat power to the fixing force that conducts operational objective to control the depth and breadth of the enemy's advance. The fixing force retains the terrain required to conduct the striking force decisive counterattack. On the other hand, the area defense focuses on retaining terrain by absorbing the enemy into an interlocked series of positions, where the enemy is destroyed largely by fires.

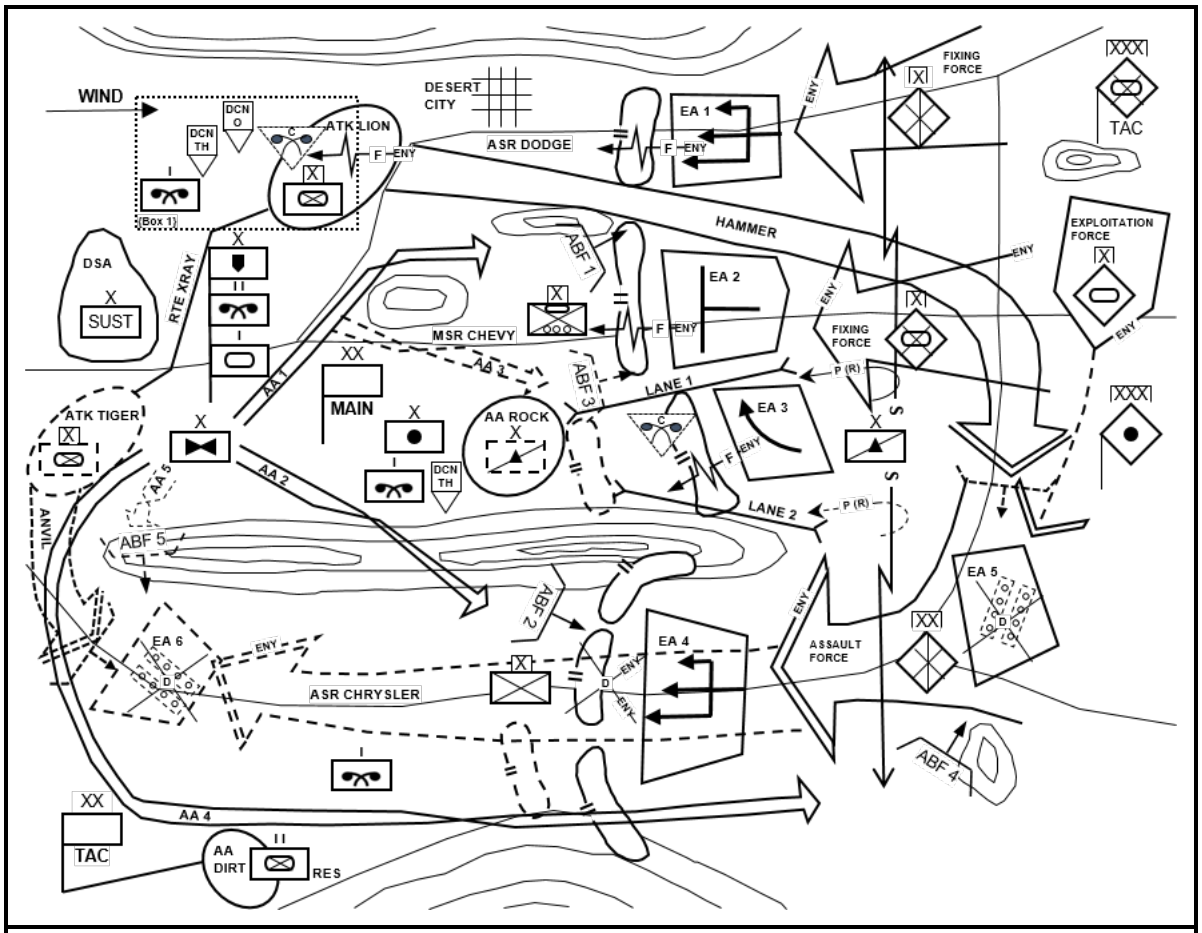
2-68. Army commanders organize the main body of a mobile defense into two principal groups—the fixing force and the striking force. Units smaller than a division do not normally conduct a mobile defense because of their limited capabilities to fight multiple engagements. In the mobile defense, reconnaissance and security, reserve, and sustaining forces accomplish the same tasks as in an area defense. The fixing force has the minimum combat power needed to turn, block, and delay the attacking enemy. This usually means that the defending force must allocate a majority of its countermobility assets to the fixing force to shape the enemy penetration or contain the enemy's advance. Typically, the striking force may consist of one-half to two-thirds of the defender's combat power. It decisively engages the enemy as attacking forces become exposed in their attempts to overcome the friendly fixing force. Resourcing a reserve in a mobile defense is difficult and requires commanders to assume risk. Commanders generally use the reserve to support the fixing force. However, if the reserve is available to the striking force, it exploits the success. The commander completes required adjustments in task organization before committing subordinate units to combat.

2-69. Several control measures assist the commander in synchronizing mobile defense operations. These control measures include designating the AOs of the fixing and striking forces with their associated boundaries, battle positions, and phase lines (PLs). The defending commander designates a line of departure or line of contact as part of the graphic control measures for the striking force. The commander may designate an axis of advance for the striking force with attack by fire or support by fire positions. EAs, target reference points, target areas of interest, and final protective fires allow for further coordination and synchronization of direct fires systems with indirect fires systems. The commander designates NAIs to focus the efforts of information collection assets. This allows the commander to determine the enemy's chosen COA. The commander designates checkpoints, contact points, passage points, and passage lanes for use by reconnaissance and surveillance assets, security units, and the striking force.

2-70. Figure 2-4 provides a COA sketch for an Army division organized to conduct a mobile defense. This sketch further illustrates the integration of CBRN forces to support CBRN defense measures and the requirements for the assess, protect, and mitigate functions. The division is organized with an organic armored, Stryker, and infantry brigade combat team (IBCT) and with division artillery, attack aviation, and support brigades. Several units are configured with specific task organizations to allow a mixture of combat power and appropriate enabling assets. An MEB, battlefield surveillance brigade, and CBRN battalion are mission-aligned to the division in support of the mobile defense. The division is using its battlefield surveillance brigade as a security and reconnaissance force. A task-organized Stryker brigade combat team (SBCT) and a task-organized IBCT are fixing forces in this mobile defense and are in prepared battle positions with enhanced EAs that have specific obstacle effects. The fixing force is using terrain canalized by mountains to prevent penetration beyond forward battle positions. A task-organized armored brigade combat team (ABCT) is the division's striking force and is further augmented with attack aviation and division fires. Finally, the division has one combined arms battalion from the ABCT as a reserve, which is pre-positioned near the IBCT with the division tactical command post.

2-71. The enemy in figure 2-4, page 29 represents a motorized-infantry division tactical group augmented with a tank brigade tactical group and mechanized infantry brigade tactical group. The addition of an enemy corps tactical command post and integrated fires command is meant to replicate the main effort of an operational-strategic command in the attack against an opposing friendly corps in the defense. The enemy is using an integrated attack with enabling and action forces to defeat its adversary. The enemy commander is using a task organized motorized brigade tactical group and a mechanized infantry brigade tactical group as fixing forces against its adversary's most heavily defended area. A task-organized motorized-infantry division tactical group is the assault force for a tank brigade tactical group, which is the exploitation force. The operational-strategic command has task-organized its combat power across the division tactical group and

brigade tactical groups to create a mixture of maneuver and support assets. It is intended to penetrate along canalized terrain, at the bottom of the sketch, where it expects its adversary to defend with less combat power. The objective of the exploitation force is to penetrate its adversary's support area to cause its defeat and allow for a follow-on division tactical group to continue the attack.



Legend:			
AA	assembly area/access of advance	MSR	main supply route
ABF	attack by fire	P (R)	passage of lines (rearward)
ASR	alternate supply route	RES	reserve
ATK	attack	RTE	route
DCN	decontamination	S	screen
DSA	division support area	SUST	sustainment
EA	engagement area	TAC	tactical command post
ENY	enemy	TH	thorough

Figure 2-4. Example mobile defense

2-72. The COA depicted in figure 2-4 employs an ABCT strike force as the essential task and purpose along axis of advance HAMMER to destroy the enemy exploitation force in EA five (EA 5) to prevent enemy penetration of the division's main defensive belt. The battlefield surveillance brigade, the division's security force, initially conducts a forward screen to allow friendly defensive preparation. On order, the battlefield surveillance brigade conducts a rearward passage of lines with the SBCT along passage lane one (LANE 1) to draw the enemy main attack into the division's primary EAs. The attack aviation brigade supports the division's fixing and striking force along multiple air axes of advance with attack-by-fire positions that are oriented at EAs. The division commander has created alternate employment options for its strike force. The COA depicts the movement of the ABCT strike force along an alternate axis of advance ANVIL to destroy the exploitation force in EA six, which is well inside the close area.

2-73. The enemy's employment of CBRN is shown in figure 2-4 with a suspected nonpersistent chemical attack on the SBCT to disrupt friendly combat power in battle positions to enable its assault and exploitation force attack on the IBCT. The enemy commander utilizes its forward reconnaissance and irregular assets in the nearby urban area (DESERT CITY) to further pinpoint locations of the friendly strike force and of command, fires, aviation, and logistics nodes. The COA in figure 2-4 displays an enemy persistent chemical attack on the strike force.

2-74. The CBRN battalion aligned to the defending division has additional decontamination capabilities due to the likelihood of enemy CBRN employment. Hazard response companies have been allocated to support the IBCT and SBCT. An additional hazard response company is pre-positioned at a brigade-level decontamination point for thorough decontamination with the ABCT strike force's designated decontamination team to support the rapid reconstitution of the strike force if contaminated.

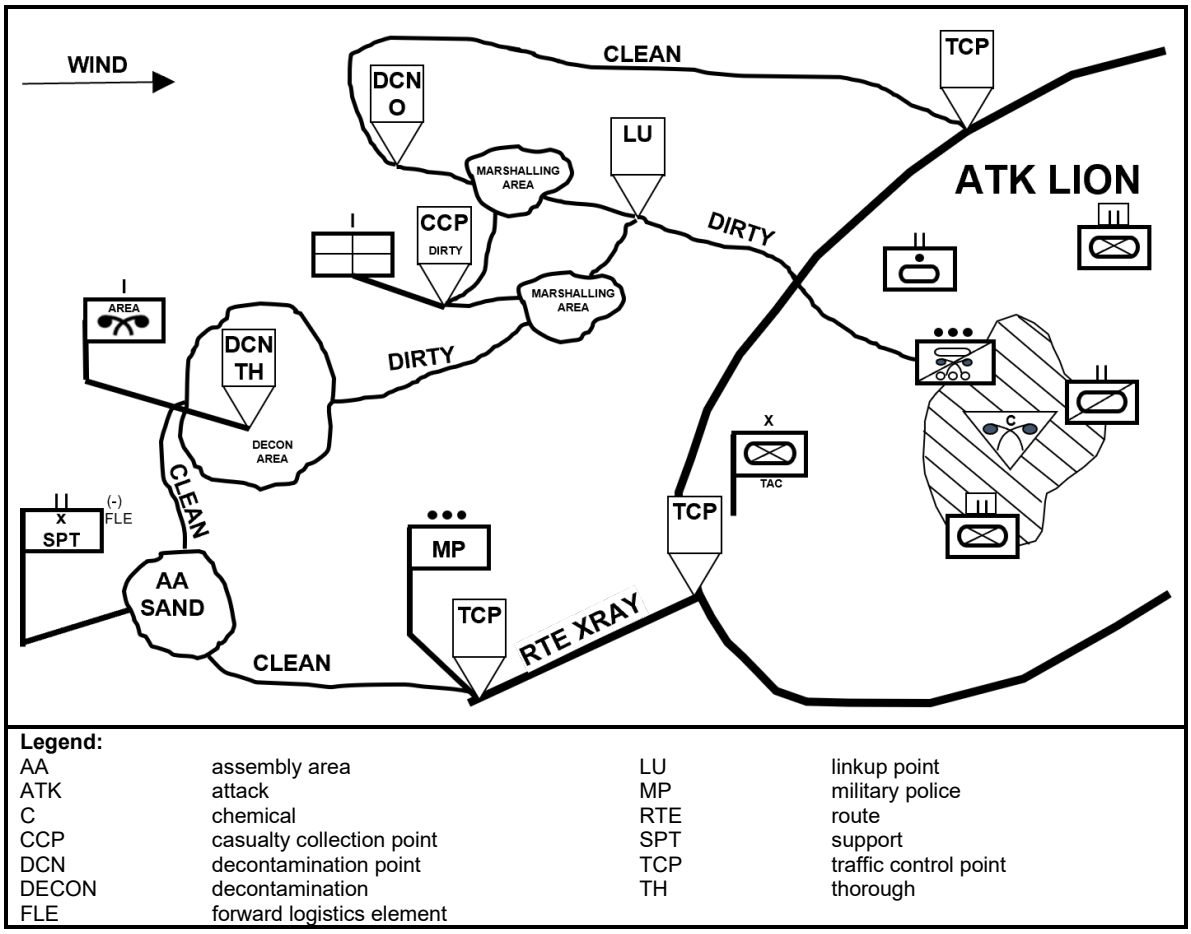
2-75. In a situation for which it is expected that the enemy will employ CBRN agents, operational and thorough decontamination points may be established in advance to expedite the ability of the force to prioritize and restore combat power. Figure 2-5 shows an expansion of Box 1 from figure 2-4, in which the CBRN hazard response company have established a linkup point where units are sorted for operational or thorough decontamination. Vehicles that are essential combat power to the brigade mission and that may continue to fight in a contaminated area are processed through the operational decontamination point. The thorough decontamination point is used for mission-essential units that must operate with minimum degradation from CBRN contamination or risk to troops. Two decontamination points increase throughput and rapid reconstitution of combat power.

2-76. If the armored brigade becomes contaminated (and depending on the assessment of the principles of decontamination [speed, need, priority, and limited area]), the commander has the following options:

- Send contaminated elements of the brigade for operational decontamination if the brigade needs to continue the fight in the contaminated area but wishes to remove gross contamination before moving forward.
- Send contaminated elements that are out of the fight to the thorough decontamination point to reduce the contaminated unit MOPP level and to fully reconstitute it.
- Continue operations, fighting dirty to the extent that the commander can assume risk.

2-77. Simultaneously operating successful operational and thorough decontamination sites requires engineering support and deliberate sustainment synchronization. The established sites require drainage sumps dug with engineer support and pre-positioned water available. Sustainment support is normally requested through the logistic status reports to transport water, decontamination solution, individual protective equipment sets, medical CBRN defense material, and replacement parts (especially air filters) to decontamination sites and AAs, using only designated clean routes to prevent the spread of contamination. Figure 2-5, page 31 shows a contaminated (dirty) casualty collection point from which contaminated casualties can be assessed at marshalling areas and transferred to supporting medical units.

Note. For more information on mortuary affairs, see ATP 4-46.



Legend:			
AA	assembly area	LU	linkup point
ATK	attack	MP	military police
C	chemical	RTE	route
CCP	casualty collection point	SPT	support
DCN	decontamination point	TCP	traffic control point
DECON	decontamination	TH	thorough
FLE	forward logistics element		

Figure 2-5. Example operational and thorough decontamination sites during mobile defense

RETROGRADE

2-78. A *retrograde* is a type of defensive operation that involves organized movement away from the enemy (ADP 3-90). It may be forced by enemy actions, or it may be made voluntarily. In either case, the higher echelon commander of the force approves the retrograde prior to execution. The three variations of retrograde are delay, withdraw, and retirement.

2-79. A *delay* is when a force under pressure trades space for time by slowing down the enemy's momentum and inflicting maximum damage on enemy forces without becoming decisively engaged (ADP 3-90). A delay is one of the most demanding of all ground combat operations. A delay wears down the enemy so that friendly forces are able to regain the initiative through offensive action, buys time to establish an effective defense, or determines enemy intentions as part of a security operation.

2-80. A *withdraw* is to disengage from an enemy force and move in a direction away from the enemy (ADP 3-90). Commanders may or may not conduct a withdrawal under enemy pressure. Subordinate units may withdraw without the entire force withdrawing. A withdrawal may precede a retirement operation.

2-81. A *retirement* is when a force out of contact moves away from the enemy (ADP 3-90). A retiring unit organizes for combat, but it does not anticipate interference from enemy ground forces. Retirement operations are usually conducted to reposition to reposition forces for future operations or to accommodate the current concept of operations. Typically, another unit's security force covers the movement of one formation as the unit conducts a retirement.

CONSOLIDATE GAINS

2-82. Commanders have few resources to devote to the consolidation of gains during tactical operations focused on the defense. The primary consolidation of gains activities during operations focused on the conduct of defensive tasks ensure that the future conduct of consolidation of gains tasks is adequately addressed in sequel and branch plans to the current operations order.

2-83. Consolidation of gains activities in the defense may include marking contaminated areas, conducting decontamination, and assisting essential services. CBRN companies in corps or division consolidation areas (such as CBRN biosurveillance and CBRN area support companies) retain the operational agility to surge from corps or division consolidations areas to support other CBRN unit mitigation tasks during the defense, particularly while executing large-scale CBRN strikes that overwhelm hazard response company capabilities.

CBRN CAPABILITIES IN SUPPORT OF OFFENSIVE OPERATIONS

2-84. While executing large-scale combat operations, commanders consider the potential for future enemy actions that might include the use of CBRN. Planners anticipate the potential for enemy capabilities in each of the CBRN hazards to guide the commander's COAs. A planner considers continuing operations in CBRN environments to develop sustainment plans that allow the commander to capitalize on a challenge and turn it into an advantage. Tasks executed during the offense exploit the initiative to gain physical and psychological advantage over the enemy or adversary. A CBRN defense plan integrated with the overall mission increases Soldier survivability and enables the commander to maintain the initiative.

2-85. Task organization is the act of designing a force, support staff, or sustainment package of specific size and composition to meet a unique task or mission. CBRN units are a limited resource. CBRN units are task-organized across the battlefield, but they are concentrated with the priority of effort or at the point of need to ensure success. This requires accepting risk elsewhere. CBRN units, teams, and elements remain flexible to provide the required capability that the mission dictates.

2-86. Action or inaction at the tactical level has profound strategic repercussions when operations involve WMD. While emphasis on CWMD has increased, it is important for commanders and planners to understand that the WMD is not an adversary. It is a capability that an adversary may use to coerce or deter actions or to achieve effects during operations. Thus, CBRN operations are not a special or distinct set of activities, or a separate mission area executed only under certain conditions. Instead, commanders consider CBRN operations as part of their operational planning for all offensive operations. To execute the tasks described in table 3-1, CBRN enablers integrate into combined arms teams throughout the operations process.

THREAT OVERVIEW

2-87. The threat overview describes how enemy forces organize against U.S. forces in the offense. This allows CBRN forces to understand potential enemy courses of action.

2-88. The peer threat recognizes the defense as the stronger form of military action, particularly when faced with a superior adversary. It sees the offense as the decisive form of military action; however, it is likely that one or more tactical-level subordinate units may execute defensive missions to preserve offensive combat power in other areas. While executing defensive tasks, the enemy typically attempts to slow and disrupt friendly forces with obstacles, prepared positions, and favorable terrain so that they can be destroyed with massed fires. The enemy is likely to conduct a mobile defense when capable, using a series of subsequent battle positions to achieve depth in conjunction with short, violent counterattacks and fires. The enemy can expect to employ significant EW, intelligence, surveillance, reconnaissance, and information-related capabilities as part of this defensive effort. Several potential enemies have a chemical weapons capability, and some could employ tactical nuclear weapons.

2-89. The enemy uses CBRN threats to support its defense operations when its opponent is preparing for attack and during main engagements. Typical target options for chemical agents are AAs, along favorable axes of advance, and routes that support the employment of a reserve.

2-90. Biological threats include traditional and advanced biological weapons and challenges such as pandemics. For deliberate biological agent use the threat usually retains authority for the employment of biological agents at the national level because of political ramifications and its ability to control a subsequent

epidemic. Probable targets for biological warfare pathogen attacks are airfields, logistics facilities, population centers, and command centers deep within an adversary's rear area to prevent the release from affecting its own forces.

2-91. The enemy may develop and employ radiological weapons. The effects of these weapons are achieved through the use of toxic radioactive materials against desired targets. Like biological warfare, radiological weapons are considered weapons of intimidation and terror that can achieve area denial if delivered in high concentrations. Otherwise, radiological weapons have a disruptive effect and are employed at locations that support the synchronization of other threat assets.

2-92. If the enemy is able to deliver nuclear weapons, it retains a release authority at the national level. The primary use of nuclear weapons for the defense is to destroy an opponent's nuclear and precision weapon delivery capability. The enemy can employ nuclear weapons to destroy main attacking groups or significant penetrations and to deny large areas to an opponent.

Note. TC 7-100.2 has been used for all example discussions involving enemy actions.

2-93. With consideration of the threat situation, the CBRN planner advises on the CBRN force employment that best supports the tactical operation. In the offense, the assess function is more important than the functions of protect and mitigate because it provides the commander with early warning of CBRN attacks. Tasks in the assess function allow proactive decision making that enables the tactical commander freedom of action.

ASSESS

2-94. The CBRN assess function helps commanders decide when and where to concentrate elements of combat power, to include assigned CBRN enablers. CBRN staff elements are integrated with the IPOE process and information collection to provide the commander with information needed to anticipate the enemy's most likely and dangerous courses of action and to provide counteractions that negate CBRN effects.

2-95. In the offense, the CBRN staff identifies threats to the corps and division support and consolidation areas, such as CBRN employment by enemy special-purpose forces and by irregular activities that may interfere with control of the attack. They assess the vulnerability of critical assets and sites to CBRN, enabling operations in the corps and division deep and close operations. In situations with an active or imminent CBRN environment, they assess risks associated with CBRN conditions and the protective measures required to maintain freedom of action. At the corps and division echelons, the CBRN staff (in coordination with the G-2) recommend specific CBRN reconnaissance tasks for corps- and division-controlled reconnaissance forces and the allocation of CBRN reconnaissance enablers. Information collected on previous attacks aids in predictive analysis to select and target the employment of sensors, which further improves the integrated CBRN warning and reporting system. The G-2 and G-3 synchronize the information collection efforts and activities to provide timely information in support of operations. The G-3/S-3 tasks information collection assets to support the targeting process of decide, detect, deliver, and assess in keeping with the corps and division commander's PIRs.

2-96. While executing offensive maneuvers, CBRN reconnaissance assets assess and characterize sensitive sites, answering PIRs for the commander. R&S platoons that operate forward in close and deep areas locate hazard sites, uncontaminated avenues of approach, and contaminated areas that need to be reported. Planners consider the use of special operations CBRN reconnaissance when their unique capabilities are needed.

Note. For additional information on special operations CBRN reconnaissance, see ATP 3-05.11. For more information on CBRN reconnaissance and surveillance, see ATP 3-11.37.

PROTECT

2-97. In the offense, the protect function supports freedom of action against CBRN threats and hazards. Unit movement into attack positions is thoroughly coordinated and planned in detail to preserve surprise. Force concentrations take place quickly and make maximum use of operations security. Units use cover and concealment, signal security, and military deception actions. The attacking force organizes to cope with the

environment. This may include attacking across obstacles and rivers, during snow or rain, at night, or on battlefields containing nuclear or chemical hazards. CBRN reconnaissance units support maneuver units throughout their attack and orient on command objectives identified during the IPOE process.

2-98. CBRN as a part of the protection cell planners contribute to unit protection by performing vulnerability assessments and ensuring access to critical lines of communications. These assessments provide a list of recommended actions to limit the impact of operating in a CBRN environment. They conduct MOPP analysis and advise on potential actions for protecting the force during operations. The warning and reporting system is established, tested, and employed during the offense to collect real-time information on CBRN hazards. CBRN reconnaissance elements detect contamination along routes of advance and monitor lines of communication.

MITIGATE

2-99. During the offense, the CBRN staff supports the lethal targeting process to destroy or neutralize the enemy's CBRN capability and prevent imminent employment against friendly forces. Commanders position available decontamination assets to support their scheme of maneuver. Decontamination helps restore combat power. In the close area, contaminated units conduct immediate and operational decontamination. Additional CBRN assets may be required to augment operational decontamination. Contaminated units, with support from CBRN assets, normally conduct thorough decontamination in the rear area. If the operational tempo allows—or if a critical opportunity exists—to consolidate gains and support CWMD initiatives, the commander directs maneuver units to allocate combat power to support CBRN site exploitation activities.

2-100. The objective of operational decontamination is to remove enough contamination to allow Soldiers to sustain operations. Units conduct operational decontamination at the earliest opportunity. Operational decontamination uses two decontamination techniques—MOPP gear exchange and vehicle wash down. The contaminated unit uses its organic equipment to conduct the wash down. CBRN decontamination elements are planned within brigade support areas to enable the rapid reconstitution of combat power and mitigate the spread of hazards within the maneuver space. Lowering contamination to acceptable risk levels and allowing a MOPP level reduction requires a thorough understanding of the risks and rewards associated with decontamination. Commanders weigh the resources and time required against the advantage gained by the relief from MOPP 4.

HAZARD AWARENESS AND UNDERSTANDING

2-101. During offensive tasks, the CBRN staff supports the commander's decision-making process by increasing CBRN awareness and understanding. An integrated reporting system of tactical and technical reports relays actionable information that raises situational awareness. It is critical that reports are prepared and sent in a timely manner to aid follow-on decisions and promote awareness of CBRN hazards. Initial reports (size, activity, location, unit, time, and equipment reports or patrol reports) are used to report information from the Soldiers on the ground serving as the primary sensors. Units may develop site reports to provide information from deliberate or opportunity targets. CBRN reports are scaled in terms of information and time. CBRN warning and reporting is an information management function that entails collecting and analyzing data from assessments to support operations. This information improves the evaluation and application of assess/protect/mitigate. HAU uses information gained from assess tasks to identify protection and mitigation tasks.

2-102. The CBRN staff at the division plays a key role in facilitating HAU as a central point in the warning and reporting system. CBRN 1, 2, and 4 reports move up from reporting units to the CBRN staff. Information is analyzed, and CBRN 3 and CBRN 5 reports are prepared and distributed to units in the AO, as required. CBRN staffs use awareness and understanding of CBRN hazard areas to advise the commander on the impacts on the freedom of maneuver.

Note. For more detailed information on CBRN warning and hazard prediction, see GTA 03-06-008 and TM 3-11.32.

PLANNING CONSIDERATIONS

2-103. Operations in CBRN environments require special considerations, regardless of the phase of the operation or the unit involved. Every organization has some basic level of capabilities to assess, protect against, and mitigate CBRN hazards, and every echelon down to the individual level has some basic responsibility to be able to conduct their assigned tasks in CBRN environments.

2-104. The Army echelons its CBRN capabilities to perform different functions. These functions vary with the type of unit, the nature of the conflict, and the number and types of friendly forces committed to the effort. At each echelon, a commander or leader task-organizes available capabilities to accomplish the mission. The purpose of task organization is to maximize different subordinate abilities to generate a combined arms effect. Commanders and staffs work to ensure the distribution of capabilities to the appropriate components of the force to weight the essential tasks, purpose, and main effort.

2-105. Prior planning allows the commander to exploit the initiative in CBRN environments. If the enemy chooses to employ CBRN to deny terrain and canalize forces, friendly units trained in CBRN defense skills allow the commander to assume risk.

2-106. The tempo of offensive operations requires thorough planning by CBRN staffs to coordinate the challenges of sustaining forces. BCTs plan for site exploitation, the use of contaminated routes for movement, casualty evacuation of contaminated casualties, prolonged operations in CBRN environments, and immediate operational and thorough decontamination of units. The CBRN staffs consider the contamination involved and METT-TC(I) when providing advice to the commander. For example, a unit that becomes contaminated while executing offensive operations may continue to fight until the objective is achieved. The commander may give priority for decontamination to artillery units. For more information on CBRN staff planning, see appendix C and ATP 3-11.36.

2-107. Commanders consider mission variables when designating objectives. Special considerations for CBRN environments that the commander and staff consider within the complementary elements when planning offensive operations include—

- **The scheme of maneuver**. The scheme of maneuver describes how subordinate units relate to each other in time, space, resourcing, and action. The CBRN staff advises commanders on synchronized employment options that complement the maneuver plan. A proper understanding allows CBRN enablers to effectively integrate with maneuver forces. CBRN planners must understand the scheme of maneuver two levels up to effectively support it. CBRN enablers move under the direction of a supported maneuver force. When CBRN staff understand the concept of operations, terrain management, and control measures used, it develops a CBRN defense plan that nests in time, space, resources, and action. The CBRN staff coordinates with other units in the scheme of maneuver, such as medical and protection assets, whose capabilities compliment those of CBRN units. Commanders plan for CBRN reconnaissance with the understanding that they are a limited asset. CBRN reconnaissance is placed in time and space to best advantage friendly forces based on the enemy's templated actions.
- **Deep operations**. Deep operations occur simultaneously with close and consolidation area operations, with echelons above battalion incrementally targeting into deep areas. CBRN staffs must understand the implicit effects of CBRN hazards to the maneuver commander's plan as forces advance into deep areas. When planning fires, the commander considers intelligence about the enemy's CBRN capabilities and the impacts of hazard areas created from collateral damage. The targeting of enemy CBRN storage areas, delivery systems, or industrial areas may have disastrous effects, producing noncombatant casualties and disrupting maneuver. CBRN planners advise the commander on the employment of reconnaissance assets in deep areas to provide accurate assessments of hazards and locations of enemy CBRN sites.
- **Reconnaissance and security operations**. Reconnaissance elements may provide early warning of CBRN hazards. Some hazards may be initially encountered by medical units such as veterinary or preventive medicine detachments. All forces make use of the CBRNWRS to provide early warning of CBRN hazards and allow immediate protection to friendly forces operating in the area. CBRN passive defense measures are taken to protect friendly forces, installations, routes, and actions within a specific area. The CBRN force directly supports these operations with its CBRN R&S assets. Security operations (screen, guard, and cover) provide early warning and protection to the maneuver

force. CBRN assets are critical enablers that directly support these operations. For more information about CBRN reconnaissance (such as route, area, and zone), see ATP 3-11.37.

- **The essential task and purpose of an operation and main attacks with objectives**. A proper understanding of the essential task and purpose of operations and objectives allows the CBRN force to direct an appropriate priority of effort and priority of support with limited assets. Understanding the threat guides decisions on the prioritization of support. The prioritization of effort focuses around the CBRN functions of assess, protect, and mitigate. The commander considers the impact on CBRN environments where the enemy is likely to try to fix forces. CBRN planners assist in determining the use of CBRN by the enemy to fix and disrupt maneuver forces. The assigned CBRN brigade resources the corps essential task and purpose. The assigned CBRN battalion resources the division essential task and purpose.
- **Reserve operations**. Maneuver commanders at echelon plan to maintain and employ a tactical reserve element to reinforce success or to dynamically react to the enemy's initiative. The reserve force maintains the ability to sustain the attack if main effort forces become contaminated as the enemy tries to fix them. Operating in protective postures is possible; however, it slows units down. Planners task-organize CBRN forces to the reserve element and consider actions to disperse or protect reserve CBRN forces. Reserve element CBRN forces stand ready to support consolidate gains activities by augmenting decontamination or exploiting sensitive sites. The corps or division plan contains contingencies for the use of the reserve. The operation order assigns BE PREPARED tasks to the reserve to aid in its planning and execution. Based on risk, the commander assigns CBRN forces to an appropriate echelon.
- **Support area and consolidation area operations**. Planning for support and consolidation area security is a critical role for the CBRN force because these areas have the preponderance of critical assets and infrastructure. Furthermore, the CBRN force enables open ground lines of communication (roads, rail, routes) to provide the movement of sustainment and critical assets to the close area. Commanders and staffs consider the protection tasks necessary to maintain offensive momentum (such as conduct CBRN operations). The presence or use of CBRN hazards impacts synchronizing essential tasks, purposes, and sustaining operations.

2-108. The CBRN planner works closely with the intelligence staff and advises the commander on possible enemy CBRN employment actions. Possible enemy CBRN employment actions include, but are not limited to, the following:

- Chemical agent employment in AAs, wet gap-crossing sites, disruption zones, and axis of advance.
- Chemical and biological agent employment at airfields, logistics facilities, and mission command centers.
- Tactical nuclear weapons employed against main attacking groups or significant penetrations.

Note. For more information on assessing threat capabilities, see ATP 3-11.36.

OFFENSIVE OPERATIONS

2-109. The four types of offensive operations that apply to the tactical and operational levels of warfare are movement to contact, attack, exploitation, and pursuit. These tasks are designed to defeat and destroy enemy forces and to seize terrain, resources, and population centers. Although the names of these offensive operations convey the overall aim of a selected offensive, each typically contains elements of the other. Corps and division commanders combine these tasks with the forms of maneuver based on their intent and the higher echelon commander’s concept of the operation. Forms of maneuver are distinct tactical combinations of fire and movement with a unique set of doctrinal characteristics that differ primarily in the relationship between the maneuvering force and the enemy. The six forms of maneuver include envelopment, turning movement, frontal attack, penetration, infiltration, and flank attack. Offensive operations are characterized by surprise, concentration, tempo, and audacity.

Note. For additional information on offensive operations, their forms and characteristics, and forms of maneuver, see FM 3-90.

2-110. The organization of friendly forces for each offensive task is slightly different and is based on the concept of operation to defeat the enemy. The offensive tasks of movement to contact and the attack typically involve a forward security force or advanced guard, a main body formation that could have flank and rear security, and a reserve or follow-on force. Friendly forces organize a self-sufficient main body for pursuit and exploitation tasks. Mission command elements are positioned forward during exploitations and pursuits, which increases their risk to enemy contact. Corps and division commanders reinforce their essential tasks with additional combat power, such as reconnaissance, fires, mobility, attack aviation, air defense, and sustainment. Divisions and BCTs consider the enemy's ability to counterattack during the offense and may employ additional security forces on exposed flanks.

2-111. CBRN support to the offense includes the simultaneous application of the assess, protect, and mitigate functions guided by HAU. CBRN commanders at echelon with the supported unit staffs recommend the allocation and command relationship of CBRN assets and their capabilities to enable movement and maneuver of main body elements according to the concept of the operation, scheme of maneuver, and framework of the prevailing offensive task.

2-112. Brigade and battalion CBRN headquarters advise supporting maneuver commanders on the further allocation and tactical assignment of subordinate CBRN companies that have task-organized reconnaissance, decontamination, site exploitation, and bio-detection assets. These headquarters enable the operations process and the essential sustainment functions during the offense, to include planning, preparation, liaison, and integration activities.

2-113. CBRN R&S assets support the offense as part of a larger maneuver or security force or as a specialty platoon directed by a maneuver headquarters. These assets—which are normally organized, allocated, and assigned at the platoon level—primarily perform information collection tasks directed at CBRN PIRs and their relating NAIs. They are capable of performing general reconnaissance, security, and tactical enabling tasks to support the offense, such as route reconnaissance and the forward passage of lines. Otherwise, they augment security operations to provide early warning of CBRN threats and hazards to protect the essential mission tasks or main body in the close or support areas. This includes monitoring key lines of communication. CBRN reconnaissance assesses suspected CBRN storage areas that have or can be used against friendly forces or populations. While executing pursuit operations, the enemy may attempt to use CBRN to break contact; therefore, it is best to increase CBRN reconnaissance capabilities to maintain pressure on retrograde forces.

Note. For more information on the employment considerations of CBRN technical enablers during combined arms CWMD, see ATP 3-90.40.

2-114. Decontamination assets support the offense by providing mobility along contaminated portions of key terrain or by reconstituting essential combat power that the enemy denied or neutralized through a CBRN attack. They augment the organic operational decontamination capability of maneuver forces or perform thorough decontamination of equipment at specific locations. These assets are organized at the platoon or squad level and are allocated under a CBRN company. Commanders can further organize decontamination assets to support battalion or battalion-level equipment decontamination, but these tasks take several hours to prepare and execute and typically occur during the consolidate gains portion of the offense. Thorough decontamination is a reconstitution effort that is conducted following the battle.

2-115. CBRNE assets support the offense by conducting time-sensitive information collection and site exploitation on suspected WMD or TIM sites across the AO, but these typically occur in a consolidation area established by a division headquarters.

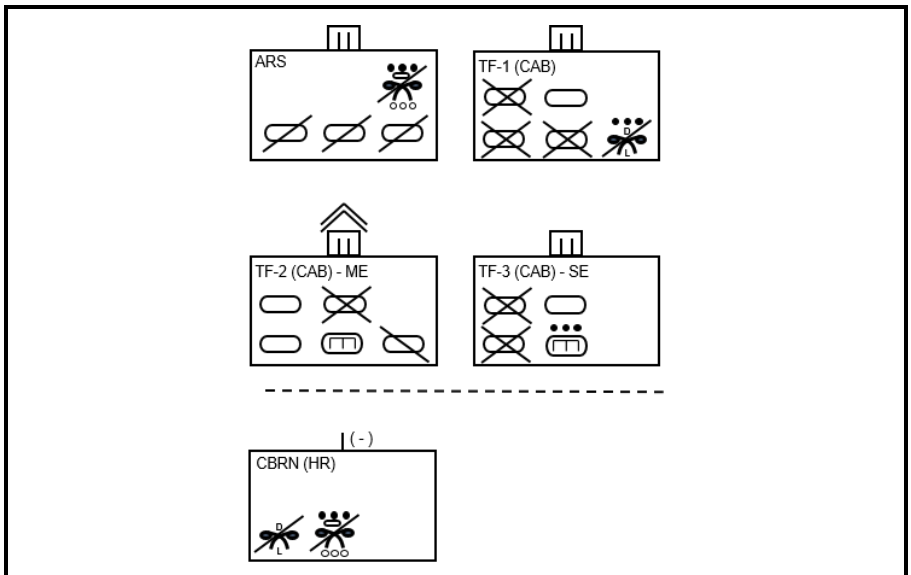
SUPPORT TO OFFENSIVE OPERATIONS (ATTACK)

2-116. Attacks incorporate coordinated movement supported by fires and may be hasty or deliberate, depending on the time available for the operations process. An attack differs from a movement to contact; during an attack, commanders know at least part of an enemy's disposition to better orchestrate the warfighting functions and to concentrate the effects of combat power. Commanders normally organize the attacking force into a security element, a main body, and a reserve, which are all supported by some type of sustainment organization.

2-117. Commanders organize the main body to conduct the essential tasks and necessary objectives. The essential purpose is focused on an essential task that consists of the defeat of enemy forces or the seizure of decisive terrain. Mission objectives create windows of opportunity for executing essential tasks and receive the minimum combat power necessary to accomplish their missions. Commanders use their reserves to exploit success, defeat enemy counterattacks, or restore momentum to a stalled attack. The commander resources sustaining operations to support the attacking force while further organizing its internal sustainment capability. For example, maneuver battalions organize their internal sustainment assets into combat and field trains. The brigade support battalion controls the sustaining operation and it relocates as far forward as required to shorten supply lines.

2-118. Commanders use necessary control measures to coordinate and synchronize the attack. Units conducting the attack are assigned an AO within which to operate and further designate subordinate AOs for units of battalion size or larger. PLs allow the commander to coordinate and synchronize movement and supporting fires toward the enemy. PLs are typically associated with clearly recognizable terrain features, such as roads, streams, wadis, or intervisibility lines. A line of departure or line of contact designates areas beyond which friendly and enemy forces will make likely or imminent contact, and existing PLs typically receive these secondary designations. An objective is used to designate key or decisive terrain with known enemy concentrations of significant value toward accomplishing the mission. If necessary, a commander uses an axis of advance or a direction of attack to further control maneuver forces. Short of the line of departure, a commander may designate AAs and attack positions where units prepare for the offense. Beyond the line of departure, the commander may designate direct fire control measures, fire support coordination measures, final coordination lines, assault positions, attack-by-fire and support-by-fire positions, or a probable line of deployment.

2-119. Figure 2-6 and figure 2-7, page 40, provide tactical COA graphics to illustrate the integration of CBRN forces with maneuver during an offensive attack. In figure 2-6 the hazard assessment platoon from the hazard response company is task-organized to TF-1, which has objective (OBJ) four (OBJ 4), a suspected radiological site, in its area of operations. The CBRN R&S platoon with the armored reconnaissance squadron is an organic asset. The graphic is similar to the course-of-action sketch example in FM 5-0, which includes task-organization icons found in FM 1-02.2.



Legend:

ARS	armor reconnaissance squadron	HR	hazardous response
CAB	combined arms battalion	L	light
CBRN	chemical, biological, radiological, or nuclear	ME	main effort
D	decontamination	SE	supporting effort
		TF	task force

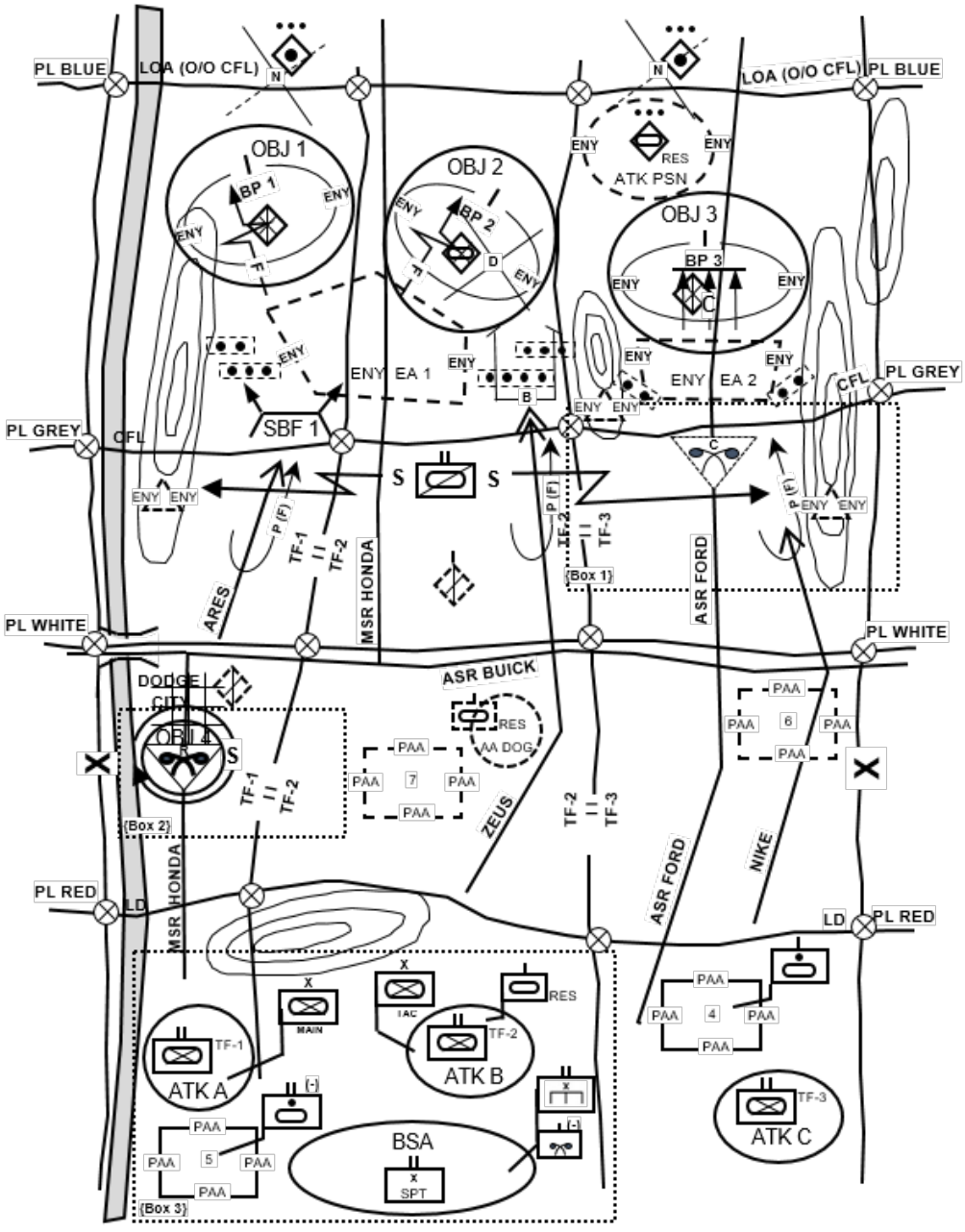
Figure 2-6. Example BCT task organization

2-120. In figure 2-7, page 40, an ABCT conducts a frontal attack along three directions of attack to defeat a task-organized enemy battalion in an area defense on the nearside of PL BLUE to enable the division's follow-on operations past the brigade's limit of advance. The enemy consists of a motorized infantry battalion task-organized with two motorized infantry companies, a mechanized infantry company, a tank platoon, and a towed (medium) artillery battery. The OE includes CBRN threats and hazards with an enemy most likely COA that involves the use of chemical attack to reinforce its defense along canalized terrain on the right side of the sketch. The OE has an urban area (DODGE CITY) with a radiological facility that the ABCT must isolate and secure. The technical enablers assigned to the task force assess the facility. Figure 2-6 is a depiction of the task organization used in figure 2-7. It uses task-organization composition symbols to increase understanding of how an ABCT and all of its organic enablers organize for the attack with the attachment of a CBRN hazard response company. The hazard response company retains the heavy R&S platoon and detaches one of the hazard assessment platoons to TF-1. The BCT's organic CBRN R&S platoon is integrated into the armored reconnaissance squadron and is conducting a screen, with sensors focused on the CBRN NAI at canalizing terrain tied into enemy obstacles along direction of attack NIKE.

Note. For more information, see FM 5-0.

2-121. The COA depicted in figure 2-7 involves an armored reconnaissance squadron and two combined arms battalions (TF-1 and TF-3) conducting a mission objective ahead of the essential task conducted by the third combined arms battalion (TF-2). The armored reconnaissance squadron is task-organized with its three organic cavalry troops and one CBRN R&S platoon and conducts a screen along PL GREY to deny enemy reconnaissance and provide freedom of maneuver for follow-on operations. On order, the armored reconnaissance squadron conducts a forward passage of lines along PL GREY to move all three task forces forward while maintaining contact with the enemy. TF-1 secures OBJ 4, a radiological facility in DODGE CITY, and simultaneously moves along direction of attack ARES, conducts forward passage of lines with the armored reconnaissance squadron (ARS), and then establishes support-by-fire position 1 to fix enemy on objectives one and two (OBJ 1 and OBJ 2) to enable the essential task and purpose. The supporting effort, TF-3, moves along direction of attack NIKE, conducts forward passage of lines with the ARS, and then clears a motorized infantry company on OBJ 3 to prevent the enemy from reinforcing OBJ 2. The essential task element and main effort, TF-2, moves along direction of attack ZEUS, conducts forward passage of lines with the ARS, and then conducts a task force breech to destroy one mechanized infantry company on OBJ 2 to enable division follow-on operations past of the limit of advance. The brigade reserve, a tank company, moves along direction of attack ZEUS and establishes AA DOG. The priority of commitment for the reserve is to reinforce the essential task and purpose of an operation. The fires battalion initially provides priority of fires to the ARS, TF-3, and then TF-1 from position areas for artillery (PAA) four and five (PAA-4 and PAA-5). On order, the fires battalion displaces to PAA-6 and PAA-7 to provide priority of fires to TF-2 (main effort) followed by TF-3 and then TF-1. High-payoff targets are enemy armor, mechanized infantry forces, and indirect fire systems. The coordination fire line is initially PL GREY and on order shifts to PL BLUE aligned to the forward passage of lines operation. The support battalion conducts sustaining operations from the brigade support area using main supply route HONDA and alternate supply routes FORD and BUICK to initially sustain the objective. On order, the support battalion sustains the essential task and purpose along the main supply route and alternate supply routes followed by the objectives with priority to the main effort and then the supporting effort.

2-122. The next series of figures provide expansions of specific areas of figure 2-7 to further explain the integration of maneuver and CBRN forces. Figure 2-8, page 41, shows an expansion of Box 1 from figure 2-7 to explain how the CBRN R&S platoon integrates with the ARS. The armored reconnaissance squadron initially conducts route, zone, and counter reconnaissance along the three directions of attack and respective task force boundaries past PL WHITE. On order, the armored reconnaissance squadron shifts to its essential task and purpose of conducting forward passage of lines with all three task forces while maintaining contact with the enemy. Figure 2-8 depicts the movement of a cavalry troop that conducts route reconnaissance along direction of attack NIKE and zone reconnaissance past PL WHITE in the battalion boundary for TF-3. This shows a CBRN R&S section from its parent platoon integrating with other armored reconnaissance sections from two organic platoons under a cavalry troop. A cavalry troop typically infiltrates by sections, controlled by platoons, with observation posts as final march objectives. The reconnaissance and surveillance of NAIs

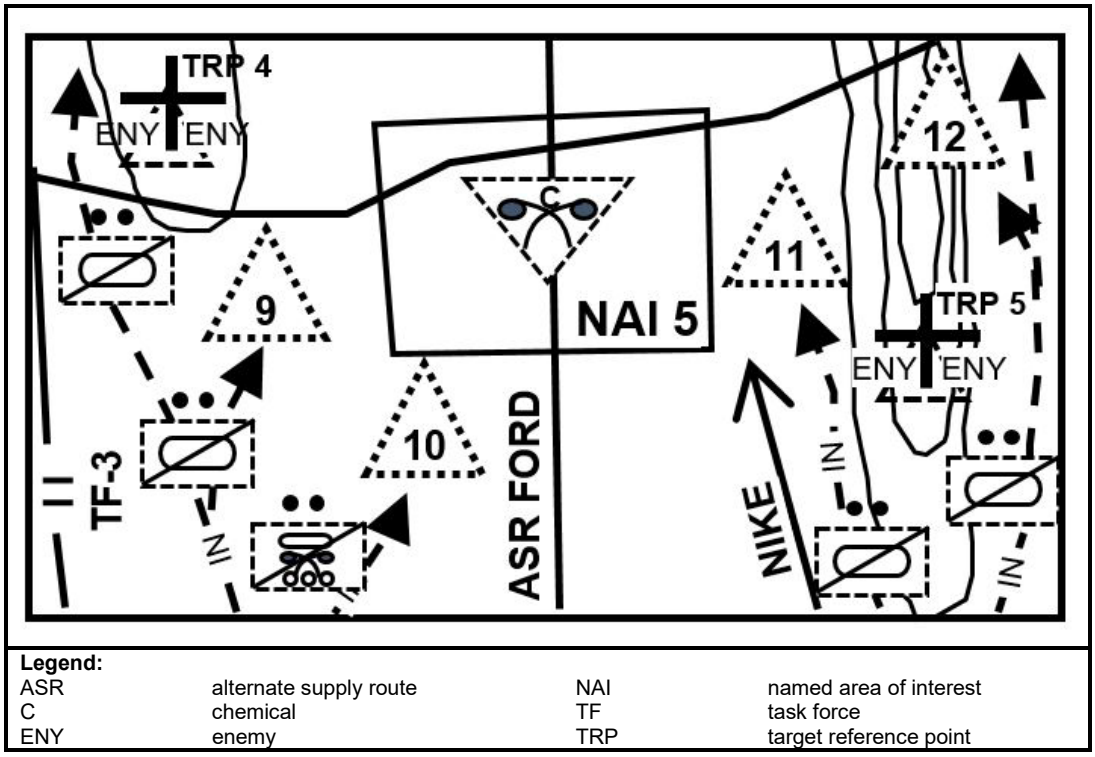


Legend:			
AA	assembly area	O/O	on order
ASR	alternate supply route	PAA	position area for artillery
ATK	attack	P(F)	passage of lines (forward)
BP	battle position	PL	phase line
BSA	brigade support area	PSN	position
CFL	coordinated fire line	RES	reserve
EA	engagement area	S	screen
ENY	enemy	SBF	support by fire
LD	line of departure	SPT	support
LOA	limit of advance	TAC	tactical command post
MSR	main supply route	TF	task force
OBJ	objective		

Figure 2-7. Example BCT in the attack

occurs through redundant observation posts to prevent the loss of surveillance from the compromise of a single position. Organic cavalry sections normally lead the route, zone, and counter reconnaissance to set conditions for the movement and positioning of enabling reconnaissance elements. Initially, cavalry sections infiltrate along independent routes to establish forward observation posts that support tactical enabling tasks and surveillance of assigned NAIs to meet the commander's PIRs. The CBRN R&S section subsequently moves along a separate infiltration route and sets at observation post ten to conduct surveillance on named area of interest (NAI) 5 in support of the ABCT commander’s CBRN PIRs.

2-123. This graphic enables a discussion of fires in support of maneuver to suppress or destroy enemy observation posts (counter-reconnaissance). The cavalry troop requests fires on target reference points four and five, which are suspected enemy positions to enable their movement toward friendly observation posts and to deny enemy surveillance of the friendly scheme of maneuver. If these sections identify known enemy observation posts, they adjust fire from the target reference points to engage the enemy without the use of direct fire, which supports continued infiltration and concealment during the reconnaissance fight.



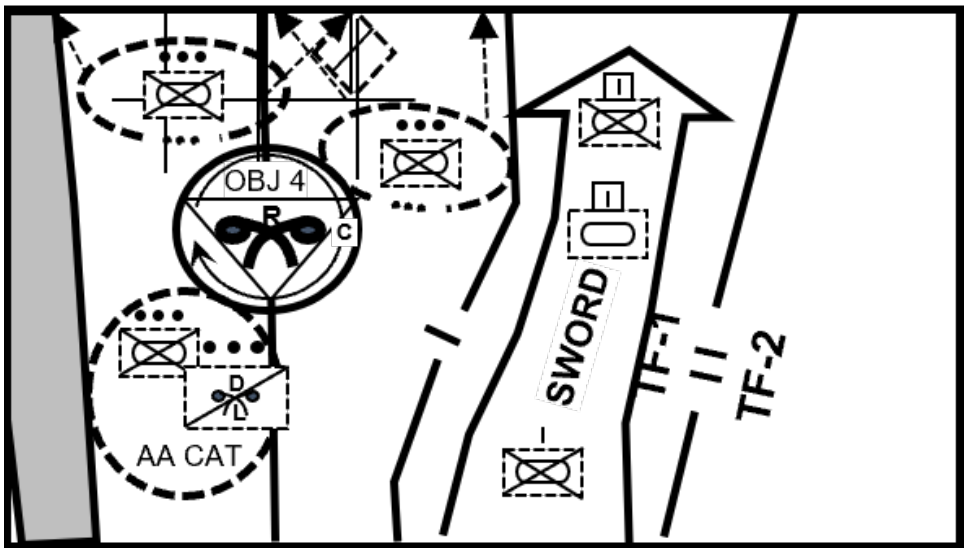
Legend:			
ASR	alternate supply route	NAI	named area of interest
C	chemical	TF	task force
ENY	enemy	TRP	target reference point

Figure 2-8. Example COA for a chemical NAI

2-124. Figure 2-9, page 42, shows an expansion of Box 2 from figure 2-7, in which a hazard assessment platoon integrates with a combined arms battalion to secure, assess, and characterize OBJ 4, a radiological facility in DODGE CITY. The combined arms battalion, Task Force 1 (TF-1), utilizes minimum combat power to secure the facility while it simultaneously commits its remaining combat power to establish support-by-fire position 1 to enable the brigade's essential task and purpose well past OBJ 4. The hazard assessment platoon does not conduct its mission without the integration of a mechanized infantry security element. The situation depicted in figure 2-9 shows the threat of a suspected enemy reconnaissance element of unknown size operating in the vicinity of DODGE CITY. This is a threat to OBJ 4 and to the movement of TF-1 past DODGE CITY. TF-1 organizes for its operation by assigning OBJ 4 to a mechanized infantry company task-organized with the hazard assessment platoon. The remainder of the TF-1, composed of a mechanized infantry company team, a tank company team, and a pure mechanized infantry company, bypasses DODGE CITY along axis of advance SWORD.

2-125. In figure 2-9, page 42, a mechanized infantry company secures the radiological facility within its company boundary with two platoon size battle positions on the far side of OBJ 4. TF-1 will likely lead the

movement from its attack position with the company assigned to OBJ 4 as a diversion to draw enemy reconnaissance toward the radiological facility. However, it conducts both movements simultaneously if the battalion coordinates the simultaneous maneuver of multiple companies through appropriate control measures. After the company assigned to the city establishes its two battle positions, it moves the hazard assessment platoon with a platoon size security element and establishes AA CAT on the near side of OBJ 4. The mechanized infantry platoon then establishes an inner cordon around the facility to allow the hazard assessment platoon to further assess and characterize the suspected radiological material.



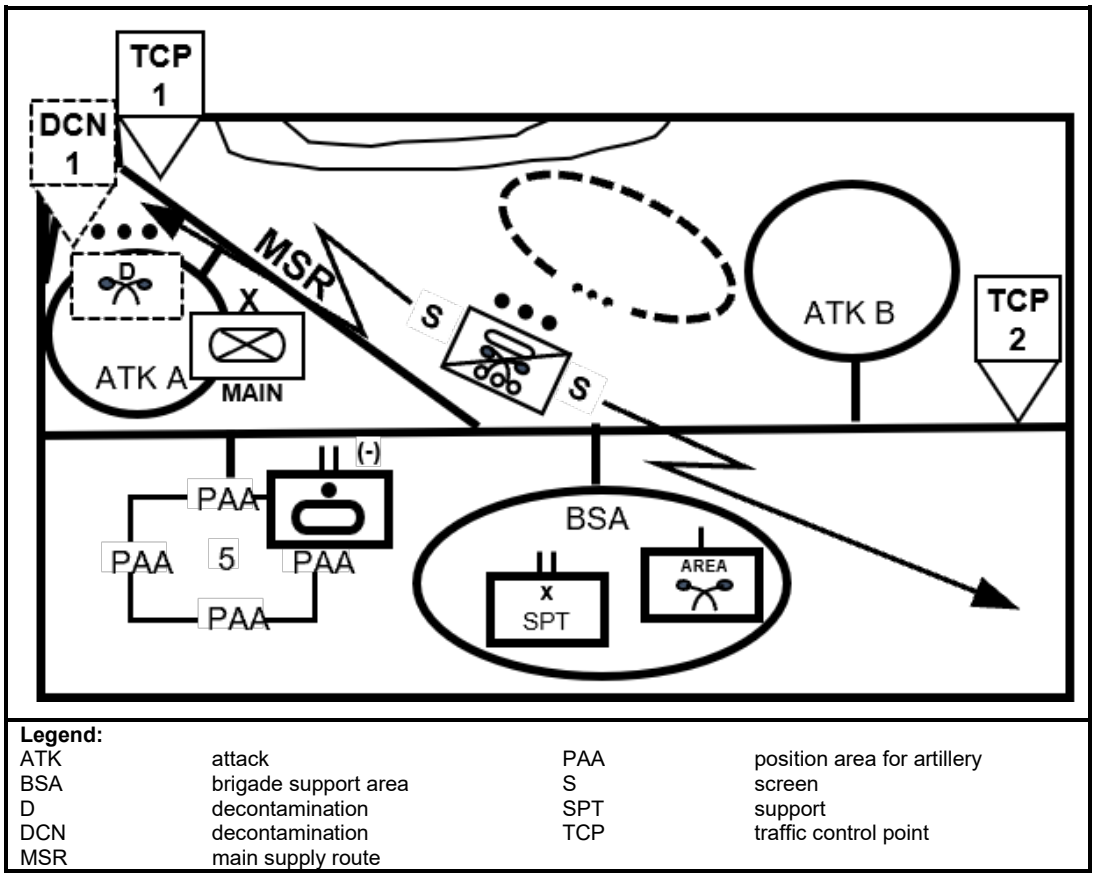
Legend:			
AA	assembly area	OBJ	objective
C	control	R	radiological
D	decontamination	TF	task force
L	light		

Figure 2-9. Example COA for a radiological site in an urban area

2-126. Figure 2-10 shows an expansion of Box 3 from figure 2-7, in which a hazard response company integrates with a brigade support battalion to conduct area security up to PL RED in the ABCT's support area. During the offense, support areas are usually organized with clusters of AAs and attack positions connected through interior lines of communication, such as unimproved roads bounded by traffic control or check points. The brigade support battalion enables maneuver and sustainment operations by providing command and control of the support area while adhering to the five fundamentals of area security operations. This includes the ability to provide early and accurate warning, provide reaction time and maneuver space, orient on the force to be protected, perform continuous reconnaissance, and maintain contact with the threat.

2-127. The CBRN threats and hazards depicted in figure 2-9 show the existence of radiological material in DODGE CITY and the potential use of chemical munitions by the enemy. In figure 2-10, page 43 the brigade support battalion uses its assigned combat power to control points to prevent mounted access to interior roads by threats and local civilians. The brigade support battalion is responsible for protecting the brigade main command post and brigade support area, which will continue to operate in the support area throughout the attack. The hazard response company CBRN R&S platoon conducts route reconnaissance along the main supply route and interior lines to provide early warning of route contamination by friendly forces or enemy actions. The brigade has identified a decontamination point near traffic control point one and has assigned the hazard response company's hazard assessment platoon with the on order task of establishing and operating an operational decontamination point to mitigate contamination from potential indirect fires in the support area. The supported brigade is responsible for securing and augmenting the decontamination point with its own organic decontamination assets and security because the decontamination platoon does not have sufficient security or personnel assets for sustained operations. In the situation depicted in figure 2-10, page

43 the decontamination point is located just outside the area bounded by the traffic control points, which provides mutual security for the decontamination platoon.



Legend:			
ATK	attack	PAA	position area for artillery
BSA	brigade support area	S	screen
D	decontamination	SPT	support
DCN	decontamination	TCP	traffic control point
MSR	main supply route		

Figure 2-10. Example COA for a support area

CONSOLIDATE GAINS

2-128. The consolidation of gains is an integral part of the offense and is essential to retain the initiative over determined enemies and adversaries. The emphasis is on early and effective consolidation activities to enable success and achieve lasting favorable outcomes in the shortest time span. This encompasses minimum essential stability tasks to allow the maneuver commander options while isolating CBRN hazards and securing WMD to prevent them from falling back into the hands of the enemy. CBRN units prepare to quickly assess abandoned enemy CBRN caches in the open and in underground facilities following the offense to consolidate gains. Planners consider security requirements for WMDs to prevent enemy acquisition and usage. CBRNE companies, biological surveillance companies, and area support companies consolidate gains within corps and division consolidation areas as the forward line of troops advances in the offense. Area support companies decontaminate aerial ports of debarkation and seaports of debarkation facilities to retain operational reach.

CBRN CAPABILITIES IN SUPPORT OF STABILITY OPERATIONS

2-129. *Stability operation* is an operation conducted outside the United States in coordination with other instruments of national power to establish a secure environment and provide essential governmental services, emergency infrastructure reconstruction, and humanitarian relief (ADP 3-0). As the Army transitions out of conflict, the following principles of stability tasks lay the foundation for long-term stability: conflict transformation, unity of effort and unity of purpose, legitimacy, and host-nation ownership, and building partner capacity.

2-130. The body of security strategy that shapes the conduct of operations characterized by stability operations includes the National Security Strategy, National Defense Strategy, and National Military Strategy and related strategies, including the National Strategy for Countering Weapons of Mass Destruction. Together with national policy, strategy provides the broad direction necessary to conduct operations to support national interests.

2-131. Stability is achieved through stability mechanisms (compel, control, influence, and support). Stability mechanisms are the primary method through which friendly forces affect civilians to attain conditions that support establishing a lasting, stable peace. CBRN staffs, teams, and units provide protection and mitigate CBRN hazards to enable stability operations tasks (civil security, civil control, restoration of essential services, governance, economic and infrastructure development, and security cooperation). CBRN staffs assess TIM sites and suspected chemical biological manufacturing plants that may have been damaged during conflict. Staffs work in and through the military and civilian control to provide capability at the point of need. CBRN capability provides mounted and dismounted R&S at damaged facilities that may have been used as research and development or for the manufacturing of chemical or biological weapons. CBRN staffs conduct battle damage assessments of TIM sites that may affect the health and safety of the civilian populace. CBRN decontamination platoons provide equipment decontamination to critical police, ambulances, fire trucks, engineer construction equipment, and infrastructure to enable civil security and civil control. CBRNE response teams and hazardous assessment platoons conduct the exploitation and destruction of chemical and biological munitions. Nuclear disablement teams (NDTs) conduct assessments of nuclear power plants. CBRN staffs publish tasks for specialized CBRN units within the CBRN defense plan.

Note. For more information on employment considerations of CBRN technical enablers during combined arms CWMD, see ATP 3-90.40.

2-132. Stability mechanisms, applicable across the competition continuum, are the primary method by which the joint force affects the human dimension. Operations may be conducted unilaterally and include up to the joint force or the whole of government and unified action partners. Operations are conducted concurrently and address the combatant command (CCMD's) theater campaign plan lines of effort that provide a realistic appraisal of relevant partner relationships, which allows the commander and staff to derive a range of feasible, productive military options that lead to sustainable and acceptable outcomes.

CONSOLIDATING GAINS

2-133. The consolidation of gains is an integral and continuous part of offense, defense, and stability. Commanders continuously consider the synchronization, integration, and organization of protection capabilities necessary to consolidate gains and achieve the desired end state. When consolidating gains, establishing, and sustaining security is priority.

2-134. The consolidation of gains occurs in portions of an AO for which large-scale combat operations are no longer occurring. Consolidation of gains activities consist of security and stability tasks and will likely involve combat operations against bypassed enemy forces and remnants of defeated units. Therefore, units may initially conduct only minimal essential stability tasks and then transition into a more deliberate execution of stability tasks as security improves.

2-135. Operations to consolidate gains require combined arms capabilities and the ability to employ fires and manage airspace, but at a smaller scale than large-scale combat operations. Units in the close area involved in close combat do not conduct consolidation of gains activities. Consolidation of gains activities are conducted by a separate maneuver force in the designated corps or division consolidation areas.

2-136. Commanders reduce postconflict or postcrisis turmoil and help stabilize a situation. Gains may include the establishment of public security by using friendly forces to transition, the performance of humanitarian assistance, and the restoration of key infrastructure. The MEB supports consolidation of gains and is tailored with enabling forces as needed to support the situation. The effectiveness and success of the MEB depend on the synergy that is leveraged from integrating the contributions from enabling units, such as CBRN units.

Note. For more information on MEB, see FM 3-81.

2-137. CBRN forces conduct tasks of consolidating gains in support of stability. Examples of the tasks conducted by CBRN forces include, but are not limited to, expertise support, humanitarian assistance, host-nation leader engagement, security cooperation engagement, and foreign internal defense. To deter a theater threat's potential employment of CBRN capabilities, the combatant commander coordinates the conduct of security cooperation engagements with adjacent neutral and ally countries to understand mutual capabilities, synchronize effects, and gain efficiencies within the coalition. CBRN forces, with other governmental agencies, increase the effectiveness and efficiency of neutral and ally internal infrastructure assessments, demilitarization, and rebuilding efforts. Consolidate gains activities include CBRN response tasks that restore and protect critical infrastructure, equipment, and personnel.

2-138. Army forces conduct continuous reconnaissance and, if necessary, gain or maintain contact with the enemy to defeat or preempt enemy actions and retain the initiative. Consolidating gains may include actions required to defeat isolated or bypassed enemy forces to increase area security and protect lines of communication. The discovery of WMD sites, TIMs, or CBRN contamination during essential tasks presents unique challenges for consolidating gains. CBRN forces confirm or deny the presence of CBRN hazards. Maneuver units achieve a minimum level of control to create conditions for success in dealing with these materials. Commanders address the decontamination, disposal, and destruction of CBRN material and WMD.

2-139. Tasks within CBRN functions support the consolidation of gains. Activities within the assess function (such as information collection and exploiting WMD sites) feed CCIR and allow the commander to exploit further tactical gains. The assess function feeds into HAU, increasing the commander's situational understanding and allowing for the refinement of follow-on operations. The CBRN function of protect includes tasks of CBRN defense, such as the protection of forces from CBRN hazards as gains are consolidated. Tasks within the mitigate function respond to CBRN effects to negate hazard effects.

THREAT OVERVIEW

2-140. The threat overview describes how enemy forces organize against U.S. forces during stability, which allows CBRN forces to understand potential courses of enemy action.

2-141. While U.S. forces seek to establish stability, asymmetric threats still have the potential to use CBRN hazards to gain advantages and to use them as major destabilizing force. Nonstate actors actively pursue and use CBRN materials to overcome force overmatch and create conditions that are favorable to their cause. It is highly likely that CBRN use by asymmetric threats will tie directly into a sophisticated information or disinformation campaign. As a destabilizing force, asymmetric threats use CBRN materials to provoke sectarian violence, conduct mass atrocities, or incite public panic. Threats may attempt to destabilize civil security by attacking transportation nodes and water sources and assassinating key leaders and government officials as part of their information warfare campaigns. Critical to the enemy's use of CBRN materials is maintaining technically competent individuals who are skilled in identifying, cultivating, and creating delivery mechanisms for WMDs or hazardous substances. This often requires small-scale chemical or biological production facilities or clandestine labs that operate using dual-use equipment. Therefore, it is imperative for CBRN assets and staffs to quickly identify internal and external threats that have the technical capacity to use CBRN. To enable asymmetric CBRN use within hybrid warfare, state actors may support insurgencies, criminal elements, contractors, or special-purpose forces that have technical expertise or facilities.

ASSESS

2-142. During stability, the CBRN staff continuously assesses for CBRN threats and vulnerabilities. Stability activities support the prevention of continued conflict. CBRN enablers support the prevention of potential CBRN incidents through inspections and monitoring. CBRN reconnaissance elements assess and characterize sites in order to confirm or deny potential follow-on mitigation efforts.

2-143. The following vignette provides an example situation for the integration of CBRN forces in support of stability. In this vignette, the situation (threat) is that a nuclear reactor in country X has been compromised and is emitting radiation. The incident exceeds the capacity of the local authorities, and country X has

requested assistance to contain the incident. The United States has committed military personnel to support the international chemical, biological, radiological, and nuclear response (ICBRN-R).

Vignette Stability (ICBRN-R)

Mission: The CBRN task force has been given the mission to deploy to country X and provide ICBRN-R support. The task force, by order of the joint task force, will provide support to the United States. Department of Energy and International Atomic Energy Agency personnel.

Organization: The proposed organization of a CBRNE task force includes one EOD company, four CBRN companies, two NDTs, and one field laboratory. Preventive medicine detachments and interpreters are possible enablers. The command and support relationship—the CBRNE task force under the operational control of the CCMD—is further assigned, as required.

Execution: In the supported country, the CBRNE task force works for the joint task force, which in turn coordinates directly with the United States Department of State. The CBRNE task force provides the integrating staff to plan, coordinate, and execute the interrelated CBRNE operational tasks. These tasks include conducting decontamination, providing CBRNE expertise, and responding to CBRNE incidents. The task force is predominantly composed of CBRN elements. In the event that the reactor compromise was a result of sabotage or terrorist activity, the host country may request that EOD elements be added to the task force. EOD elements would be prepared to respond to explosive hazards and possibly to the training of host-nation forces on EOD operations.

End state: At the completion of initial surveying and sample management, data is turned over to the host nation. Decontamination support for responders and affected civilians is provided. Support is provided for possible improvised nuclear device and weapons incidents. Medical personnel document occupational and environmental health exposures in the system record for health surveillance.

PROTECT

2-144. During stability and as done in offense and defense, CBRN enablers continue to provide protection to forces. CBRN enablers continue to conduct reconnaissance and surveillance as required, provide assessments on protective postures, and maintain a warning and reporting system. CBRN forces protect the local population from CBRN hazard areas, identifying and marking areas in support of the area security plan.

MITIGATE

2-145. The mitigate function helps commanders execute the tasks to reestablish a safe and secure environment, provide humanitarian relief, and minimize human casualties when CBRN incidents exceed host-nation capabilities. As a part of ICBRN-R, CBRN response activities may be requested by the Department of State and directed by the Secretary of Defense, Department of Defense (DOD). ICBRN-R applies to international incidents involving the deliberate or inadvertent release of CBRN materials. If the affected nation requires assistance for handling a CBRN hazard, U.S. assets may augment the affected nation's assets to restore stable conditions. Major functions performed include safeguarding lives, preserving health and safety, securing, and eliminating the hazard, protecting property, and preventing further damage to the environment. For more information about ICBRN-R, see appendix B and JP 3-41.

2-146. During the execution of large-scale combat operations, sensitive sites may be discovered, or direct action may create CBRN hazard incidents that are beyond the capabilities of the host-nation resources and require the support of CBRN forces to stabilize the situation. Sensitive sites are known to be or are suspected of involvement in enemy research, production, storage, or past or future employment of CBRN weapons.

Either situation may require the resources of CBRN and other technical enablers to mitigate the hazards. Responding to CBRN effects is a key component of efforts to reconstitute the force to prepare for follow-on missions. CBRN tasks that support the response to CBRN effects include—

- **Mitigating contamination**. Mitigating contamination is achieved by controlling contamination; limiting the vulnerability of forces to CBRN and TIM; and avoiding, containing, and controlling exposure. The decontamination of personnel, equipment, and facilities depends on the time and resources available.
- **Controlling, defeating, disabling, and/or disposing of WMD**. WMD defeat is undertaken to systematically destroy WMD materials and related capabilities. Support to CWMD operations initially focuses on the tasks of control (seizing and securing sites and preventing the looting or capture of WMD and related materials) and the disablement or destruction of weapons, materials, agents, and delivery systems that pose an immediate or direct threat to forces and the civilian population. Expedient tactical WMD defeat, disablement, and/or disposal ensures the safety of troops, secures the freedom of action for combat operations, and protects noncombatants. EOD is a key component of WMD defeat, disablement, and/or disposal. EOD provides significant expertise by supporting the collection and exploitation of technical intelligence, providing guidance on protective measures, conducting render safe, assisting in destruction of transfer activities, and supporting monitoring and redirection efforts.

Note. For more information on EOD operations, see ATP 4-32.

2-147. During stability, the CBRNE command engages in the assessment and protection and mitigation of CBRNE hazards. Some of the tasks conducted include nuclear facility disablement, EOD final disposition, chemical and biological laboratory operations, CBRNE modeling, and reachback. A CBRNE command headquarters can advise partner nations or host-nation authorities and build partner capacity for the establishment and training of partner CBRN and EOD forces for civil security.

SECTION V — OTHER CONSIDERATIONS

2-148. There are additional considerations for the employment of CBRN forces that may apply in special situations. This section discusses some of those considerations, including participation in tactical enabling tasks and DSCA.

ARMY HEALTH SYSTEM SUPPORT IN CBRN OPERATIONS

2-149. The Army Health System supports CBRN operations in a number of ways. CBRN planners work with the surgeon, surgeon section, and other medical technical experts to provide commanders with comprehensive options to assess and protect and mitigate during CBRN operations. Treating and evacuating patients and protecting medical staff from exposure to CBRN are the core objectives of the medical personnel during a CBRN incident.

PATIENT DECONTAMINATION

2-150. *Patient decontamination* is the removal and/or the neutralization of hazardous levels of chemical, biological, radiological, and nuclear contamination from patients before admission into a medical treatment facility under the supervision of medical personnel to prevent further injury to the patient during the decontamination process (ATP 4-02.7). Medical personnel supervise the patient decontamination operations. When a CBRN incident is expected, higher headquarters plan and prepare and coordinate to augment the medical units with nonmedical personnel in support of patient decontamination operations. Contaminated patients potentially increases hazards for first responders, casualty evacuation/medical evacuation teams, medical personnel, and medical facilities. The three key purposes of patient decontamination are to—

- Protect the medical treatment facility staff and the material.
- Protect the evacuation team and any equipment along the evacuation route.
- Remove the contamination from the patient to reduce agent exposure.

Note. For more information on patient and casualty decontamination respectively, see ATP 4-02.7 and ATP 3-11.33.

VETERINARY SERVICE SUPPORT

2-151. Veterinary personnel support commanders in the development of readiness plans and tactical standard operating procedures for the protection, decontamination, and use of subsistence items in the CBRN environment. This assistance is either in the form of direct or indirect veterinary support as follows:

- Direct veterinary support is provided to commanders when veterinary personnel are assigned at Class I activities. This support consists of technical advice to aid commanders in formulating plans and procedures pertaining to the storage, decontamination, and use of subsistence that may become exposed to a CBRN agent.
- Indirect veterinary support is provided to unit commanders through the dissemination of information and guidance pertaining to CBRN contamination of subsistence.

2-152. Following a CBRN attack, all subsistence within the boundaries of the contaminated area is considered contaminated and managed accordingly until testing determines which foods are safe for consumption. As a method of control, subsistence items located in contaminated storage facilities/areas are restricted from issue or use until necessary CBRN testing is completed. The testing capabilities in veterinary units focus on screening capabilities for the presence of biological agents—particularly for foodborne pathogens and limited chemical contaminants.

Note. For more information on veterinary service support, see ATP 4-02.8.

PREVENTIVE MEDICINE/PUBLIC HEALTH SUPPORT

2-153. As a compliment to CBRN surveillance, health surveillance is conducted by medical personnel and preventive medicine/public health personnel to establish baseline health conditions, capture data on occupational and environmental health exposures, and monitor for subsequent deviations. Health surveillance focuses on ensuring that CBRN detection, collection, and reporting operational requirements are met.

Note. For more information on preventive medicine, see ATP 4-02.8.

MEDICAL LABORATORY SUPPORT

2-154. Medical laboratory services are located at various medical treatment facilities or medical detachments or field laboratories within a theater of operations. Diagnostic laboratories provide analytical services for clinical specimens (such as human blood, tissue, and bodily fluids). Other designated support laboratories within theater (such as the Global Field Medical Laboratory), which provide analysis of environmental CBRN samples (such as air, food, soil, and water) are known as environmental laboratories. Environmental laboratories are capable of providing follow-on field confirmation and/or theater validation analysis for CBRN agents within a clinical specimen, when additional testing is required.

2-155. The collection of suspect CBRN environmental and food samples is conducted by qualified preventive medicine personnel, field laboratory personnel, CBRN specialists, veterinary personnel, public health officers, technical intelligence collection teams, or bioenvironmental engineering personnel. Similarly, human or animal clinical specimens (such as serum, blood, and other body fluids) are collected by trained medical personnel in clinical, veterinary, or hospital settings using the appropriate universal safety precautions that are delivered to appropriate medical diagnostic laboratories for analysis. Laboratory personnel consult regarding the types and sources of samples to collect.

Note. For more information on medical laboratories, see ATP 4-02.7.

ENABLING OPERATIONS

2-156. Commanders direct enabling operations to support the performance of all offensive, defensive, and stability tasks. Enabling operations are employed by commanders as part of operational objectives. Examples of enabling operations include reconnaissance, security, troop movement, relief in place, passage of lines, countermobility, and mobility. Although the CBRN functions (assess, protect, and mitigate) support all enabling operations, they are primarily used in reconnaissance, security, and mobility.

RECONNAISSANCE

2-157. There are seven fundamentals of successful reconnaissance. Commanders—

- Ensure continuous reconnaissance.
- Do not keep reconnaissance assets in reserve.
- Orient on the reconnaissance objective.
- Report all required information rapidly and accurately.
- Retain the freedom of maneuver.
- Gain and maintain enemy contact.
- Develop the situation rapidly.

2-158. The five types of reconnaissance operations are zone, area, route, reconnaissance in force, and special reconnaissance. CBRN forces predominantly support the first three, which are described in depth in ATP 3.11-37.

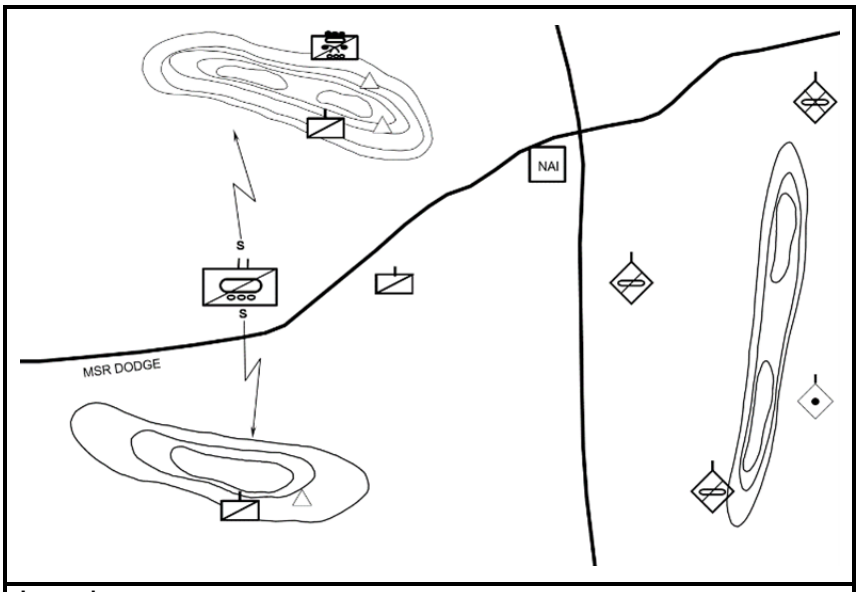
2-159. *Route reconnaissance* is a form of reconnaissance operation to obtain detailed information of a specified route and all terrain from which the enemy could influence movement along the route (FM 3-90). CBRN route reconnaissance is directed along key ground lines of communication, from support and consolidation operations to the forward line of troops. Enemy CBRN attacks force early culmination and reduce operational reach of the forces. CBRN route reconnaissance detects, identifies, and marks contamination and pursues an uncontaminated bypass, which allows maneuver forces to continue movement.

2-160. *Zone reconnaissance* is a form of reconnaissance operation that involves a directed effort to obtain detailed information on all routes, obstacles, terrain, and enemy forces within a zone defined by boundaries (FM 3-90). CBRN zone reconnaissance supports CCIRs and designated NAIs.

2-161. *Area reconnaissance* is a form of reconnaissance operation that focuses on obtaining detailed information about the terrain or enemy activity within a prescribed area (FM 3-90). CBRN area reconnaissance is executed through the assessment of potential CBRN targets, surveillance of key terrain, and assessment of hazardous material sites that impact maneuver.

SECURITY OPERATION

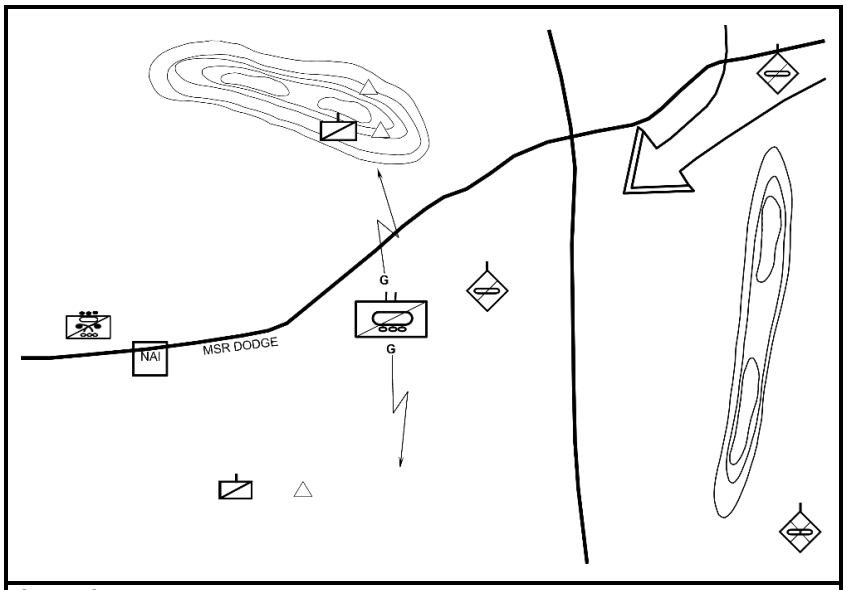
2-162. Security includes all measures taken by a command from the acts of observing, sabotaging, annoying, and surprising the enemy. CBRN R&S, while supporting a screen security task, attach to cavalry platoons to observe, identify, and report enemy indicators, preparations, or CBRN use, which enables friendly forces to retain the freedom of maneuver at tempo. Planners carefully consider the appropriate command relationship between CBRN R&S assets and the reconnaissance elements supporting the reconnaissance objective. NAIs, identified during IPOE, direct where CBRN reconnaissance assets focus their sensors. The purpose of CBRN reconnaissance is to confirm or deny the presence of potential or suspected CBRN threats/hazards. CBRN reconnaissance may be augmented by indirect fires and close air support, but otherwise fights only defensively. CBRN R&S may augment forces to execute stationary and moving screens, when required. The nuclear, biological, and chemical reconnaissance vehicle platoons of the hazard response company may be task-organized for the support of R&S squadrons and troops (by section) to maximize CBRN assessment in support of the reconnaissance objective. The CBRN R&S platoon detects hazards at a distance, providing commanders early warning of chemical, biological, or radiological hazards. See figure 2-11, page 50.



Legend:	
MSR	main supply route
NAI	named area of interest
S	screen

Figure 2-11. Example CBRN reconnaissance in screen

2-163. A guard security task requires a guard force containing sufficient combat power to defeat, cause the withdrawal of, or fix the lead elements of an enemy ground force before it engages the main body with direct fire. A guard force engages enemy forces with direct and indirect fires. CBRN reconnaissance assets can be embedded alongside R&S troops, or placed in a position of providing early warning and bypass of CBRN attacks, if enemy forces use CBRN as an attempt to isolate and defeat cavalry squadrons. NAIs for CBRN reconnaissance include canalizing the terrain and the key lines of communication that CBRN attacks could sever, which would force operational culmination of the security force (see figure 2-12).



Legend:	
G	guard
MSR	main supply route
NAI	named area of interest

Figure 2-12. Example CBRN reconnaissance in guard

2-164. Unlike a screen or guard, a cover security task is a self-contained force capable of operating independently of the main body. CBRN reconnaissance assets have limited protection and a greater likelihood of becoming decisively engaged in a cover. Commanders make prudent risk decisions before placing CBRN reconnaissance assets within a covering force.

MOBILITY

2-165. *Mobility* is a quality or capacity of military forces which permits them to move from place to place while retaining the ability to fulfill their primary mission (JP 3-36). CBRN planners anticipate the need for maneuver forces to enhance their mobility within CBRN environments, which is especially critical while executing a gap crossing. The placement of reconnaissance in and around gap crossings allows for hazards to be rapidly assessed in the event of a CBRN attack. The assessment of operational risks is central to planning a gap crossing in a CBRN environment. It is critical to identify and quantify the risk of a CBRN attack since gap crossings tend to canalize forces and severely restrict maneuver within the crossing area. Decontamination sites must be incorporated into gap crossing planning, which is guided by the principles of speed (decontaminate only as necessary), priority (decontaminate the most essential items first), and limited area (decontaminate as close to the site as possible to limit spread). CBRN tasks of decontamination allow for the rapid reconstitution of combat power and prevent the spread of contamination.

DEFENSE SUPPORT OF CIVIL AUTHORITIES

2-166. DSCA (as an element of essential task or purpose) provides support for domestic disasters, domestic CBRN incidents, domestic civilian law enforcement agencies, and other designated support. Incidents involving CBRN materials produce a chaotic and hazardous environment that requires an immediate response to minimize pain and suffering, reduce casualties, and restore essential infrastructure. Responders at local, state, and federal levels may be overwhelmed by the magnitude of an incident, and United States DOD forces may be requested for additional support.

2-167. CBRN capabilities support the consequences of natural or man-made disasters, accidents, terrorist attacks, and incidents in the United States and its territories. Formerly known as consequence management, the term CBRN response is characterized as a unique DOD response capability and responsibility. CBRN response is just one aspect of DSCA provided by U.S. military forces in response to the requests for assistance from civil authorities. Domestic CBRN response is a type of support provided within the DSCA mission conducted by DOD forces to save lives; prevent injury; provide temporary critical life support; protect critical property, infrastructure, and the environment; restore essential operations; contain the event; and preserve national security.

THREAT OVERVIEW

2-168. Threats emanate from nation states or nonstate actors, such as transnational terrorists, insurgents, criminal organizations, and self-radicalized individuals. Within the spectrum of potential CBRN-related crises, a terrorist attack using WMD on U.S. soil presents daunting challenges for civilian authorities. Whether the result of accidents or natural causes, some unintentional CBRN releases could create similar catastrophic results for civil authorities. However, attacks from people with sophisticated weapons knowledge can be much worse.

2-169. Terrorists have declared their intention to acquire and use CBRN agents as weapons to inflict catastrophic attacks against the United States—their end goal is to cause mass casualties, panic, and disruption. Extremist groups have a wide variety of potential agents and the delivery means from which to choose CBRN attacks. Attacks will most likely be small-scale and incorporate relatively crude means of delivery and easily produced or obtained chemicals, toxins, or radiological substances. The success of any attack and the number of ensuing casualties depend on many factors, including the technical expertise of those involved.

2-170. Terrorists have considered a wide range of toxic chemicals for attacks. Typical plots focus on poisoning foods or spreading agents on surfaces to poison via skin contact. Some plots include broader dissemination techniques.

2-171. There are a wide range of TICs that—while not as toxic as blood, mustard, or nerve agents—are used in much larger quantities to compensate for their lower toxicity. Chlorine and phosgene are industrial

chemicals that are transported in shipments by road and rail. Rupturing the container of either of those types of shipment easily disseminates those gases.

HAZARD AWARENESS AND UNDERSTANDING

2-172. Domestic CBRN response operations present unique challenges due to working under differing legal authorities and chains of command when coordinating with and working alongside non-DOD, state, local, and tribal agencies. The authorities for DOD components to conduct DSCA operations are found in DODD 3025.18 and other DODDs, standing CJCSs, United States Northern Command and United States Indo-Pacific Command DSCA concept plans, and Headquarters Department of the Army CBRN Response Executive Order. The domestic CBRN response is managed at the lowest possible level, with DOD providing support, as directed.

2-173. To gain HAU, the Army elements provide liaison officers and coordinate operations with interagency partners. Information that is gathered shapes the development of threat, hazard, vulnerability, and risk assessments and supports a better understanding of the complex OE.

2-174. Capabilities are aligned to support DSCA and specific CBRN response missions. The CBRN Response Enterprise consists of state, National Guard, and federal military forces. The CBRN Response Enterprise provides the nation with a military CBRN response capability that is dedicated, trained, ready, scalable, and tailorable.

ASSESS

2-175. Incident awareness and assessment addresses the limited information collection activities permitted in the homeland through the consolidation of information and then provides analysis of the physical environment, weather impacts, terrorist threats, CBRN hazards, and other operational or mission variables.

2-176. During CBRN incidents in the homeland, CBRN assets identify, assess, advise, and assist higher commands and civil authorities.

- **Identify**. WMD–civil support team and CBRN reconnaissance elements detect, characterize, identify, and monitor unknown hazards by leveraging multiple detection technologies. Technical reachback to state and federal experts is used to support the identification process. The sophisticated detection, analytical, and protective equipment allows for operations in environments that may contain various CBRN hazards.
- **Assess**. Assessments occur with local, tribal, state, and federal response organizations before, during, and after an incident to ensure that CBRN elements are properly integrated into local and state emergency plans. CBRN assets collect information from appropriate sources, identify pertinent data, and evaluate information to determine the mission threat (including hazards and risks), possible adversary actions, potential targets, incident probability, threat level or severity, and the vulnerability of critical infrastructure.
- **Advise**. Supporting CBRN elements advise the incident commander and emergency responders on hazards and countermeasures. Advice may cover the methods used during all phases of the operations to protect and mitigate the potential loss of life and the integrity of critical infrastructure or against damage to private property. This advice assists the emergency management authorities in tailoring their actions to minimize the impact of the incident.
- **Assist**. The CBRN elements assist the incident commander by providing expertise in hazard prediction modeling, liaison, downrange survey operations, hazard mitigation, and recovery planning.

PROTECT

2-177. Protection capabilities for military forces against CBRN hazards apply domestically, but in some circumstances, military forces must adhere to U.S. code standards. During a CBRN incident, the civilian incident command staff normally determines the level of protective garment that is required based on the hazard.

2-178. Units give special attention to heat injury prevention for Soldiers using personal protective equipment and to toxic industrial materials in affected areas.

2-179. When tasked by the Secretary of Defense, the United States Northern Command and United States Indo-Pacific Command and subordinate commanders provide protection capabilities while executing homeland defense and domestic CBRN response operations. National Guard forces have similar protections when functioning on state or federal active duty.

MITIGATE

2-180. State National Guard forces and federal military forces are prepared to respond to CBRN incidents as part of an overall DOD CBRN response enterprise. CBRN incidents may involve responding to a single incident site or to multiple sites in different states. DOD may commit some or all of a standing joint task force and a defense CBRN response force. This consists of a tiered response of CBRN assets that includes weapons of mass destruction–civil support teams, a CBRN Enhanced Response Force Package, Homeland Response Forces, a Defense CBRN Response Force, and Command and Control Response Elements. Other specialized CBRN units include technical support forces and Defense Threat Reduction Agency teams. During CBRN incidents, DOD installations serve as staging operations for resources and agencies.

2-181. In terms of casualties and medical treatment, it is imperative that reconnaissance capabilities be rapidly and effectively employed to assess the effects (detect and monitor). These assessments provide the information that is necessary to assist the incident commander in determining upwind and crosswind points and best locations for search and rescue, decontamination, medical triage, emergency medical services, and other sites. DOD forces reinforce evacuation centers to increase capacity and throughput or to provide the forces for conducting search and rescue, casualty decontamination, medical triage, and emergency medical stabilization.

PLANNING CONSIDERATIONS

2-182. When supporting civil authorities, important elements of the planning considerations that must be understood include the OE; authorities; policies; laws; hazard and threat awareness; critical infrastructure; available capabilities that support a CBRN response; and medical, logistical, and intelligence resources.

2-183. When developing the OE, considerations must include the geographical terrain, climate, population, infrastructure, and jurisdictional authorities. Most state, local, tribal, and territorial agencies plan for the use of local and state resources, Emergency Management Assistance Compact capabilities, and the Initial Response Authority of local T10 units before incorporating Title 10 resources.

2-184. Army planners must understand that conducting life-saving operations during a CBRN incident requires that they be on the ground and operational within 24 hours to maximize the effectiveness of operations and contribute to the saving of lives.

2-185. Integrated planning between the Army Service component command, Headquarters, Department of the Army, United States Army Forces Command, and allocated units ensures the development of operational plans that nest effectively with CCMD concept plan requirements. Even though the locations are different, much of the detailed planning information can be transferred to other scenarios in other locations, perhaps with only minor refinements.

2-186. A catastrophic CBRN incident resulting in numerous casualties and disrupting normal life-support systems is overwhelming for the capabilities of local, state, and other federal agencies. When that happens, the primary agency must submit a request for assistance through the Federal Emergency Management Agency to the DOD within hours following a catastrophic CBRN incident.

SECTION VI — CBRN SUPPORT TO JOINT INTERAGENCY AND MULTINATIONAL OPERATIONS

2-187. While executing Army operations, CBRN forces operate as part of a joint force and within a multinational and interagency environment across the range of military operations. The ranges of military operations consist of the following (see JP 3-0 for additional information):

- Military engagement, security cooperations, and deterrence operations.
- Crises response and limited contingency operations.
- Large-scale combat operations.

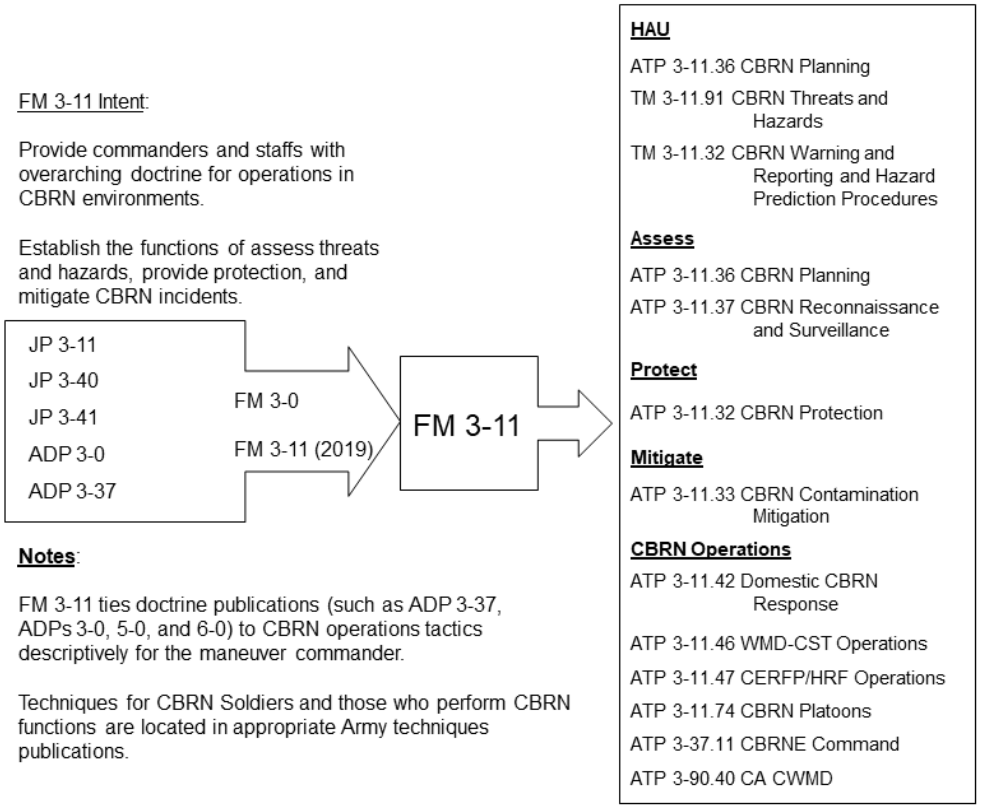
2-188. Each Service has CBRN capabilities that reflect the roles and approaches of their Service to operations within CBRN environments. Understanding the capabilities and limitations of each Service assists the joint operations staff to accomplish the mission by tailoring support for effective, efficient multi-Service or joint operations.

JOINT/INTERAGENCY/MULTINATIONAL CAPABILITIES

2-189. Army formations most effectively achieve overmatch through the integration and synchronization of joint and multinational capabilities. Employing capabilities from positions in multiple domains creates a cascade of dilemmas that defeats the enemy's operational approach.

MULTI-SERVICE

2-190. Techniques in CBRN environments that support CBRN defense are unified by a body of multi-Service doctrine. Each of the core functions of CBRN operations (assess, protect, and mitigate) and the integrating activities (HAU) support multi-Service ATPs. For the linkage of supporting doctrine from joint to multi-Service, see figure 2-13.



Legend:

ADP	Army doctrine publication	CWMD	countering weapons of mass destruction
ATP	Army techniques publication		
CA	combined arms	HAU	hazard awareness and understanding
CBRN	chemical, biological, radiological, or nuclear	FM	field manual
		JP	joint publication
CBRNE	chemical, biological, radiological, nuclear, and explosives	MTTP	multi-Service tactics, techniques, and procedures
CERFP-HRF	chemical, biological, radiological, nuclear and high-yield explosives enhanced response force package/homeland response force	TM	technical publication
		WMD-CST	weapons of mass destruction-civil support team

Figure 2-13. Doctrine linkage for joint to tactical

INTERAGENCY

2-191. Several civilian and DOD agencies support CBRN operations through various means, including technical reachback. Agencies such as the United States Army Research Institute of Chemical Defense and Department of Energy provide a wealth of information. For more information about U.S. agencies, see ATP 3-11.36.

MULTINATIONAL

2-192. *Multinational operations* is a collective term to describe military actions conducted by forces of two or more nations, usually undertaken within the structure of the coalition or alliance (JP 3-16). A coalition is an arrangement between two or more nations for a common multinational action outside the bounds of an established alliance. An alliance is the relationship that results from a formal agreement between two or more nations for broad, long-term objectives that further the common interests of the members. Alliances have standing headquarters and organizations, such as (for the Army) the North Atlantic Treaty Organization (NATO) or the Combined Forces Command, Korea. Operations in CBRN environments are varied in their levels of existing capabilities and interoperability with other nations.

2-193. NATO has well developed doctrine and interoperability plans for CBRN defense. NATO's strategic-level policy adopts a three-pillar approach to WMD nonproliferation and CBRN defense (see table 2-1):

- **Prevent**. To protect or reverse the proliferation of WMD by state and nonstate actors.
- **Protect**. To protect an alliance from WMD attack or CBRN incident should prevention fail.
- **Recover**. To recover should an alliance suffer a WMD attack or CBRN incident.

Table 2-1. NATO WMD/CBRN policy pillars

Prevent	*Protect*	*Recover*
Aims		
• Prevent the acquisition of CBRN substances. • Deter the use of CBRN substances. • Prevent the international use or the accidental release of CBRN substances. • Support the reduction of extant CBRN substances.	• Reduce extant CBRN substances. • Disrupt CBRN substances. • Support the prevention of follow-on incidents. • Mitigate the immediate effects of CBRN substances on personnel and Allied capability.	• Prevent follow-on attacks. • Manage the effects of a CBRN incident. • Restore operational effectiveness.
Legend: CBRN chemical, biological, radiological, or nuclear		

Note. For more information, see AJP-3.8.

2-194. Multinational partners may use different terminology than the United States for similar CBRN hazards, actions, and operations. For example, NATO doctrine recognizes three levels of CBRN identification as opposed to the four levels in U.S. CBRN doctrine (field confirmatory identification is omitted). To ensure that CBRN aspects of the operation are clearly understood by all participating members, CBRN planners who are involved in multinational operations review alliance and coalition policy, doctrine, and tactics.

INTEGRATION OF CAPABILITIES

2-195. The integration of joint capabilities does not require commands at all echelons, but it does require the understanding of its synergy at all levels of command. Joint synergy extends the principles of combined arms to operations conducted by two or more Service commands. The strengths of each Service, agency, or international partner overcome the limitations or reinforce the effects of the other components.

2-196. While executing multinational operations, U.S. forces liaise with assigned multinational forces early in the process based on mission requirements. Missions assigned to multinational units reflect the capabilities and limitations of each national contingent. The alignment of capabilities to missions is an important consideration in multinational operations.

Chapter 3

CBRN Organizations, Capabilities, and Training

This chapter is divided into two sections that describe United States Army CBRN organizations and capabilities and the training that supports the sustainment of those capabilities. CBRN units and staffs provide a mix of expertise and capabilities to commanders in support of joint and Army operations during complex CBRN environments. To provide these capabilities across the Army, the Chemical Corps provides an echeloned array of CBRN Soldiers, staffs, and units that integrate with maneuver forces and provide the necessary expertise and capabilities. Section I provides information for commanders and staffs at all echelons to help them understand the organization, capabilities, and limitations of CBRN organizations. Section II provides information on CBRN training.

SECTION I — CBRN ORGANIZATIONS AND CAPABILITIES

3-1. CBRN staffs and units are organized into scalable, tailorable, and multifunctional formations that can best support joint and Army operations. The tailorable force increases the mission command and sustainment capability for battalions and is responsive to and aligned with BCTs, divisions, and corps.

3-2. CBRN staffs are limited in size and capacity across all echelons. CBRN operations are not the sole responsibility of the CBRN staff; they are integrated and executed across staff sections. When CBRN incidents occur, logistics, medical support, maintenance support, and every staff section is impacted and quickly overwhelmed if they are not—as a collective—prepared to execute large-scale combat operations under CBRN conditions.

3-3. The balance of actions taken by CBRN platoons, companies, and battalions falls into the functions of assess threats and hazards and mitigate CBRN incidents. CBRN units are primarily tasked with assess tasks (such as reconnaissance and surveillance) and mitigate tasks (such as decontamination). However, it is a leader's responsibility to ensure that all Soldiers train and execute tasks that support the assessment of, protection against, and mitigation of CBRN hazards.

3-4. Table 3-1, page 58, provides a matrix of tasks that support CBRN operations which exist at different echelons and units. For detailed information about CBRN staffs, organizations, and detachments across the Army and other Services, see ATP 3-05.11 and ATP 3-11.36. The Xs in table 3-1 represent the best-employment capabilities. While many of the units have the capability to complete several of the tasks listed, they may not be the best-resourced or they may not possess capabilities that other units possess.

Table 3-1. CBRN capabilities matrix

Army Component	Higher Headquarters	CBRN Unit	Collect CBRN information	Conduct CBRN hazard analysis	Conduct vulnerabilities assessment	Conduct capabilities assessment	Conduct CBRN reconnaissance (mounted)	Conduct CBRN reconnaissance (dismounted)	Conduct sample management	Conduct CBRN surveillance	Conduct CBRN contamination control	Conduct CBRN decontamination	Conduct fixed & terrain decontamination	Conduct operational decontamination	Conduct special decontamination[1]	Neutralize CBRN hazards	Provide technical CBRN expertise	Integrate CBRN information across the operations process	Conduct modeling for CBRN incidents
A/NG	BCT	Light Recon PLT (IBCT)	X	X				X		X	X						X		
		Light Recon PLT (ABN)	X	X				X		X	X						X		
		Recon PLT (ABCT)	X				X			X	X						X		
		Recon PLT (SBCT)	X				X			X	X						X		
AR	ASCC	CBRN Coordination Detachment	X	X	X	X											X	X	X
A/AR/ NG	Hazard Response Company	Hazard Assessment Platoon	X	X	X	X		X	X	X	X	X		X	X	X	X		
		R&S PLT (NBCRV)	X				X		X	X	X						X		
A	CBRNE Response Company	CBRNE Response Tm (CRT)	X	X	X	X		X	X	X	X	X			X	X	X		
A	Heavy Decon and Recon Company	Decon PLT (Heavy)	X								X	X	X		X	X	X		
		Recon PLT(Heavy)	X				X		X	X	X						X		
AR/NG	Area Support Company	Recon PLT (Light)	X					X		X	X						X		
		Decon PLT (Heavy)									X	X	X			X	X		
		CBRN PLT (Bio)	X							X	X						X		
A/NG	Special Operations Forces	SOF CBRN Company (A)	X	X	X	X		X	X	X	X	X			X	X	X		
		CRD (NG)	X	X	X	X		X	X	X	X	X			X	X	X		
		Decon & Recon Team (DRT)	X	X	X	X		X	X	X	X	X			X	X	X		

Table 3-1. CBRN capabilities matrix (continued)

Army Component	Higher Headquarters	CBRN Unit	Collect CBRN information	Conduct CBRN hazard analysis	Conduct vulnerabilities assessment	Conduct capabilities assessment	Conduct CBRN reconnaissance (mounted)	Conduct CBRN reconnaissance (dismounted)	Conduct sample management	Conduct CBRN surveillance	Conduct CBRN contamination control	Conduct CBRN decontamination	Conduct fixed & terrain decontamination	Conduct operational decontamination	Conduct special decontamination[1]	Neutralize CBRN hazards	Provide technical CBRN expertise	Integrate CBRN information across the operations	Disseminate CBRN information	Conduct modeling for CBRN incidents
A	CBRNE CMD	Nuclear Disablement Team (NDT)	X													X	X			
A		WMD Coordination Team (WCT)		X	X	X											X		X	X
A		CARA Light & Heavy Expeditionary Labs	X			X			X	X	X	X					X		X	
A		CARA Remediation Response Team	X	X	X	X		X	X	X	X	X					X		X	
A/AR/ NG	All	CBRN Staff		X	X	X												X	X	X

Notes.
[1]Special decontamination techniques are described in ATP 3-11.33.

Legend.

A	active Army	CMD	command
ABCT	armored brigade combat team	Decon	decontamination
ABN	airborne	IBCT	infantry brigade combat team
AR	Army reserve	Labs	laboratory
ASCC	Army service component command	NBCRV	nuclear, biological, and chemical reconnaissance vehicle
BCT	brigade combat team		
Bio	biological	NDT	nuclear disablement team
CARA	Chemical, Biological, Radiological, Nuclear and Explosives Analytical and Remediation Activity	NG	National Guard
		PLT	platoon
		recon	reconnaissance
		R&S	reconnaissance and surveillance
CBRN	chemical, biological, radiological, and nuclear	SBCT	Stryker brigade combat team
CBRNE	chemical, biological, radiological, nuclear and explosive	Tm	team
		WCT	weapons of mass destruction coordination team
CBRNWRS	chemical, biological, radiological, and nuclear warning and reporting system	WMD	weapons of mass destruction

CBRNE COMMAND

3-5. The Department of the Army designed the CBRNE command as a deployable, operational-level command that commands and controls CBRN and EOD units. The CBRNE command is a JTF-capable headquarters that can rapidly deploy in support of CWMD and CBRNE operations. The CBRNE command integrates, coordinates, deploys, and provides trained and ready CBRN and EOD forces. It exercises mission command of CBRN and EOD forces in support of joint, interagency, and multinational forces. When the

CBRNE command tactical command post is deployed, it can integrate with the supported headquarters staff—or it can operate as a separate headquarters to conduct CBRN, EOD, and CWMD planning. The command has the capacity to execute simultaneous missions within and outside the continental United States. The CBRNE command maintains technical links with the appropriate joint, federal, and state CBRN and EOD assets and with research, development, and technical communities to assure response readiness. See figure 3-1.

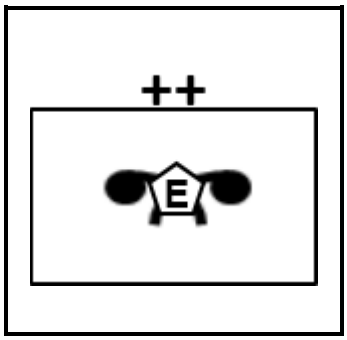


Figure 3-1. CBRNE command graphic

3-6. The CBRNE command provides support through its specialized teams (WMD coordination teams and NDTs) and laboratories (Chemical, Biological, Radiological, Nuclear and Explosives Analytical and Remediation Activity; and the Global Field Medical Laboratory). The CBRNE command provides WMD coordination teams to supported headquarters, primarily at the corps level and above, to conduct liaison and advise on CBRNE threats and hazards. WMD coordination teams provide specialized CBRNE subject matter expertise to facilitate planning and coordination for countering CBRNE and WMD threats in support of operational and theater requirements. These deployable teams are composed of CBRN, EOD, and nuclear experts with organic intelligence and communications assets that advise supported corps, Army Service component commands, or other organizations on CBRNE planning and operations.

3-7. The CBRNE command is supported by deployable field laboratories that provide advanced technologies for validation identification in theater. The Chemical, Biological, Radiological, Nuclear and Explosives Analytical and Remediation Activity is an all-civilian organization that has remediation response teams who conduct emergency response to assess and remediate recovered chemical warfare material or conduct technical escorts of chemical material worldwide. The Global Medical Field Laboratory is an all-military organization that has a robust diagnostic capability to identify a wide range of environmental contaminants, including chemical/biological contaminants and radioisotopes. When deployed, the laboratories become theater-level assets. The Global Medical Field Laboratory provides Level IV preventive medicine and performs occupational and environmental health surveillance and assessments.

3-8. NDTs are the DOD capability designed to assess, exploit, characterize, and disable facilities associated with the nuclear fuel cycle in semipermissive or permissive environments. NDTs advise commanders on the risks associated with these facilities, provide detailed information related to potential nuclear proliferation, and make recommendations on the disposal of nuclear material.

Note. For more information on the CBRNE command, see ATP 3-37.11 and FM 3-94.

CBRN BRIGADE

3-9. CBRN brigades exist within all three components (Regular Army, United States Army Reserve, and Army National Guard), providing command and control for battalions and separate companies that have a wide range of capabilities (such as CBRN reconnaissance, decontamination, and biological detection). A CBRN brigade is dependent on other elements for administrative, logistic, medical, and maintenance support. See figure 3-2.

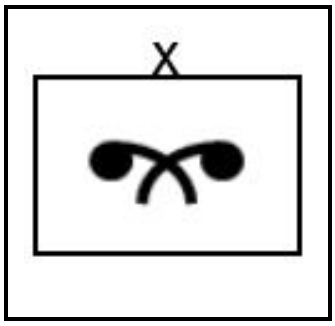


Figure 3-2. CBRN brigade graphic

3-10. The CBRN brigade is the primary CBRN force provider for execution of CBRN operations for the corps. The CBRN brigade provides support for the corps and for echelons above the corps. It typically consists of a headquarters and two to five battalions. With the advice of the staff and the corps CBRN section, the CBRN brigade commander evaluates the number of CBRN units needed to support the corps' scheme of maneuver. The brigade commander may advise the corps commander on the employment and sustainment of task-organized CBRN assets.

3-11. The CBRN brigade offers a range of capabilities to theater. Units from these brigades task-organize to support the CCMD, subordinate joint force commanders, Army force commanders, and functional components faced with CBRN threats or hazards.

3-12. The brigade headquarters provides logistical support and facilitates the coordination of support for subordinate units. This allows the supported unit staff to concentrate on CBRN operations and execution. CBRN brigades lack the capabilities to provide assigned units logistical support. CBRN brigades coordinate logistical support and facilities for subordinate units, which allows the subordinate staff to focus on CBRN operations.

OFFENSIVE OPERATIONS

3-13. In offensive operations, the CBRN brigade that is task-organized for the mission provides CBRN assets (reconnaissance, hazard response, and CBRNE response teams) to the security force. Because the security force operates forward of the main body of the corps, planners carefully consider the appropriate command relationship between these CBRN assets and the designated general security force. As the forward line of troops advances, the CBRN brigade allocates units to accomplish the security and stability tasks required to maintain freedom of action in the close operation and to support the continuous consolidation of gains. The remainder of the brigade task-organizes based on METT-TC(I). The command and support relationships of these task-organized CBRN units are determined based on the brigade headquarters' ability to coordinate support and provide command and control. The capabilities of the CBRN brigade include—

- Executing or transferring the mission command of units assigned to the CBRN brigade (up to five subordinate chemical battalions).
- Providing intelligence support for CBRN operations.
- Planning and coordinating with the division, corps, or theater Army operations to which they are assigned or attached.
- Assessing CBRN unit capabilities, utilization, and impacts on plans and operations to the division, corps, and theater Army operations.
- Allocating units and resources for the support of CBRN reconnaissance, decontamination, and biological detection.
- Operating a tactical command post and a main command post.
- Coordinating sustainment for CBRN operations.

DEFENSIVE OPERATIONS

3-14. The CBRN brigade plans and allocates CBRN units based on the corps mission and the operational and mission variables. Their focus is three-fold: protect the reserve or striking force to support an essential counterattack, provide support to units in the main battle operations, and retain a flexible and responsive CBRN force in in the rear area. Due to an increased risk of CBRN attack, units in the reserve or striking force

require CBRN reconnaissance support to provide early warning to commanders and decontamination support to rapidly reconstitute their combat power. Organic CBRN assets and decontamination capabilities are used for the support of units in close operations, enhanced as required with the use of CBRN units. To prevent the isolation of forces or the early culmination of defensive operations as a result of CBRN attacks, CBRN route reconnaissance is conducted along the ground lines of communication from the support area to the forward line of troops.

3-15. CBRN units are allocated from the brigade to assess, protect, and mitigate based on the CBRN threat to the corps support and rear consolidation operations. The command relationship depends on mission variables. Authority is relegated by the CCMD to subordinate commanders, and the workload is designated through operations or task assignments. Requests for immediate CBRN support flow through the corps command post to the CBRN brigade. The CBRN brigade tactical operations center then directs the mission or the tasking to the appropriate CBRN unit. The corps CBRN section handles routine CBRN support requests. The corps CBRN section analyzes the request. The corps G-3 assigns a priority to the requirement. The prioritized requirement is passed back to the CBRN brigade tactical operations center. The CBRN brigade staff determines the necessary allocation of resources and issues instructions to the appropriate subordinate unit. Subordinate units are task-organized according to the MDMP.

CBRN BATTALION

3-16. A CBRN battalion supports a division or the echelons above a division. It consists of a headquarters and two to five CBRN companies. The battalions exist within all three components, providing command and control for companies that have a wide range of capabilities. The CBRN battalion depends on appropriate elements within theater for religious, legal, force health protection, finance, and personnel and administrative services. See figure 3-3.

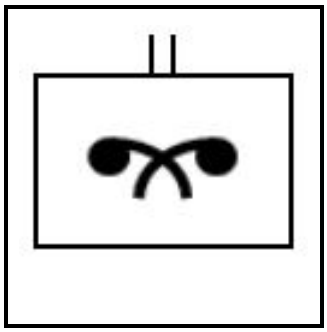


Figure 3-3. CBRN battalion graphic

3-17. The command and support relationship established with the supported unit directly affects the roles, functions, and responsibilities of the CBRN battalion. The division commander may place attached CBRN companies under the control of the attached CBRN battalion.

3-18. When a CBRN battalion supports a corps instead of a CBRN brigade, the corps CBRN staff assumes a greater role in planning and coordinating CBRN unit functions (such as the coordination of logistical support to CBRN units). The battalion advises the supported commander on how to best employ its assets.

OFFENSIVE OPERATIONS

3-19. The organization and positioning of the CBRN battalion is based on the MDMP and the ability of the CBRN brigade or supported division to provide command and control and logistical support. A direct support role may be the most effective way to provide the supported unit with rapid and flexible support. The CBRN battalion provides command and control for two to five CBRN companies. The capabilities of the CBRN battalion include—

- Executing or transitioning mission command of personnel assigned to the CBRN battalion headquarters and up to five CBRN companies.
- Providing intelligence support for CBRN operations.

- Planning and coordinating with the brigade, division, corps, or theater Army area to which they are assigned or attached.
- Assessing chemical unit capabilities, utilization, and impacts on plans and operations to the brigade, division, corps, and theater Army area.
- Operating a battalion main command post.
- Coordinating sustainment for CBRN operations.
- Ensuring the distribution of petroleum, oils, lubricant, and special supplies for assigned companies.

DEFENSIVE OPERATIONS

3-20. CBRN battalions are normally positioned based on METT-TC(I). Security forces typically do not require a CBRN battalion headquarters. CBRN battalions normally support the divisions that are conducting the main and supporting efforts of the corps. The command and support relationships of the battalions that are supporting the divisions are selected to provide the supported commander with the capability and versatility to conduct the defense. Normally, at least one battalion headquarters controls CBRN assets in the corps area.

3-21. The CBRN battalion provides assets for the support of division consolidation activities. The battalion staff analyzes the assigned missions/tasks and develops a support plan that defeats the use of CBRN from enemy-protracted resistance. An effective support plan maintains strategic and operational reach to forces in close and deep operations. The battalion may place subordinate CBRN units in a general support or a direct support role. The area of responsibility, the threat, and the ability to communicate dictate which technique is used. The battalion may task-organize subordinate companies to form CBRN teams, depending on METT-TC(I).

3-22. CBRN battalions plan and execute CBRN support operations for the division. Units requiring immediate CBRN support send a CBRN support request through their higher headquarters. The CBRN staff analyzes and coordinates with G-3 plans to determine future requirements. The division commander issues guidance based on recommendations of the CBRN staff. The battalion commander executes the division commander's guidance, and the division chemical section supervises staff.

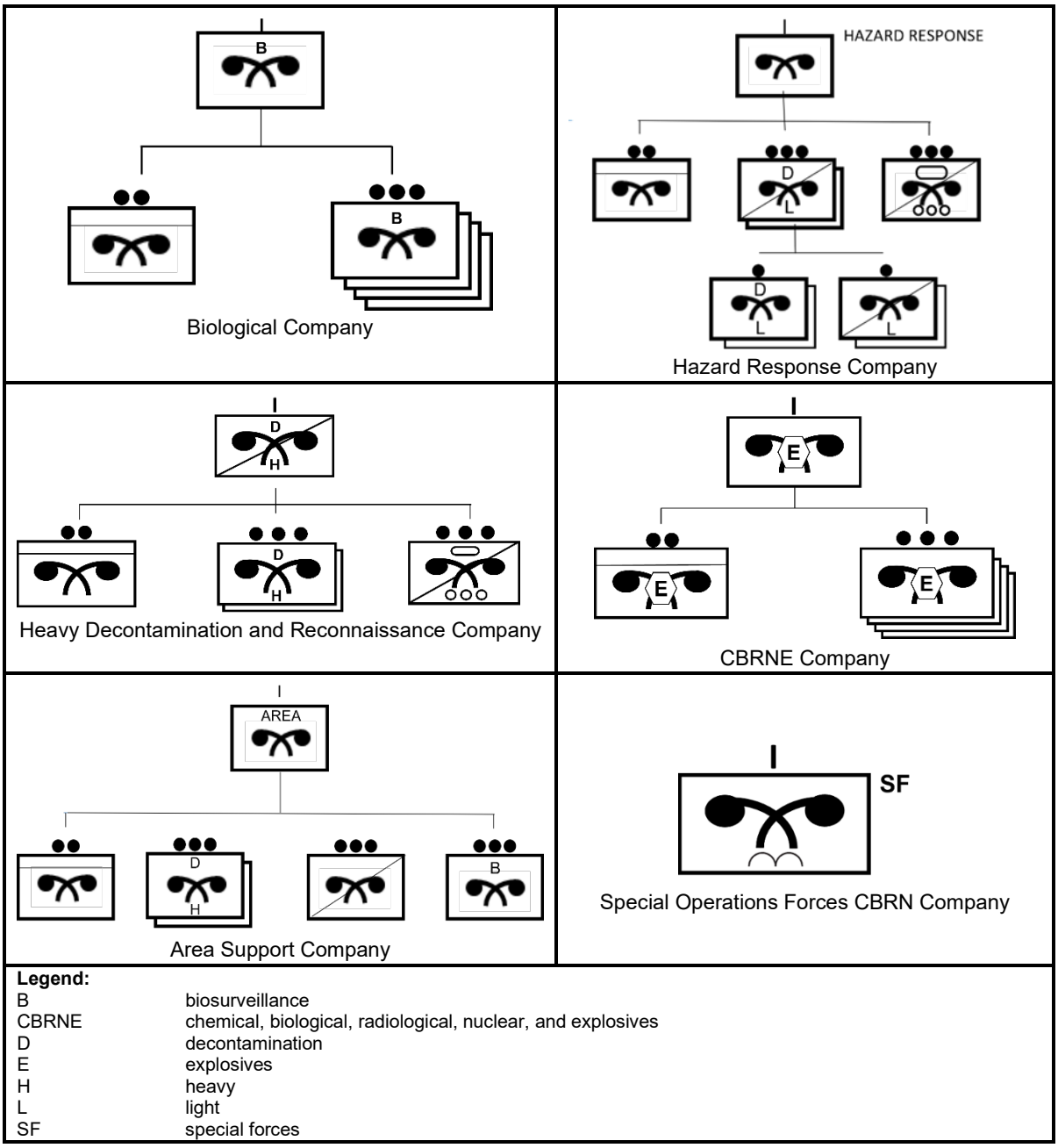
CBRN COMPANY

3-23. The CBRN company consists of a headquarters and platoon/team capabilities as described in ATP 3-11.36. The six basic company structures are area support, hazard response, CBRNE, special operations forces (CBRN), heavy decontamination and reconnaissance, and biosurveillance. See figure 3-4, page 64, for graphic depictions of each CBRN company structure.

3-24. Based on the enemy's intent to use ground-contaminating CBRN agents, the CBRN reconnaissance platoon focuses on maintaining freedom of maneuver behind units that are in close combat. One section ensures that the main and secondary routes to and through the area are clear of contamination for each unit. The supported units and higher headquarters coordinate the selection of decontamination sites to preclude the use of key pieces of terrain.

Note. For more information on CBRN and CBRNE companies, see ATP 3-11.36.

3-25. The CBRN companies have varied capabilities that exist in their assigned platoons. The platoons can be further task-organized by their capabilities. Lead maneuver units are prioritized for reconnaissance and surveillance support. The offensive tasks (movement to contact, attack, exploitation, and pursuit) require CBRN companies that are task-organized for the support of locating and marking contaminated areas and aiding in decontamination. This allows for continued operations while limiting the spread of contamination. Decontamination elements stand ready to augment maneuver operational decontamination efforts to preserve combat power and maintain momentum.



Legend:	
B	biosurveillance
CBRNE	chemical, biological, radiological, nuclear, and explosives
D	decontamination
E	explosives
H	heavy
L	light
SF	special forces

Figure 3-4. CBRN companies

AREA SUPPORT

3-26. An area support company provides CBRN reconnaissance, surveillance, and decontamination support within theater and corps support operations and consolidation operations. It locates, identifies, and marks routes and boundaries around contaminated areas. An area support company has a biological surveillance and monitoring capability and the means of providing support to terrain and fixed-site decontamination. Their subordinate platoons conduct the following tactical tasks:

- CBRN reconnaissance and surveillance.
- Operational and thorough decontamination support.
- Terrain, fixed-site, and aircraft decontamination.

3-27. The area support company is aligned in support of the corps. The throughput of the decontamination platoon is greater for the area support company than the hazard response company due to equipment capabilities.

HAZARD RESPONSE

3-28. A hazard response company supports brigades by providing CBRN reconnaissance, surveillance, and decontamination. The company can remain task-organized under a CBRN battalion or brigade for the support of division or corps missions. The company locates, identifies, and marks routes and boundaries around contaminated areas; operates protected within hazard areas; assesses hazards to support site exploitation; and provides field identification of known agents and materials. Their subordinate platoons conduct the following tasks:

- CBRN reconnaissance and surveillance.
- Operational and thorough (with multiple platoons) decontamination support.
- Site assessment and characterization.

3-29. The company is aligned to support the BCT and its organic units. The company provides the BCT planners an accurate estimate of their capabilities. Although the BCT has decontamination capabilities, it does not have the capacity for operations requiring the decontamination of large numbers of equipment without additional resources. Units need to understand and plan for these limitations.

CBRNE

3-30. A CBRNE company consists of specialized teams (called CBRNE response teams [CRTs]), including EOD, that provide the advice, assessment, sampling, detection, verification, render-safe, packaging, and escort of CBRN and explosive devices or hazards. When provided with security from maneuver elements, CBRNE companies enable combined arms CWMD operations and sensitive-site exploitation that supports the intelligence and targeting processes. Their subordinate platoons conduct the following tactical tasks:

- Exploit CBRNE tactical sites.
- Conduct WMD defeat, disablement, and/or disposal.
- Mitigate CBRNE hazards.
- Escort CBRN samples.
- Escort WMD/CBRNE devices.

SPECIAL OPERATIONS FORCES (CBRN)

3-31. The United States Army Special Operations Command mans, trains, equips, educates, organizes, sustains, and supports forces to conduct special operations across the full range of military operations and spectrum of conflict in support of joint force commanders and interagency partners to meet theater and national objectives. Through an indigenous approach, Army Special Operations Forces (ARSOF) regularly interact with other governmental organizations and foreign militaries to shape the environment for Army operations. Operations to shape the OE provide opportunities for conventional forces and SOF interdependence, integration, interoperability, and information sharing. ARSOF assists in detecting and defeating proliferators and their networks through the ARSOF critical capabilities and during ARSOF core activities. See figure 3-5, page 66, for ARSOF CBRN units.

3-32. ARSOF provides capabilities for the support of CWMD and large-scale combat operations. ARSOF capabilities include the ability to find, identify, disrupt, delay, neutralize, or destroy enemy WMD, WMD delivery systems, and related materials.

Special Operations Forces CBRN Company

3-33. The former chemical reconnaissance detachments and chemical decontamination detachments in the special forces groups are undergoing a force design update to merge them into the new ARSOF CBRN company. The effective date is projected for 4th quarter FY2024. The ARSOF CBRN company consists of thirty personnel organized into a headquarters section with five personnel, three CBRN reconnaissance/decontamination teams with seven personnel each, and one CWMD support team with five personnel. The ARSOF CBRN company provides CBRN reconnaissance and surveillance, hasty and technical decontamination, site exploitation, exploitation analysis support, and targeting support for its

assigned special forces group. The elements of the ARSOF CBRN company are task-organized to support the group and its subordinate units. The usual alignment is one CBRN reconnaissance/decontamination team per special forces battalion, and the CWMD support team aligned with the Critical Threats Advisory Company.

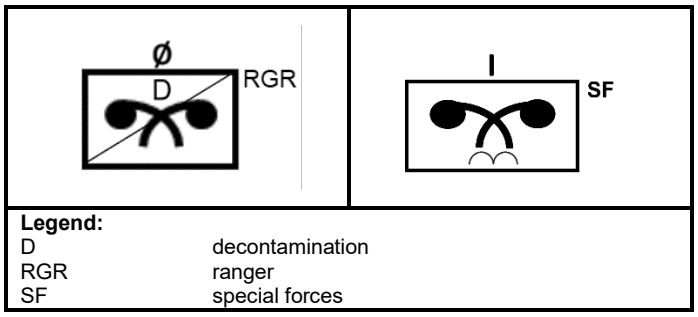


Figure 3-5. ARSOF CBRN units

Ranger Decontamination and Reconnaissance Team

3-34. The Ranger battalion decontamination/reconnaissance team consists of nine personnel. The decontamination/reconnaissance team provides CBRN detection, sampling, and assessment capability to its supported battalion, and the ability to perform decontamination of a platoon size element without additional augmentation.

3-35. ARSOF operations and their dependencies must be considered early in joint and Army planning processes. ARSOF does not have the logistics support to operate long-term in a CBRN environment and relies on the Army to provide some CBRNE capabilities, such as thorough decontamination and individual protective equipment/personal protective equipment resupply.

Note. For detailed information on ARSOF operational tenets and interdependence, see ADP 3-05. For more information about special operations in CBRN environments, see ATP 3-05.11.

BIOSURVEILLANCE

3-36. A biological CBRN company provides biological surveillance and monitoring of key areas and critical nodes. It monitors, samples, detects, presumptively identifies, and reports biological agents.

HEAVY DECONTAMINATION AND RECONNAISSANCE

3-37. A heavy decontamination and reconnaissance company provides CBRN reconnaissance, surveillance, and decontamination in aerial ports of debarkation and seaports of debarkation. The heavy reconnaissance and decontamination company has the capabilities to conduct CBRN reconnaissance, operational and thorough decontamination, and terrain and fixed-site decontamination.

CBRN STAFF

3-38. CBRN staffs are the commander's subject matter experts at all levels of command. CBRN staff sections exist at all echelons, from the Army Service component command level to the battalion level. The CBRN staff performs the same basic functions at echelon. CBRN staff responsibilities include the four basic activities of the operations process: planning, preparation, execution, and continuous assessment.

3-39. CBRN staff elements perform many of the same basic duties at most echelons of command as described in ATP 3-11.36. They provide the necessary expertise in understanding CBRN conditions to provide advice to the commander on the necessary information collection, CBRN defense, and response actions to take while conducting offensive tasks. They integrate information collected from all tasks to gain a better understanding of the CBRN environment and its potential impact on operations.

3-40. The CBRN staff integrates into IPOE, bringing their expertise to the process. IPOE is integral to targeting, risk management, and the information collection process. CBRN vulnerability assessments are the CBRN staff contributions to the IPOE process. They bring an understanding of how enemy CBRN COAs affect the OE and the positioning of CBRN assets. In identifying intelligence gaps during the IPOE process, information requirements are established.

3-41. The CBRN staff helps define the OE by identifying the effects of operational and mission variables on operations. Staff planners often utilize operational variables as an analytical starting point to assess the OE, gain a better understanding of a geographic area, and subsequently apply that understanding to achieve objectives.

3-42. Understanding the OE and the threat leads to the information collection strategy and the targeting of specific enemy CBRN capabilities. The CBRN staff describes the effects of the identified variables, threat evaluations, and enemy COAs. Terrain and weather have a profound effect on any CBRN effects that might occur. Civil considerations reflect the impact that industrial facilities, storage sites, and large populations have on CBRN assessments. The assistant chief of staff, the civil affairs operations, and the associated civil affairs forces provide the most up-to-date information on the civil component in the OE.

3-43. The CBRN staff functions include the following items, which are further discussed in ATP 3-11.36:

- Conduct CBRN threat and vulnerability assessments in coordination with the S2/G2 and S3/G3, respectively.
- Recommend courses of action to minimize friendly and civilian vulnerability to the S3/G3.
- Coordinate across the entire staff while assessing the effects of enemy CBRN-related attacks on current and future operations.
- Coordinate Army health system support requirements for CBRN operations with the surgeon to include medical CBRN defense material.
- Establish personnel recovery coordination measures for CBRN environments.
- Advise the commander on the employment of CBRN assets and capabilities.
- Operate the CBRNWRS to gain HAU to include modeling hazards with the Joint Effects Model.
- Advise the commander on the effects of CBRN hazards.
- Assess weather and terrain data to determine the environmental effects on potential CBRN hazards.
- Assist subordinate CBRN staffs and units.
- Inform and integrate CBRN unit staff into plans and operations to include MDMP, rehearsals, and commander's updates.
- Participate in pertinent working groups (such as protection, information collection, and targeting/effects).
- Manage the availability and readiness of CBRN defense equipment in coordination with the S4/G4.
- Coordinate with mortuary affairs units for the processing of contaminated human remains.

3-44. CBRN staffs at brigade, battalion, and ARSOF units focus on support to the commander's scheme of maneuver to support the commander's intent and concept of operation. Brigade, special forces group, and battalion CBRN officers and noncommissioned officers integrate CBRN assets into mission planning and ensure that organic CBRN assets are trained and synchronized to support maneuver units. CBRN brigade coordination elements and battalion staffs integrate into all portions of the operations process. This includes the MDMP, rehearsals, other key battle rhythm events and working groups, and commander's updates with corps and division CBRN staff. In addition, they train and provide guidance to CBRN specialists at the company, battery, or troop/detachment level.

3-45. CBRN staffs focus on informing and advising the commander on CBRN hazards, recommending CBRN courses of action, and supervising the execution of commander's selected COA. They advise and make recommendations based on their running estimates, enabling the commander to assess and manage risk and to consider which vulnerabilities to accept or mitigate. CBRN staffs maintain running estimates to assess CBRN operations and how units are postured to support current and future operations in a CBRN environment. Examples of CBRN facts and assumptions that may impact operations include—

- Adversarial CBRN employment and the effects of CBRN hazards.
- Potential weather effects.
- Named areas of interest with suspected CBRN hazards.

- Facilities that contain TIM which could create hazards if released.
- Friendly and partner nation CBRN readiness and CBRN unit status.

3-46. CBRN staffs support the commander in communicating decisions and intentions through plans and orders. The commander's activities of understand, visualize, describe, and direct are supported by the running estimates provided by CBRN staffs and the subject matter expertise provided by CBRN forces at every echelon. See appendix C for an example of a CBRN running staff estimate.

3-47. CBRN staffs at all levels work together to plan, prepare, execute, assess, and sustain CBRN training, unit readiness, and standard operating procedures. CBRN staffs plan and coordinate the employment of supporting CBRN units.

3-48. CBRN staffs function as the CBRN control cell to track, analyze, assess CBRN hazards, and advise the commander on actions in CBRN environments. Capabilities for CBRN control exist all the way down to the company level. This cell is required to report CBRN messages in all formats (voice and digital). The CBRN warning and reporting system allows commanders and CBRN staffs to recommend protection, contamination avoidance, and mitigation measures to provide freedom of maneuver while protecting the force.

CORPS- AND DIVISION-LEVEL CBRN STAFF

3-49. The CBRN staff at corps and division level are heavily involved in CBRN planning to include the orders process. They prepare CBRN operations guidance for the G3 or G34 in appendix 10 (CBRN) to annex E (Protection). They identify CBRN capabilities required and recommend CBRN units to support operations to the G5. The CBRN staff integrates CBRN operations and the CBRN defense plan into the base order (to include the CBRN threat, MOPP levels and operational exposure guidance, and other annexes). They lead the CBRN working group that supports the protection working group. For example, the protection annex includes protection consideration for CBRN hazards, based on threat and vulnerability assessments, and provides subordinate units guidance on CBRN protection. The CBRN staff assists the G-3 by monitoring CBRN readiness and radiation exposure status through readiness reporting and coordinates with the staff on CBRN issues to include the G-1 on CBRN personnel, G-4 on CBRN equipment and supplies, and the surgeon concerning medical CBRN issues.

BRIGADE AND LOWER ECHELON STAFF

3-50. CBRN staffs at brigade and battalion level focus on support to the commander's scheme of maneuver to support the commander's intent and concept of operation. Brigade and battalion CBRN officers and noncommissioned officers integrate CBRN units into mission planning and ensure that organic CBRN capabilities are trained and synchronized to support maneuver units. CBRN brigade and battalion staffs integrate into all portions of the operations process. This includes the MDMP, rehearsals, key battle rhythm events and working groups, and commander's updates with corps and division CBRN staff. In addition, they train and provide guidance to CBRN specialists at the company, battery, or troop/detachment level.

CBRN DEFENSE INTEGRATION, COLLABORATION, AND SYNCHRONIZATION

3-51. Reliance solely on organizational CBRN sensors limits HAU. Integration of all sensors (CBRN and non-CBRN) provides a more accurate information on the CBRN OE. Situational understanding can be achieved only through the integration of capabilities across the warfighting functions. When operating in a CBRN environment, the tactical commander is challenged to make timely and informed risk based decisions. CBRN staff may use automated hazard prediction modeling capabilities to estimate civilian casualties and to model effects on civilian populations. To ensure survivability while retaining freedom of action in accomplishing the mission, the commander’s decision making is supported by HAU.

3-52. The integration, collaboration, and synchronization of the warfighting functions primarily occur within the staffs. The integration of all-source intelligence and information incorporating CBRN sensing and detection capabilities provides a better picture of the OE and facilitation of situational understanding. The other staff sections coordinate and integrate the requirements of the CBRN staff. For more considerations on

the warfighting functions, see appendix A. The types of CBRN staff integrations with other staffs include the following:

- **Assistant chief of staff, personnel (G-1)/battalion or brigade personnel staff officer (S-1)**. The CBRN staff collaborates with the personnel section concerning the status of CBRN personnel, CBRN personnel assignments and using hazard prediction modeling to predict CBRN casualties.
- **The chaplain section (echelons above brigade) or unit ministry team (brigade and battalion)**. The CBRN staff collaborates with chaplain sections or unit ministry teams for provision of religious support to Soldiers, DOD Civilians, and authorized civilians and advisement on religion, ethics, and morale following a CBRN incident.
- **G-2/S-2**. The CBRN staff works with intelligence section to understand enemy CBRN capabilities and vulnerabilities; historical, current, and forecasted weather; and the indicators of intent to employ CBRN weapons. In coordination with the G2/S-2, Air Force Staff Weather Officers provide expert analysis of weather impacts.
- **G-3/S-3**. The CBRN staff provides information on CBRN defense readiness, training, vulnerabilities, effects on operations, employment of CBRN units.
- **Assistant chief of staff, logistics (G-4)/battalion or brigade logistics staff officer (S-4) (logistics)**. The CBRN staff coordinates with logistics staffs to plan CBRN defense equipment and supplies requirements, maintenance of CBRN equipment and transportation of CBRN assets.
- **Assistant chief of staff, plans**. The CBRN staff coordinates with the plans officer for CBRN planning to include information on host-nation forces decontamination and reconnaissance that are locally available to support, train, and equip local nationals for CBRN defense.
- **Civil Affairs operations officer**. The Civil Affairs operations staff officer is responsible for the planning, integrating, evaluating, and assessment of civil considerations into the MDMP and Army design methodologies. Civil Affairs operations establish liaisons with civilian organizations to coordinate their efforts with Army CBRN defense and CWMD operations. These efforts protect indigenous populations and institutions and limit collateral damage.
- **Command surgeon and medical staff**. The command surgeon and medical staff participate in the CBRN and intelligence staffs' working groups and meetings to—
  - Advise on medical CBRN defensive actions for related health threats (such as immunizations and pretreatments, protection against diseases and contaminated food and water).
  - Advise on chemical, biological, and radiological related health status of United States, multinational, and enemy forces.
  - Coordinate laboratory analysis of CBRN environmental samples and clinical specimens.
  - Document potential or suspected Soldier CBRN hazard exposures in order to inform the commanders of potential signs and symptoms, mission degradation, increased medical surveillance and CBRN hazard specific treatment.
- **Protection cells and protection working groups.** At echelons above brigade the CBRN staff is assigned to the protection cell to plan for and advises the commander on all CBRN operations and to ensure CBRN capabilities are appropriately synchronized and integrated in support of Army operations (see appendix A). At brigade echelon and below the CBRN staff participates in the protection working group and provides support to the protection coordinator ensuring CBRN capabilities are properly synchronized and integrated in support of Army operations (see appendix C).

THREAT ASSESSMENTS

3-53. IPOE allows the commander to visualize the enemy situation and discern the enemy commander's probable intent. Identifying adversary capabilities, strengths, and weaknesses and assessing intent are critical to providing commanders early and accurate warnings of enemy actions. Accurate assessments are necessary to be able to recognize adversary capabilities, set the conditions to win future conflicts, and support the capabilities of U.S. and partner nations to protect themselves. The CBRN staff assists in the development of the overall CBRN threat template with the intelligence staff and identifies vulnerabilities to the mission and forces.

3-54. CBRN staffs maintain running estimates, continuously updating threat assessments as information is received. These assessments help with understanding the current OE and with countering current and future CBRN threats. The threat assessment process is continuous, and it is integrated into the operations process.

It informs the commander's CCIR and determines the best locations to employ information collection capabilities. Assessments help commanders develop, adapt, and refine their plans.

3-55. CBRN staffs provide expertise to the G-2/S-2 concerning CBRN threats and hazards that impact the commander's decisions. CBRN threat assessments help estimate the probability, type, amount, and manner of WMD that are employed. The CBRN threat is a key input for the vulnerability analysis process. The CBRN threat assessment helps the commander understand CBRN threats and hazards (include TIMs). The threat assessment provides a framework for mission planning. The threat assessment process is continuous and directly tied to the commander's decisions throughout the conduct of operations.

Note. For more information on CBRN assessment activities, see ATP 3-11.36.

Example Impact of Threat Assessment

CBRN staff at the division level, integrated into the planning process, analyze the likelihood of whether the enemy may employ CBRN threats. They prepare a threat assessment assuming that a potential hazard exists based on a history of the enemy employing CBRN weapons at wet gap-crossing sites and breaching operations to defend key terrain. The staff develops courses of action to provide an early warning of a CBRN attack. An information collection plan is developed to acquire more information about potential CBRN attack locations. CBRN reconnaissance assets are integrated into the collection plan and tasked to answer CCIR.

The division's organic heavy CBRN reconnaissance platoon is assigned a wet gap-crossing site within a named area of interest. The nuclear, biological, and chemical reconnaissance vehicle platoon, which is collocated with a cavalry troop, establishes a listening post/observation post within the range of its sensors. During operations, the nuclear, biological, and chemical reconnaissance vehicle platoon submits a CBRN 1 report of a suspected CBRN attack through indirect fires at the named areas of interest.

OFFENSIVE OPERATIONS

3-56. CBRN staff considerations for the offensive operations include—

- Focusing CBRN defense to provide the commander flexibility and facilitate synchronization.
- Planning operational decontamination, as necessary.
- Planning thorough decontamination, typically as a sequel.
- Selecting and preparing decontamination sites in depth throughout the zone.
- Conducting MOPP level analysis to recommend the minimum MOPP level.
- Identifying known or suspected areas of contamination.
- Focusing CBRN reconnaissance assets to retain freedom of maneuver.
- Balancing the vulnerability of the force against needs for mass and speed.
- Identifying anticipated contaminated areas and possible by-pass routes.
- Assessing for additional enemy CBRN attacks if friendly offensive operations succeed.
- Identifying NAIs as part of the information collection plan.
- Integrating CBRN assets into the reconnaissance and surveillance scheme.

CBRN Support to Intelligence

CBRN forces support the intelligence warfighting function at every echelon. At corps and division levels, CBRN staffs contribute to the intelligence preparation of the OE process. CBRN staff officers provide CBRN subject matter expertise to assess the CBRN threat to inform COA development. CBRN staffs recommend the allocation of available CBRN assets for the support of the scheme of maneuver by maximizing the impact of CBRN reconnaissance, surveillance, and decontamination capabilities.

At the battalion level, CBRN staff participates in MDMP to integrate organic and supporting CBRN unit capabilities into maneuver force mission planning.

At the tactical level, CBRN capabilities support information collection priorities. CBRN reconnaissance and surveillance efforts are directed toward answering CCIRs. Assessments of WMD hazards and sites informs the intelligence process. Staffs use the results of reconnaissance efforts to update estimates and revise information collection efforts.

DEFENSIVE OPERATIONS

3-57. Commanders and staffs deliberately plan and integrate protection capabilities to protect the force, to preserve combat power, to reduce risk, and to mitigate vulnerabilities. Protecting the force helps the commander regain the initiative.

3-58. All three defensive tasks (area defense, mobile defense, and retrograde) use terrain as force multipliers. Terrain influences the tempo of enemy attacks and covers and conceals the defender. The CBRN staff understands and communicates the impacts terrain has for protection from and influence on CBRN conditions.

3-59. Staff considerations include—

- Focusing CBRN defense to provide the commander with flexibility and synchronization.
- Operating in the minimum MOPP level during the preparation phase, then upgrading MOPP as the threat increases.
- Selecting decontamination sites throughout rear support operations for the support of the defensive scheme of maneuver.
- Conducting operational decontamination as necessary for survivability.
- Focusing CBRN reconnaissance assets on repositioning and withdrawal routes, passage points, and passage lanes.
- Identifying alternate routes if routes become contaminated.
- Designating passage points and lanes for the movement of contaminated equipment and personnel.
- Balancing CBRN protection requirements against the need for mass, agility, and depth.
- Understanding the enemy order of battle and doctrinal use of CBRN.
- Executing thorough decontamination, as necessary.

ORGANIC CBRN TEAMS AND PLATOONS

3-60. Organic CBRN capabilities exist in non-CBRN units. CBRN reconnaissance and surveillance platoons are organic to BCTs. Unit CBRN teams are formed at the company level.

UNIT CBRN TEAMS

3-61. The duties of unit CBRN teams are not necessarily performed by Soldiers with the military occupational specialty 74D. Trained CBRN specialists provide advice and support to operations in CBRN environments to the commander at company, battery, and troop levels. These Soldiers integrate CBRN conditions into unit mission essential tasks. The unit level CBRN specialist maintains company equipment,

training, and programs for CBRN operations. They form the basis for training unit teams to conduct CBRN detection, survey for contamination during AA site selection, and perform decontamination. Unit CBRN teams are trained and ready to send CBRN 1, spot reports, or other reports required by unit standard operating procedures.

Note. For CBRN and spot report formats, see FM 6-99 and appendix C.

3-62. To facilitate movement and conduct maneuver, unit CBRN specialists assist in the development of unit level CBRN defense plans. Assets within the organization provide operational decontamination, augment detailed equipment decontamination, and conduct detailed troop decontamination. Additional support for thorough decontamination may be requested from CBRN units.

Reconnaissance and Surveillance Platoons

3-63. The Army maintains two variants of the CBRN R&S platoons in the modular force design. The primary differences between the variants are the way they conduct missions and the vehicles used to conduct those missions. The CBRN R&S platoon (light) both in the IBCT and airborne brigade primarily conducts R&S by using the dismounted reconnaissance sets, kits, and outfits. The light platoon conducts missions in urban environments where maneuver is confined. The CBRN R&S platoon (heavy) (located in CBRN companies, ABCTs, and SBCTs) conducts mounted reconnaissance using a CBRN reconnaissance vehicle. This more mobile platform allows heavy platoons to cover more terrain for the support of route and area reconnaissance. See figure 3-6.

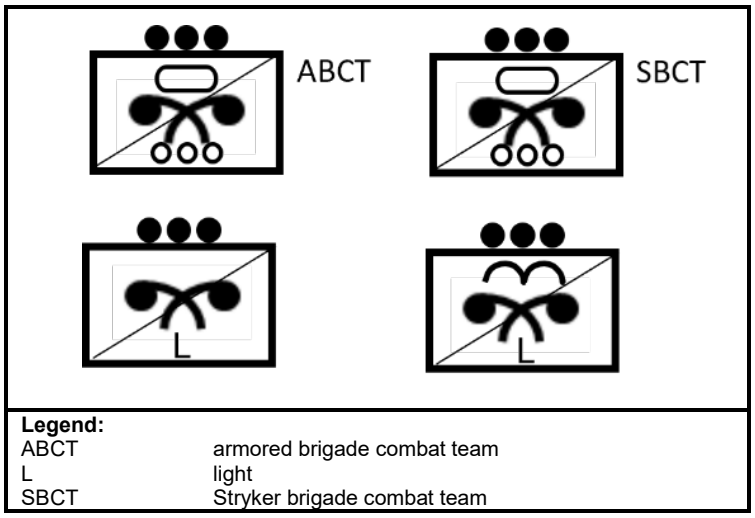


Figure 3-6. Reconnaissance and surveillance platoon graphic

3-64. Commanders employ CBRN reconnaissance and surveillance assets and the more technical capabilities of ARSOF elements, CBRNE response teams, and NDTs based on an understanding of the information required and advice of the CBRN staff.

OTHER ORGANIZATIONS

3-65. There are numerous CBRN organizations that have unique and specialized capabilities that exist across the force. CBRN reconnaissance and decontamination teams are assigned within special operations forces. Laboratory capabilities and NDTs are a part of the CBRNE command (see ATP 3-37.11). The following list provides an example of some of the organizations with ties to CBRN operations:

- MEBs. See FM 3-81.
- Other Service CBRN elements.
  - Air Force Radiological Assessment Team.
  - Marine Corps Chemical, Biological, Incident Response Force.
- Interagency partners.

- Mobile uranium facilities.
- Mobile plutonium facilities within the Department of Energy.

3-66. Other organizations that provide support for CBRN operations include the following:

- The United States Army Combat Capabilities Development Command Chemical Biological Center provides reachback technical support for chemical and biological hazard information.
- The United States Army Medical Research and Materiel Command operates labs that provide operational, strategic, and reachback capabilities for chemical and biological threats.
- The United States Army Research Institute of Chemical Defense focuses on chemical warfare agents and training for the medical management of chemical casualties.
- The United States Army Medical Research Institute of Infectious Disease focuses on biowarfare agents and infectious pathogens.
- The CBRN Information Resource Center provides current and authoritative information on the DOD Chemical and Biological Defense program through the Information Resource Center and the Joint Acquisition CBRN Knowledge System.
- The Defense Threat Reduction Agency provides expertise via reachback when the capabilities that are required exceed the capabilities of the organic CBRN staff. The Defense Threat Reduction Agency supports combatant commands, U.S. military and partnered nations, the federal government, academic institutions, first responders, and the international community.
- The National Ground Intelligence Center is the Defense Department's primary producer of ground forces intelligence. The National Ground Intelligence Center has highly skilled specialists and other technical specialists who evaluate the capabilities and performance data on virtually every weapons system used by a foreign ground force, including chemical and biological weapons and future weapons concepts.
- The United States Army Nuclear and Countering Weapons of Mass Destruction Agency is a field-operating agency. The United States Army Nuclear and Countering Weapons of Mass Destruction Agency provides U.S. nuclear employment guidance to ground forces and CWMD planning expertise for the implementation of Army CWMD strategy and policy at the corps level and above.

3-67. Various medical assets provide unique and specialized CBRN capabilities including—

- Medical treatment facilities (Role 1, Role 2, and Role 3) provide patient decontamination and treatment of CBRN casualties.
- Medical detachment (veterinary services) provides zoonotic disease control, field confirmatory microbiological identification, and presumptive chemical laboratory analysis of food and bottled water.
- Medical detachment (preventive medicine) provides collection of air, water, and soil environmental samples and disease vectors for field confirmatory laboratory analysis.

Note. For more information on other CBRN forces, other Service CBRN forces, and other reachback agencies, see ATP 3-05.11, ATP 3-11.36, ATP 3-37.11, and ATP 4-02.7.

SECTION II — TRAINING

3-68. Commanders and their units—down to the lowest private at the tactical level—train to survive CBRN attacks and continue operations in hazardous conditions. For more information about the basic proficiency skills for individuals and teams, see appendix D.

3-69. Training is the interaction among three separate, but overlapping, training domains (operational, institutional, and self-development) that are synchronized in order to achieve the goal of trained Soldiers, leaders, and ready units. This publication focuses on the operational training domain and building CBRN readiness.

THE OPERATIONAL TRAINING DOMAIN

3-70. The operational domain encompasses training activities that unit leaders schedule for individual units and organizations to undertake. Unit leaders are responsible for the proficiency of their subordinates, subordinate leaders, teams/crews, and the unit as a whole to assess, protect, and mitigate CBRN hazards within the scope of their missions. Subordinate leaders assist commanders in achieving training readiness proficiency goals by ensuring that training is conducted to standard, with CBRN as a complex mission variable, in support of the unit mission essential task list. The mission essential task list-based strategies are known as the Combined Arms Training Strategy database and are synchronized with missions to build and sustain unit readiness.

3-71. Commanders use their standardized mission essential task list, with CBRN conditions incorporated into the training, to achieve greater proficiency in a contested CBRN environment. Unit training plans use a crawl-walk-run approach that progressively and systematically builds on successful task performance before progressing to more complex tasks. This approach enables a logical succession of enabling skills and knowledge—from basic to advanced tasks and conditions—for individual, crew, and collective training. Training must be challenging, integrating increasing levels of complexity, stress, and duration against conventional, hybrid, and asymmetric threats in the OE to return units to mastery at CBRN operations.

3-72. Realistic training with limited resources demands that commanders focus their unit training efforts to maximize repetitions under varying conditions to build proficiency. Readiness is built on the ability to be proficient regardless of the environmental conditions, including CBRN conditions. Operating during CBRN contamination is a training condition, not a separate task. This means that, while commanders focus their training efforts on primary battle tasks, CBRN training is integrated as a condition and not as a separate event. Quality training incorporates hazards, including improvised explosive devices, CBRN effects, the impacted population, cultures and languages, key leader's decisions, joint and domestic partners, and special operations forces. Training in a CBRN simulated environment portrays the impacts that decisions will have on mission success.

Note. For more information, see FM 7-0.

TRAINING IDEOLOGY

3-73. The anticipated OE requires Army forces to operate as combined arms teams, in joint operations, and with multinational forces. Similarly, CBRN units frequently integrate training with other combined arms units, building habitual relationships that endure throughout the execution of large-scale combat operations. Combined training exercises require increasingly complex organization and synchronization, which stress the rigors of operating in a CBRN environment. Training as combined arms teams reinforces planning to address the additional considerations that CBRN hazards create and develops best practices and lessons learned.

3-74. Corps and division CBRN cells advise and assist brigade CBRN staffs with training by providing best practices and assisting in planning and resourcing. The division CBRN cell recommends prioritized CBRN training tasks in annual training guidance, and provides reachback to the CBRN school.

3-75. Brigades and battalion CBRN staffs (along with company, battery, and troop CBRN specialists) oversee CBRN training. They recommend CBRN training priorities to commanders and advise on CBRN readiness and training recommendations, for commanders. Battalion and brigade CBRN staffs provide frequent staff assistance visits to ensure that unit CBRN rooms are maintained to organizational inspection program standards. CBRN staffs and CBRN unit commanders coordinate with one another to increase interoperability between units and in CBRN reconnaissance and decontamination, which enhances training.

3-76. Company commanders and first sergeants leverage the company, battery, or troop CBRN specialist to maintain CBRN equipment readiness and to incorporate CBRN training into training plans. Platoon leaders and platoon sergeants conduct CBRN readiness inspections and implement the CBRN core functions of assess, protect, and mitigate during walk and run phases. Example CBRN core function training tasks include detecting, reporting, and marking hazards; donning, doffing, and conducting mission essential tasks while in

MOPP 4; and performing immediate decontamination, MOPP gear exchange, and operational or through decontamination.

Note. Operating in MOPP 4 counts towards the hybrid threat requirement listed on most mission essential task objective tasks evaluation criteria matrices.

3-77. Noncommissioned officers in teams and sqauds train individual CBRN tasks that ensure Soldier survivability. Chlorobenzylidenemalononitrile (CS) chambers build mask confidence and are opportunities for Soldiers to train on warrior tasks and battle drills in a CBRN environment. For more information on individual and collective CBRN tasks, see appendix D and the Combined Arms Training Strategies.

3-78. Training programs differ to some extent between headquarters, services, and nations. However, training within NATO programs and partner nations is encouraged so that a similar model is used each time, which ensures a common approach and mutual support for achieving interoperability. In multinational training, knowledge of the CBRN defense capability and practices of other nations is required.

Table-Top Exercises

Role 1 and Role 2 medical, preventive medicine, and CBRN staffs from 3rd Infantry Division conducted a table-top exercise (TTX) to demonstrate actions during a suspected biological incident. Both CBRN and medical personnel play critical roles in recognizing the first indicators of a biological incident.

Situation: The division is in the reception, staging, onward movement, and integration process, and forces are currently located at a rail yard unloading equipment. The adversary's military poses a potential threat with both stockpiled (probably deployable) biological weapons and prevailing production capacities. Probable agents include plague, anthrax, tularemia, and glanders. Intelligence indicates that a local pharmaceutical facility may have been generating bacterial agents. Local national health officials in the area have reported that the village near the facility has reported an outbreak of shigellosis, but it has not been determined if this is local endemic exposure. An incident is reported involving drones spraying a substance at the rail yard.

Exercise: Role 1 medical personnel were presented with casualty case cards and worked through the triage process. CBRN personnel got to see an aspect of a developing CBRN event they would rarely see, with the medical personnel analyzing information for the diagnosis. The TTX proved the importance of identifying the case definition to set the criteria for classifying whether a person has a particular disease. Components of the case definition include person, place, time, and clinical features. In this TTX, the medical personnel traced the initial and then traced follow-on casualties to the spray incident at the rail yard. A case definition pieced together this time and place with the common medical symptoms. The case definition was then used to discriminate worried-well from casualties as the numbers reporting into the Role 1 increased substantially. CBRN staff was able to piece together the threat indicators with reports from preventive medicine, Role 1, and Role 2. By directing reconnaissance efforts and sending samples for analysis, CBRN staffs were able to verify the diagnosis of medical personnel and direct contamination control measures.

Conducting a tactical exercise of a biological scenario is very difficult. A simple, single-day TTX bringing key personnel together raised their awareness of the challenges of identifying biological incidents and the critical role that the integration of variant staff activities plays.

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Appendix A

CBRN Support to Warfighting Functions

Commanders make use of warfighting functions to generate combat power and conceptualize capabilities. The warfighting functions are command and control, movement and maneuver, intelligence, fires, sustainment, and protection. Commanders use leadership and information to integrate capabilities to generate combat power. The warfighting functions are not specific to an organization or branch but are an intellectual way of understanding how groups of tasks and systems come together to provide an element of combat power. Each of the warfighting functions have unique CBRN considerations.

COMMAND AND CONTROL

A-1. The command and control warfighting function is the related tasks and a system that enable commanders to exercise authority and direction to accomplish missions. The command and control warfighting function is unique in that it integrates the activities of the other warfighting functions.

A-2. CBRN units integrate command and control and operations process activities for the unit while interacting with the command activities of the unit being supported. The interaction may be primarily through a CBRN staff assigned to the supported unit or through staff counterparts. If a supported unit does not have assigned CBRN staff, then the supporting unit provides this support as well. Many factors determine this relationship and the degree of integration, including the type of unit and echelon being supported and the command or support relationship being established. For example, an ABCT may have tactical control of a hazard response company. If that is so, the brigade CBRN officer and hazard response company commander collaboratively plan, coordinate, and synchronize CBRN efforts across the brigade. The BCT may control and direct the application of the hazard response company's capabilities while providing sustainment support.

A-3. CBRN units are generally task-organized as members of combined arms teams. CBRN units are designed for specific tasks, so capabilities must shift within the AO to match the requirements with the capabilities of modular CBRN units. Transitions occur at the strategic, operational, and tactical levels, and flexibility in the task organization is required to permit the shifting of CBRN capabilities.

A-4. Control measures are tools that help units identify key points. A few examples for consideration include decontamination points, NAIs with potential for TIMs that may need to be designated as no-fire areas, and coordination points for linkup between units and CBRN elements. Postincident, CBRN staffs mark contaminated areas and distribute information across the force for situational awareness.

A-5. CBRN staff work with medical, public affairs, and information operations personnel to achieve the commander's communication and other nonlethal objectives. One measure of success is how well CBRN staffs work together with these staff sections to develop and disseminate an uninterrupted flow of information on the implications of WMD in the AO. This information flow, often disseminated through Solider and leader engagements, is used to shape and influence foreign populations by expressing information subjectively to influence perceptions and behaviors and to obtain compliance, noninterference, or other desired behavioral changes.

MOVEMENT AND MANEUVER

A-6. The movement and maneuver warfighting function is the related tasks and systems that move and employ forces to achieve a position of relative advantage with respect to the enemy. CBRN units and staffs support movement and maneuver warfighting functions through the Chemical Corps core functions.

A-7. CBRN supports the movement and maneuver warfighting function through mobility and survivability. CBRN reconnaissance supports mobility operations by locating and marking contaminated areas and routes, allowing maneuver forces to avoid unnecessary exposure. Protection from CBRN hazards allows maneuver forces to fulfill their primary mission. Decontamination increases the ability of maneuver forces to withstand CBRN conditions in the environment.

A-8. Operating in close combat support to maneuver forces requires that CBRN reconnaissance elements integrate and coordinate actions within the fires and maneuver plans. To give the command decision space, CBRN reconnaissance should not held in reserve—they should lead efforts to identify potential threats before they become hazards. CBRN reconnaissance capabilities are in limited supply, so commanders must weigh the costs and benefits of employing this limited asset in terms of the battlefield framework.

A-9. CBRN forces prevent loss of combat power of movement and maneuver by assessing clean and dirty routes through the battlespace. The employment of CBRN reconnaissance elements reduces the risk of traveling through contaminated areas and spreading contamination. CBRN forces present the commander with options for understanding the hazard protection that is required and reducing the impact of protective equipment on the speed of movement.

INTELLIGENCE

A-10. The intelligence warfighting function is the related tasks and systems that facilitate understanding the enemy, terrain, weather, civil considerations, and other significant aspects of the OE. CBRN forces make critical contributions to this warfighting function through the core function of assessing CBRN threats and hazards and the integrating activities of HAU. CBRN staff and planners provide a predictive and deductive analysis of enemy CBRN capabilities to intelligence.

A-11. CBRN staffs contribute their knowledge and understanding of CBRN threats and hazards. They assist the G-2/S-2 in developing an understanding of enemy CBRN capabilities, and work with the G-2/S-2 during planning to analyze potential threats and to evaluate how the enemy might use CBRN hazards to impact operations. They collaborate with the G-2/S-2 to provide estimates for the unconventional use of TIM to create hazards for U.S. forces. They advise commanders on the influences that terrain and weather have on CBRN hazards.

A-12. CBRN reconnaissance provides data that contributes information about CBRN hazards through their information collection efforts, which contributes to answering PIR. Specialized CBRN assets may need to be available to collect the information needed to answer these requirements. Reconnaissance teams focus on the collection of tactical and technical information to support the BCT freedom of maneuver and the survivability of friendly forces and facilities.

A-13. CBRN staffs at the division, corps, and theater army echelon and in-theater CBRN headquarters determine CBRN-related intelligence requirements in a potential AO. They collect and analyze CBRN-related intelligence data in coordination with the respective G-2.

A-14. The integration of intelligence into operations facilitates the understanding of OEs and assists in determining when and where to employ capabilities against adversaries and enemies. IPOE is an integrating process that results in the creation of intelligence products that are used during MDMP to aid in developing friendly COAs, depicting enemy COAs, and facilitating decision points for the commander. The G-2/S-2 and the intelligence staff lead the IPOE process. The CBRN officer is the staff subject matter expert on CBRN and assists the G-2/S-2 in determining the locations of threat CBRN assets and potential areas of employment. CBRN staffs contribute to the IPOE process by helping the G-2/S-2 staff understand enemy CBRN capabilities, release authorities, terrain and weather effects on CBRN employment, enemy doctrine, and possible COAs. Conclusions reached during IPOE are critical to planning information collection and to planning targeting operations.

A-15. The G-2/S-2 staff provides the most likely (and the most dangerous) COAs based on threat intent and capabilities. CBRN staffs are involved in the IPOE process with intelligence sections. The CBRN staff and the intelligence section provide input into enemy CBRN capabilities, release authorities, terrain effects on CBRN use, enemy doctrine, and COAs. To gain full understanding of the operational variables needed to advise the G-2/S-2, the CBRN staff leverages information from CWMD working groups, information operations, civil-military operations, and civil affairs operations. The CBRN staff also uses this information to advise on CCIR development and targeting. CBRN staff input (such as operational variables; areas, structures, capabilities, organizations, people, and events analysis; and sewage, water, electricity, academics, trash, medical, safety, and other considerations) provides a holistic approach to understanding a complex environment by analyzing the factors and systems. These intelligence products are then added to the existing targeting packets. The staff establishes an effective process that integrates, fuses, and continuously analyzes

all sources of available threat information, identifying the full range of known or estimated terrorist threat capabilities, intentions, and current activities.

FIRES

A-16. The fires warfighting function is related tasks and systems that create and converge effects in all domains against the threat to enable actions across the range of military operations. CBRN capabilities, when used to facilitate targeting, significantly contribute to this warfighting function.

A-17. The integration of CBRN and fires provides valuable information toward understanding the enemy's WMD capabilities. Information from radar analysis aids in identifying missiles filled with chemical agents. CBRN staffs provide advice to planning fires so as not to cause collateral damage that increases the hazard.

A-18. CBRN staffs provide their subject matter expertise for the development of targeting packets during the targeting process. When the potential to encounter WMD sites exists, CBRN subject matter experts provide information on the potential materials that may be found at a site, the threats posed by those materials, and the impact of those threats on future operations. The CBRN staffs advise the targeting team on the impacts of WMD employment and on targeted storage or production sites. CBRN staffs prepare to provide data for the development of COA (assess COA feasibility, acceptability, and suitability). For an example of COA development, see figure A-1.

A-19. The targeting cycle is an iterative process that is not time-constrained nor rigidly sequential. It supports both deliberate and dynamic targeting and provides the flexibility required when the concept of the operation, commander's intent, or plans change. During the targeting cycle, CBRN staff provides data and makes recommendations for further actions. They continually refine and modify COAs with additional information collected from the running staff estimate. The updated running staff estimate prepares the way to start the next targeting cycle.

Note. For more information on the targeting process, see ATP 3-90.40 and FM 3-60.

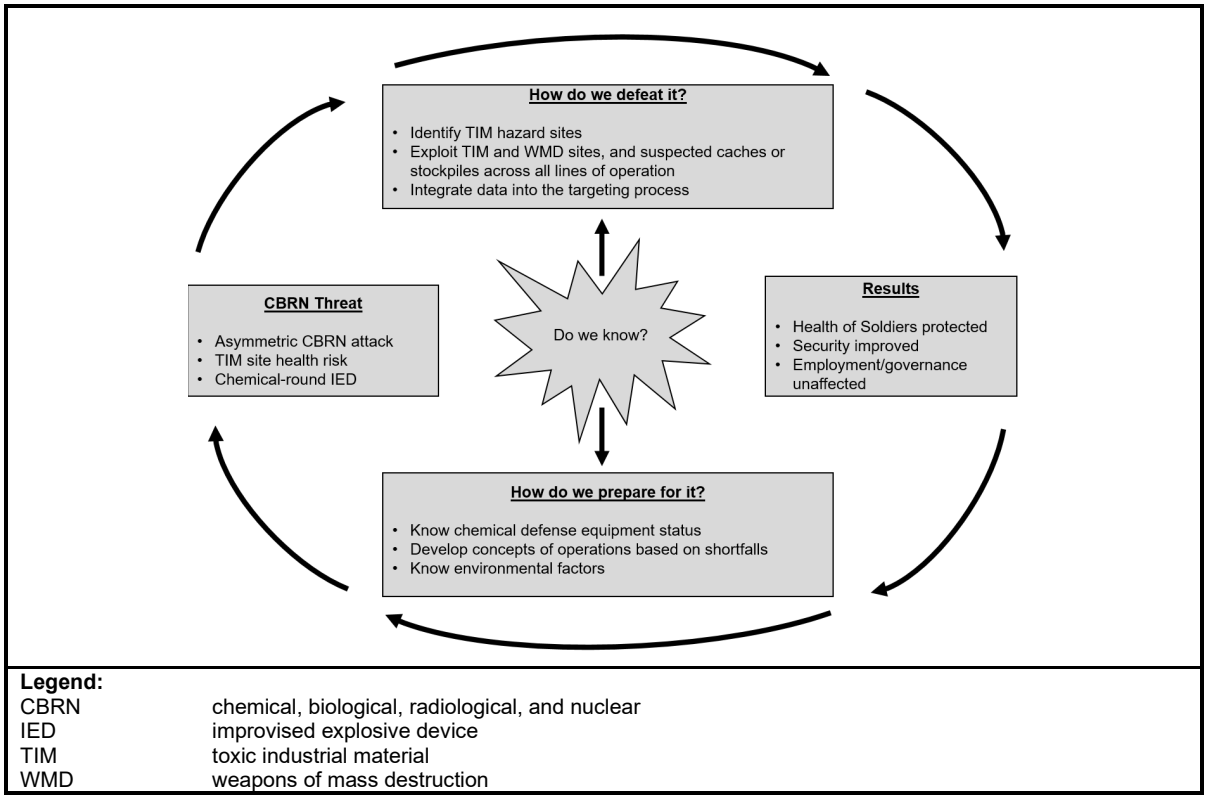


Figure A-1. Example COA process

SUSTAINMENT

A-20. The sustainment warfighting function is the related tasks and systems that provide support and services to ensure freedom of action, extend operational reach, and prolong endurance. Continuing operations in CBRN environments creates a reliance on sustainment capabilities. The sustainment of protection capabilities (MOPP suits and filters for COLPRO), consumables for CBRN detection, and identification equipment requires detailed planning. CBRN operations require intense water sustainment, resupply of decontaminants, vehicle replacement parts, and medical chemical defense material.

A-21. The lowest echelons report readiness by using chemical defense equipment reports. These reports incorporate information obtained at in-processing, including individual protective equipment sizing, optical inserts, equipment readiness, manning, and training. The information is forwarded to the battalion level for consolidation and is submitted alongside the Defense Readiness Reporting System–Army. The Defense Readiness Reporting System–Army gets further consolidated at higher echelons.

A-22. In addition, medical and sustainment unit's posture to support units conducting detailed troop decontamination, and mortuary affair units posture to process contaminated human remains through the mortuary affairs contaminated remains mitigation site. Planning between CBRN forces and mortuary affairs units occurs to ensure the duplication of fatality collection points so that contaminated and uncontaminated fatalities are not mixed. The logistics ability to resupply impacts the CBRN capability to protect or conduct decontamination to sustain in contaminated environments. Requirements for the repair and replacement of systems increase while executing large-scale combat operations.

Note. For additional information on mortuary affairs planning, see JP 4-0.

A-23. Sustainment operations are challenged in large-scale combat operations in CBRN environments due to the frequent cross contamination of main supply routes and alternate supply routes and to the enemy targeting of large sustainment nodes. It is critical to the success of sustainment operations that sustainment units frequently incorporate CBRN conditions in mission essential tasks.

A-24. The health service support mission integrates with CBRN to support the treatment of CBRN casualties. Casualties that are contaminated can put entire health service support systems at risk if the proper precautions are not undertaken to prevent the contamination transfer. Planning between CBRN forces and health service support occurs to ensure that contaminated casualties do not mix with uncontaminated casualties.

PROTECTION

A-25. The *protection warfighting function* is the related tasks, systems, and methods that prevent or mitigate detection, threat effects, and hazards to preserve the fore, deny the enemy freedom of actions, and enable commanders to apply combat power (ADP 3-0). Conducting CBRN operations is one of the key protection tasks. Tasks and systems of CBRN units and staffs are linked to the protection warfighting function. For example, the CBRN staff at a brigade must be able to execute the task (which is to prepare the brigade for operations under CBRN conditions) to ensure that the brigade combat power is not degraded while executing a CBRN attack.

A-26. Antiterrorism and force protection is extremely important given the ever-present threat of terrorist attacks, insider threats, and the need to protect our forces from becoming targets of opportunity. As the force protection condition level changes, protection against CBRN threats and hazards is accomplished through an interoperable system of surveillance, monitoring, and response. Therefore, CBRN staff must be familiar with DOD force protection condition levels prescribed in DODI O-2000.16, Volume 2 to ensure an appropriate measure of protection against CBRN effects is addressed for each level. CBRN staff will serve as the subject matter expert for the commander to assess compliance, effectiveness, and adequacy of subordinate organizations and provide recommendations to enhance the overall antiterrorism/force protection program.

A-27. Force health protection and CBRN staff coordinate efforts to promote, improve, or conserve the health of Soldiers when the threat of CBRN hazards exists. The functions of force health protection and CBRN intersect in areas of preventative medicine, medical surveillance, veterinary services, and laboratory

support. CBRN and medical personnel combine their knowledge to provide commanders with medical advice on preventive measures that can be taken to reduce the risks of chemical, biological, or radiological hazards. The environmental and biological surveillance of outbreaks provides indicators of attack. Laboratory support for environmental samples taken by CBRN reconnaissance teams requires prior planning.

PROTECTION DURING OFFENSIVE OPERATIONS

A-28. While executing the four types of offensive operations (movement to contact, attack, exploitation, and pursuit), CBRN capabilities assess threats and hazards, protect personnel and equipment in CBRN environments, and mitigate the potential for or effects of CBRN incidents. Commanders develop a scheme of protection for the transition of each phase of an operation or major activity. Transitions mark a change of focus between phases or between the ongoing operation and execution of a branch or sequel. Shifting protection priorities between offensive, defensive, and stability tasks involves a transition. Transitions require planning and preparation well before they are executed so that forces can maintain the momentum and the tempo of operations.

A-29. During the offense, CBRN battalions are assigned within the division rear support operations to provide the sustainment of subordinate units and the oversight of laboratory support, as required. Hazard response companies provide CBRN route reconnaissance from the brigade rear operations to the forward edge of the battle operations. They provide thorough decontamination support, as required. Maneuver units use organic decontamination assets for operational decontamination, but they can request that CBRN units augment personnel to support them. Brigade organic CBRN reconnaissance units conduct screening within the enemy disruption zone to provide early warning of CBRN at NAIs.

A-30. Accomplishing movement and maneuver in a CBRN environment is difficult and, during some situations, the commander may direct movement and maneuver to avoid areas contaminated by CBRN elements. Preserving combat power from the effects of CBRN incidents is essential for the commander to seize, retain, and exploit the initiative.

PROTECTION DURING DEFENSIVE OPERATIONS

A-31. All units have an inherent responsibility to improve the survivability of their own fighting positions, bases, or base camps. CBRN personnel contribute to unit protection by performing vulnerability assessments. These assessments provide a list of recommended actions, ranging from CBRN protection to contamination mitigation, for commanders to consider:

- **Vulnerability assessments**. CBRN vulnerability assessments provide insight into the ability of the unit to mitigate likely CBRN events and prompt it to develop procedures, acquire equipment, and correct vulnerabilities.
- **COLPRO**. In preparing for the defense, CBRN staffs consider plans for the use of COLPRO. They consider the—
  - Limitations.
  - Resources required.
  - Necessary preparations.
- **Warning and reporting**. Early warning of CBRN hazards alerts that an attack has occurred so that the correct protective measures can be taken.
- **Decontamination**. The preparation for operations in a CBRN environment requires planning for immediate or operational decontamination. Battle drills for the immediate measures to take after CBRN attacks occur increase the ability of the force to survive CBRN conditions.

THREAT REDUCTION

A-32. Threat reduction cooperation includes those activities undertaken with the consent and cooperation of host-nation authorities in a permissive environment to enhance physical security and to reduce, dismantle, redirect, and/or improve the protection of a state's existing WMD program, stockpiles, and capabilities. Tactical commanders provide threat reduction cooperation activities in support of CWMD objectives. The principal purpose of these activities is to deny rogue states and terrorists access to weapons, material, and expertise. Other states may need assistance with more discrete requirements to dismantle or destroy WMD in excess of defense needs; to comply with international treaty obligations (such as the Chemical Weapons Convention); or to impose export control, border control, law enforcement, and antismuggling capabilities.

A-33. Threat reduction cooperation responds to opportunities that roll back or eliminate the WMD programs and capabilities of a state on cooperative terms—for example, Libya's decision to voluntarily dismantle its WMD programs. Another challenge is the safety and security of WMD inventories of friendly or nonhostile states. Existing security arrangements may be viewed as inadequate to prevent theft, sabotage, or accidental release. Threat reduction cooperation occurs in a permissive environment, and while they are not primarily a CCMD responsibility, combatant commands maintain visibility of these efforts to ensure that theater security cooperation plans and security measures are consistent with threat reduction initiatives. The following military tasks directly or indirectly support threat reduction cooperation in a permissive environment:

- Providing security for current WMD, related materials, and systems from theft, sabotage, or unauthorized use.
- Supporting efforts to ensure the safety of WMD and delivery systems from accidental or inadvertent release.
- Maintaining situational awareness of WMD safety and security issues, and communicating concerns to senior leaders.
- Integrating the commander’s safety/security concerns and threat prioritization with operational-level guidance.
- Assigning responsibilities for threat reduction cooperation, and coordinating efforts with other commands.

A-34. Tactical nonproliferation activities are not conducted sequentially and discretely in the prosecution of tactical-level military operations, but they occur independently or simultaneously in response to security cooperation, partner activities, and threat reduction cooperation. Tactical commanders stand prepared to provide short notice support to cooperative WMD threat reduction efforts. Supporting tasks that directly or indirectly relate to cooperative WMD threat reduction efforts include emplacing sensors and conducting monitoring, detection, and security operations.

Appendix B

Domestic and International CBRN Response

CBRN response minimizes the effects of CBRN incidents, regardless of who is the designated lead, and includes responses to both deliberate and inadvertent CBRN incidents. Response techniques generally fall within existing CBRN defense doctrine. This appendix describes domestic and international responses.

CBRN RESPONSE

B-1. Regardless of the lead agency for a CBRN response effort, CBRN units and staffs provide support through the core functions of assessing threats and hazards, providing protection, and mitigating CBRN incidents. Figure B-1 depicts the CBRN response environments.

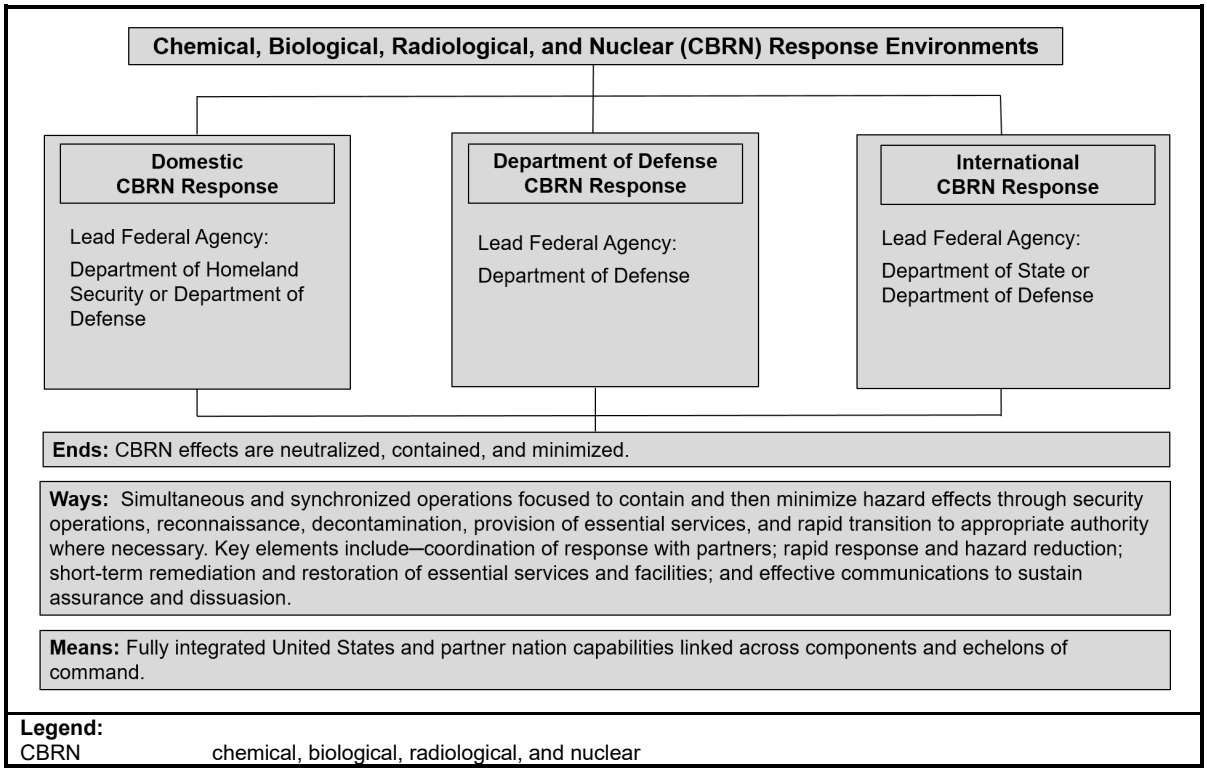


Figure B-1. CBRN response environments

DOMESTIC RESPONSE

B-2. CBRN capabilities manage the consequences of natural or man-made disasters, accidents, terrorist attacks, and incidents in the United States and its territories. Formerly called consequence management, the term CBRN response is characterized as a unique DOD response capability and responsibility. Domestic CBRN response is a type of support provided within the DSCA mission conducted by DOD forces to save lives, protect property and the environment, and meet basic human needs. The U.S. military conducts DSCA missions following a request for assistance from civil authorities.

DEPARTMENT OF DEFENSE RESPONSE

B-3. DOD-led CBRN response capabilities are primarily designed for use in support of military operations. The U.S. military maintains the majority of the capability to lead CBRN response operations and conducts it

concurrently with military operations. The preponderance of CBRN doctrine provides information for conducting DOD-led CBRN response.

INTERNATIONAL RESPONSE

B-4. ICBRN-R is assistance provided by the U.S. government to an impacted nation to respond to the effects of a deliberate or inadvertent CBRN incident on foreign territory. The DOD contribution to international CBRN response includes immediate life-saving measures for affected host-nation populations, for U.S. citizens and the armed forces abroad, and for the friends and allies of the United States to minimize human casualties; and to provide temporary associated essential services. ICBRN-R applies to international incidents involving the deliberate or inadvertent release of CBRN materials, including TIMs.

Vignette

Domestic and international CBRN response discussions have moved to center stage nationally and internationally. CBRN events have transitioned from a footnote in history to plausible, viable domestic and international threats. This transition has triggered—in the minds of senior leaders—the necessity and significance of interoperability among allies, interagency, and the joint force. Interoperability solidifies methodology, collaboration, and agreements to address CBRN events.

Allies and coalition partners in the United States Central Command and United States Pacific Command areas of responsibility have precipitated a discussion with leaders in the U.S. military and Department of State due to threats, demonstrations, and/or use of CBRN material in the region. International diplomatic and military leaders intent on protecting their countries foster relationships with the United States and/or acquire a myriad of U.S. CBRN capabilities. Considerations must be accounted for with U.S. allies due to the variance of integration of U.S. military material and doctrine. Some components or capabilities may be interoperable, but not in all cases.

Leaders of various homeland defense agencies, regions, states, the DOD, and the U.S. government have pursued variations of collaborative forums to share ideas, draft memorandums of understanding, and conduct training exercises to validate plans. Agencies acknowledge the significance of National Security Strategy directives, preparing in advance for potential threats, mitigating the pain and suffering of the American people during an event, and reducing vulnerabilities within U.S. borders. These efforts protect the Nation and maintain readiness of the emergency response support infrastructure.

Each component of the joint force retains an internal CBRN capability. While executing protracted land operations, the Army provides the way ahead and synchronizes the efforts of the joint force.

Appendix C

CBRN Staff

CBRN staff activities at all echelons are critical to developing and sharing HAU. Shared HAU allows commanders to make informed decisions, which increases survivability and the ability to exploit opportunities. This appendix provides information on how CBRN staff contribute to the protection working group, other staff functions, basic functions of a CBRN control center, and CBRN reports.

PROTECTION AND PROTECTION WORKING GROUP

C-1. The protection working group brings together the representatives of all staff elements. The protection working group plans, coordinates, integrates, and synchronizes protection tasks, systems, and methods for each phase of an operation. Army structure provides protection cells at division and above. At division and higher, the CBRN staff integrates CWMD operations, defense, CBRN response, WMD tactical disablement, and consolidation. The integration occurs more informally at brigade level and below, with the designation of a protection coordinator from among the brigade staff or as an integrating staff function assigned to a senior leader.

PLANNING

C-2. Initial assessment supports the prioritization of protection, threats and hazards, criticality, and vulnerability. The scheme of protection describes how protection tasks support the commander's intent and concept of operations, and it uses the commander's guidance to establish the priorities of support to units for each phase of the operation.

C-3. The protection working group uses information derived from the commander's guidance, scheme of maneuver, IPOE, targeting, risk management, critical and defended asset list (division and higher), and mission analysis to identify critical assets. Corps and division protection working groups coordinate closely with the staff to identify information and assets that need protection, and to apply appropriate protection and security measures consistent with their collective threat analysis.

C-4. Commanders at all echelons maintain the effectiveness of their force in CBRN environments by establishing CBRN defense plans that—

- Estimate enemy intent, capabilities, and effects for CBRN.
- Provide guidance to the force on necessary protective measures.
- Apply the IPOE output to develop CBRN reconnaissance plans to answer PIRs.
- Establish the employment criteria for CBRN units to counter CBRN threats.
- Establish a sustainment plan for CBRN operations.
- Establish CBRN warning and reporting requirements.
- Recommend minimum MOPP level and automatic masking thresholds.

C-5. CBRN defense plans provide detail to subordinate units, including preattack preparations and postattack execution measures. Staffs at every echelon understand the mission, capabilities, and current situation to ensure that their assessments and recommendations provide meaningful operations for action by the commander.

C-6. Conducting IPOE is fundamental to the understanding of enemy CBRN capability and intent. The IPOE process accounts for confirmed and plausible enemy capabilities, plans, and actions. When focused on CBRN effects, the information collection plan prioritizes CBRN reconnaissance assets to areas of greatest importance. Overall, success in a CBRN environment depends on the effective integration of CBRN equipment; training; and CBRN tactics, techniques, and procedures while preparing for and executing operations.

PREPARATION

C-7. The protection working group ensures that controls and risk reduction measures developed during planning have been implemented and are reflected in plans, standard operating procedures, and running estimates (see figure C-1), even as threat assessments are continuously updated.

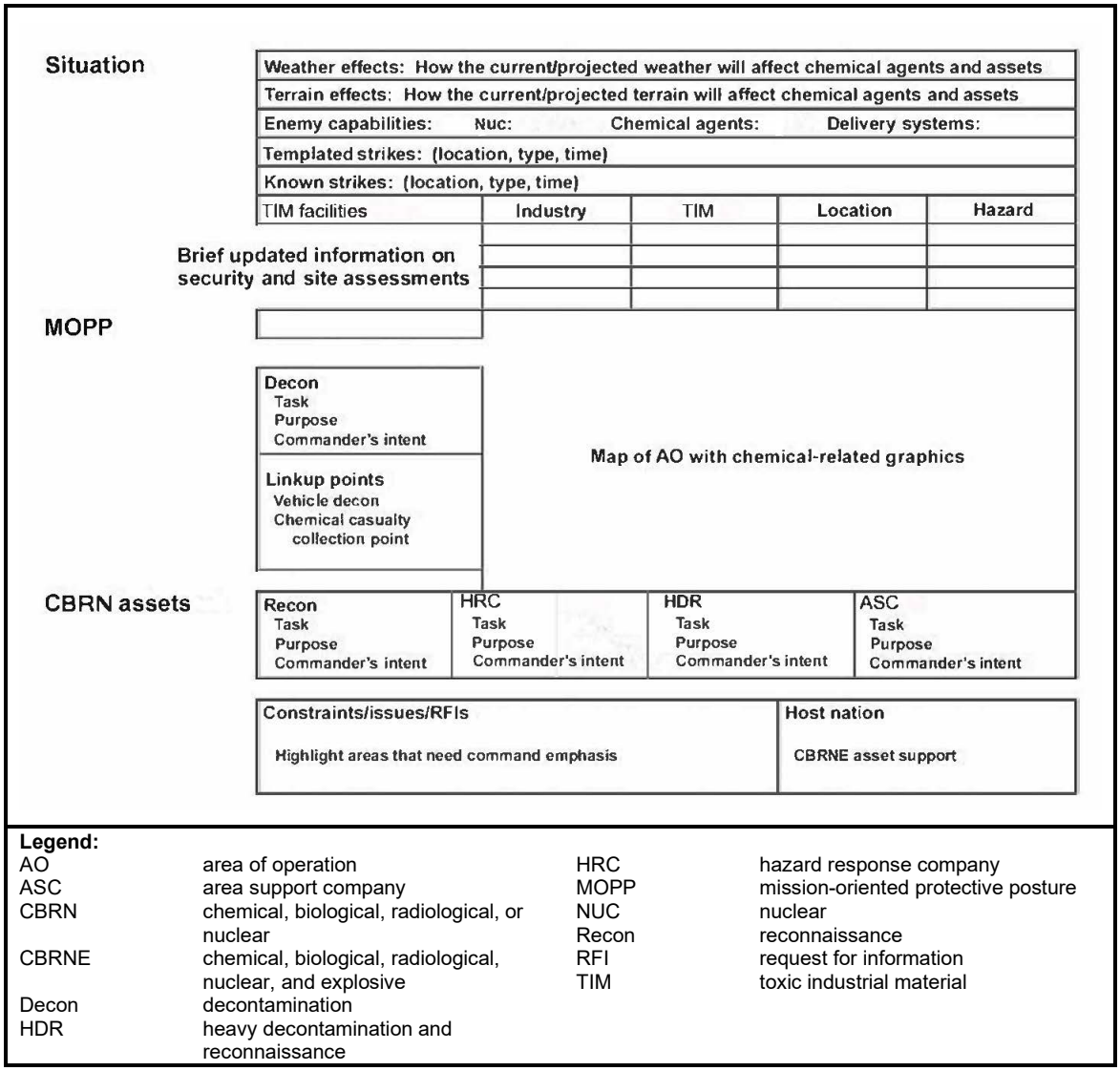


Figure C-1. Example CBRN running staff estimate

C-8. Commanders determine the optimal protection for their units by assessing the scheme of maneuver, enemy capabilities, and friendly vulnerabilities. They estimate the likely impact of CBRN hazards and, based on the concept of operations, determine methods to mitigate the impact in order to accomplish the mission. The CBRN vulnerability assessment considers the potential impact from a successful attack and the vulnerability of the friendly forces. The vulnerability assessment provides insight into the ability of the unit to mitigate risks. An accurate assessment of the preparedness of the unit to operate in a CBRN environment mitigates failures during execution.

C-9. Implementing many CBRN defensive measures may slow tempo, degrade combat power, and increase logistics requirements. CBRN R&S consumes resources, especially time. Personnel in protective equipment find it more difficult to work and fight. However, countering the CBRN threat with such measures is an

essential component of preserving the force, assuring mobility, and protecting the scheme of maneuver against CBRN-related vulnerabilities.

C-10. Integrating CBRN defensive considerations into rehearsals is central to mitigating CBRN-specific risks. As units prepare to execute, they consider how operating in MOPP 4 may impact operations. Movement and maneuver and fire support are harder to synchronize, speed decreases significantly and leads to increased fuel usage, and many tactical tasks take longer to perform. Before initiating operations, commanders develop a thorough understanding of individual and collective proficiencies in CBRN defense tasks. If units are not trained in these tasks, it may be necessary to generate branch plans to mitigate deficiencies. CBRN staff and leaders at echelon that integrate CBRN defense into combined arms and battle-drill rehearsals identify risks and the required actions to mitigate these risks in order to enable mission success under CBRN conditions.

C-11. Considerations for commanders preparing for CBRN operations include the—

- Proficiency of individual Soldiers to perform mission essential tasks.
- Proficiency of the unit in CBRN collective skills and mission-essential tasks under CBRN conditions.
- Understanding by subordinate leaders of CBRN hazards.
- Ability of the unit to perform operations in MOPP 4.
- Ability of the unit to continue the mission following a CBRN attack.

EXECUTION

C-12. Protection activities are continuous and enduring actions during execution. CBRN tasks and activities are conducted in all operations of offense, defense, and stability. Protection is deliberately applied as commanders integrate and synchronize tasks and systems that comprise the protection warfighting function.

C-13. Units in MOPP 4 suffer degradation when executing tactical operations that can be mitigated through training. Due to reduced situational awareness, disorientation, and difficulty communicating, units may operate in closer formations and take easier routes when maneuvering. When Soldiers operate in MOPP 4 for extended periods of time, their mission performance degrades due to dehydration, fatigue, and the inability to eat and perform bodily functions. CBRN reaction drills must be understood and rehearsed to be effective and prevent unnecessary casualties due to inadequate protection measures.

C-14. Donning the protective mask, alerting others of a CBRN hazard, reacting to a nuclear attack, and wearing individual protective equipment are basic tasks, yet units often fail to adequately train on them. Units training as they fight under CBRN conditions enables operations and mission accomplishment. Units execute mission essential tasks at the platoon, company, and battalion levels. Soldiers become accustomed to communicating, managing work-rest cycles, and adjusting tempo in a contaminated environment.

C-15. The proper employment of organic CBRN decontamination and detection systems must be maximized at echelon. The modified table of organization and equipment authorizations include detection systems at the platoon level and above that are capable of identifying chemical warfare agents and radiation. Platoon level chemical detection equipment, employed by trained Soldiers, are valuable tools for early warnings and identification. Battalions organically possess systems to conduct operational decontamination for their subordinate units. They man and train an additional duty team to employ these resources to form an effective capability. Battalion decontamination equipment enables freedom of maneuver and protects the force. Battalions that have effective decontamination capability do not require external enablers, which enable rapid regeneration of combat power.

C-16. Improving operational decontamination capability starts through the continual verification of the maintenance status of decontamination equipment and the implementation of a battalion training program for operational decontamination teams. Formalizing this requirement with emphasis from battalion leaders and identifying specific individuals to execute operational decontamination (usually from the headquarters and headquarters company) is important as it competes with other training requirements.

ASSESSMENT

C-17. Leaders and staffs conduct continuous assessments of CBRN activities throughout the operations process, regardless of the echelon of command, OE, or operational phase. Protection assessment is an essential, continuing activity that occurs throughout the operations process. Activities include maintaining

situational understanding through monitoring and evaluating running estimates. The protection working group continually assesses threats to protection priorities.

CBRN CONTROL CENTER

C-18. When operating in a CBRN environment, CBRN staffs at division and higher echelons organize a CBRN control center. This control center operates under the guidance and supervision of the protection functional cell but shares information and makes recommendations to the current operations, future operations, and plans integrating cells.

C-19. The CBRN control center enables the current operations cell by processing CBRN reports, providing CBRN updates to the common operating picture, and recommending immediate response options based on CBRN support requests.

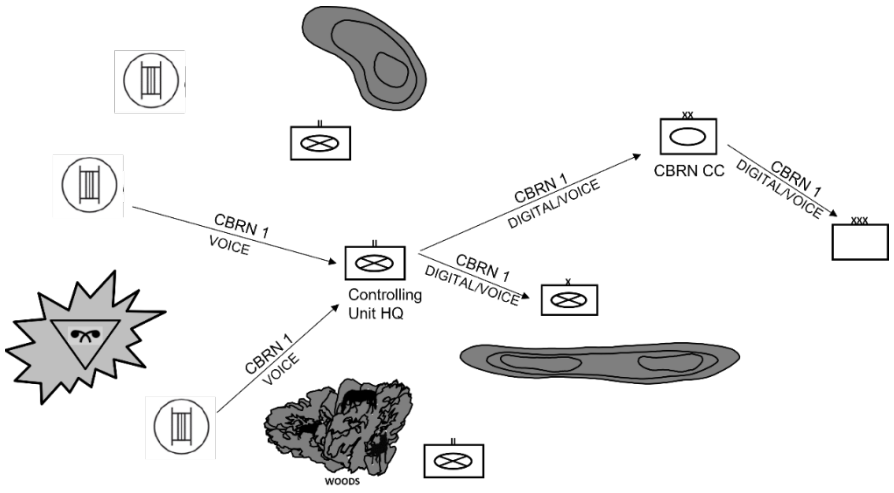
C-20. The CBRN control center enables the future operations cell by advising how the CBRN environment may impact operations. This includes recommendations for MOPP level, CBRN reconnaissance and surveillance asset utilization, preplanned decontamination points, and designated clean and dirty routes.

C-21. Finally, the CBRN control center enables the plans integrating cell by identifying TIM sites and their potential impacts on missions, advising how the CBRN environment may impact operations, and providing advice on CWMD mission planning.

CBRN WARNING AND REPORTING SYSTEM

C-22. Post CBRN incident, one of the primary functions of the CBRN control center to receive and to process reports. Information from these reports helps create a shared understanding of an incident's severity and helps build the COP. Capabilities for CBRN reporting exist at all echelons down to the company level. CBRN control centers are required to report CBRN messages in all formats (voice and digital). The CBRNWRS allows commanders and CBRN staffs to determine required contamination avoidance measures and to plan operations accordingly.

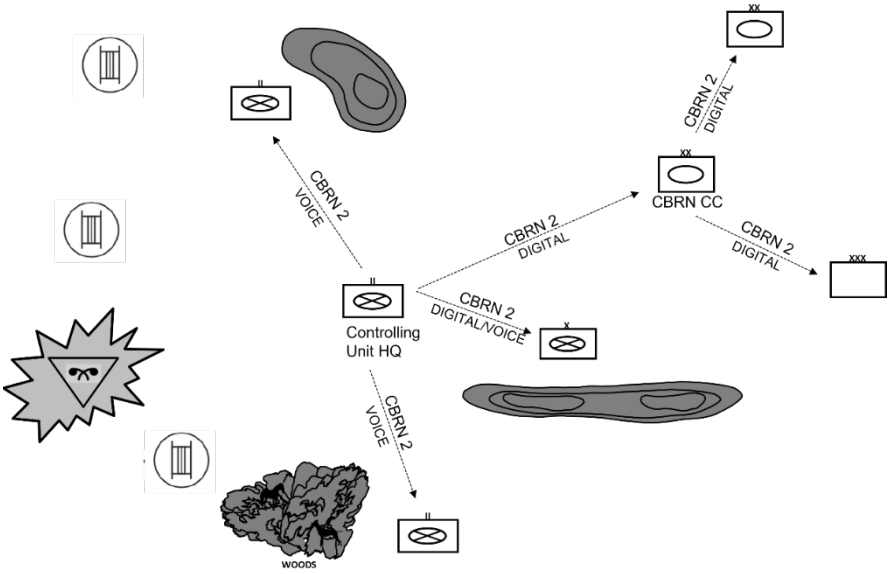
C-23. The reports are scaled (CBRN 1-6) in terms of information and time. The CBRN 1 observer's initial report typically stops at the CBRN control center. The CBRN 1 report is created by the initial observer of the CBRN incident and is sent through mission command nodes from the controlling unit headquarters to the division CBRN control center. Figure C-2 depicts the routing of a CBRN 1 report.



Legend:	
CBRN	chemical, biological, radiological, and nuclear
CBRN CC	chemical, biological, radiological, and nuclear control center
HQ	headquarters

Figure C-2. CBRN incident immediate response reporting flow-CBRN 1 report

C-24. The CBRN 2 evaluated data report is completed by the controlling headquarters. They distribute laterally to adjacent units and submit to the division CBRN control center to prevent cross contamination while executing unit maneuver. Figure C-3 depicts the flow of the CBRN 2 report.



Legend:	
CBRN	chemical, biological, radiological, or nuclear
CBRN CC	chemical, biological, radiological, or nuclear control center
HQ	headquarters

Figure C-3. CBRN incident evaluated data reporting flow-CBRN 2 report

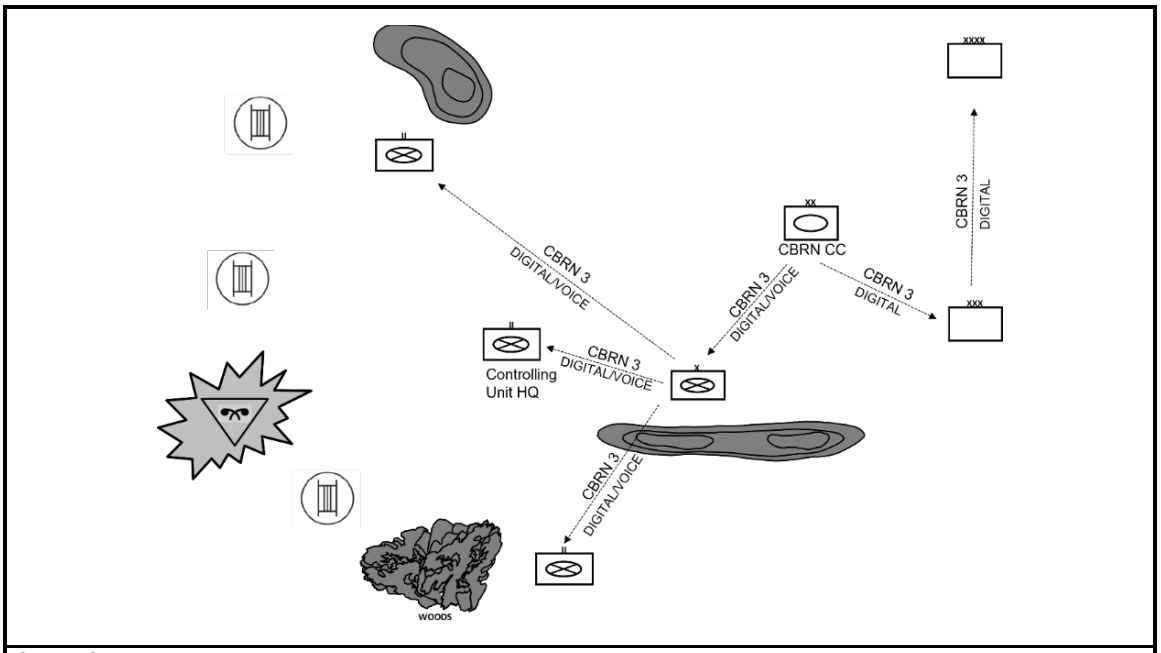
C-25. The CBRN 3 immediate warning of expected contamination or hazard area report is disseminated to all units that have been or may be affected. It is primarily prepared and distributed by the division CBRN control center. The battalion and brigade are capable of preparing a CBRN 3 report, but they may not have the time or capacity to do so. A subordinate unit may be ordered to move instead of receiving a full hazard area plot. For an example of the flow of a CBRN 3 report, see figure C-4, page 90.

Note. For more detail regarding reporting at higher echelons, see STANAG 2103 or TM 3-11.32.

C-26. The CBRN 4 reconnaissance, monitoring, and survey report is sent to higher headquarters or the controlling CBRN staff in accordance with mission orders for the R&S element. It is used to report specific contaminated areas from reconnaissance, survey, or monitoring data. The data from reconnaissance and surveillance is reported to the division CBRN control center for processing, but the communications may route through the chain of command for situational understanding. Figure C-5, page 90, depicts the flow of CBRN 4 reports.

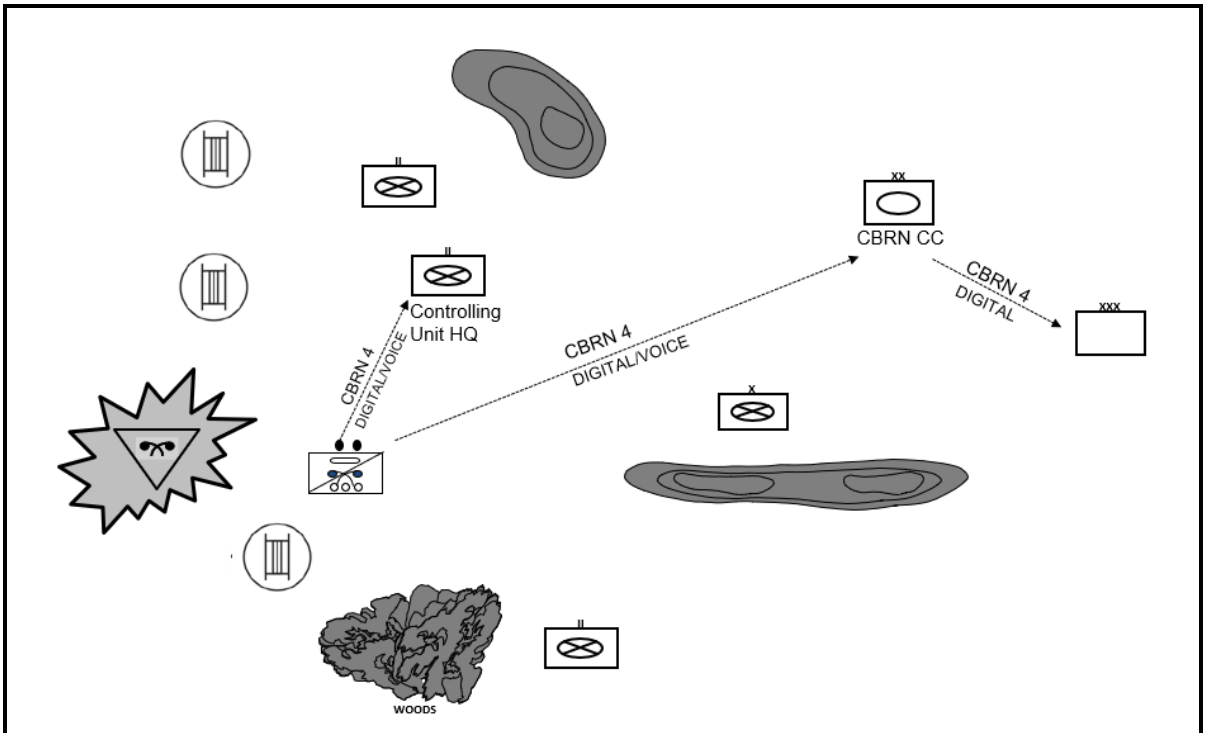
C-27. The CBRN 5 areas of actual contamination report is used for areas of actual contamination. It is prepared by the CBRN control center to be distributed to major subordinate commands and to corps and theater operations centers. Units use the CBRN 5 report to report contaminated areas left behind by decontamination. Figure C-6, page 91, depicts the flow of the CBRN 5 report.

C-28. The CBRN 6 report is a narrative report that provides identified information about a CBRN incident. It consists of general text and is provided only on request for more detailed information. A CBRN 6 detailed information of CBRN report is prepared as needed, so is not depicted.



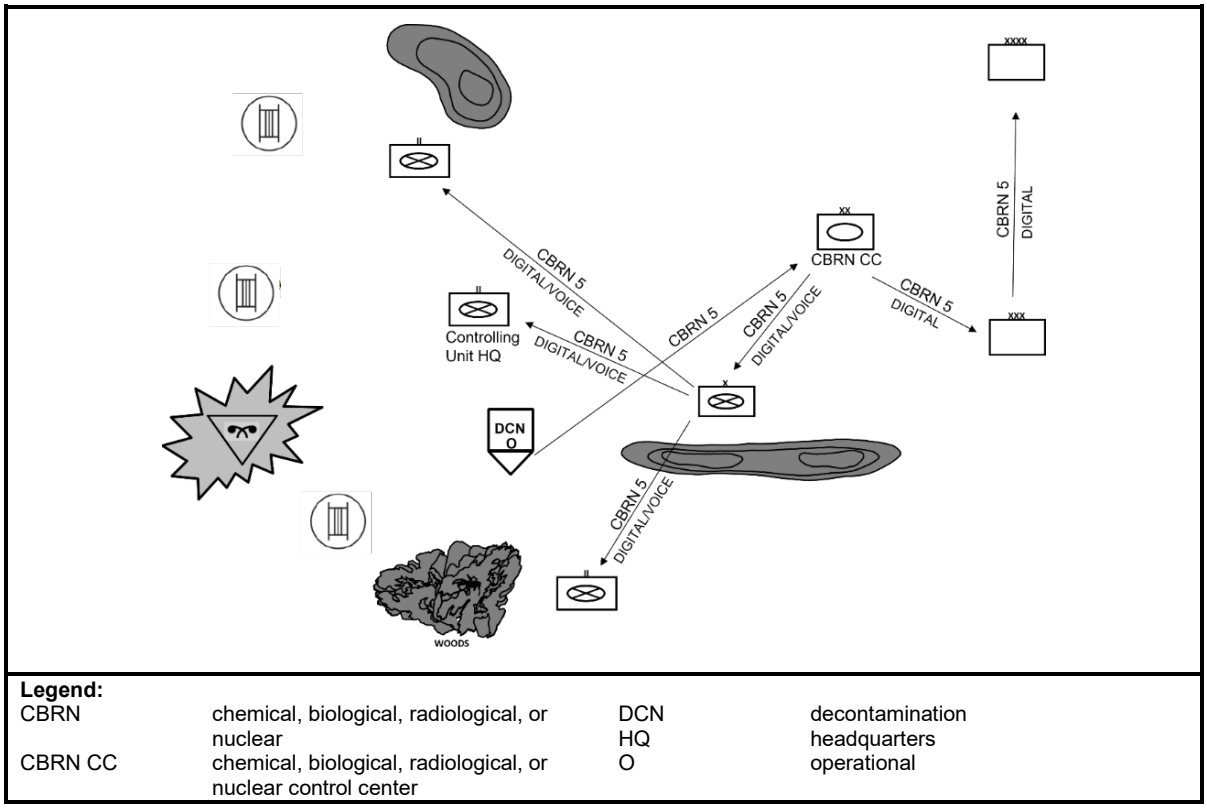
Legend:	
CBRN	chemical, biological, radiological, or nuclear
CBRN CC	chemical, biological, radiological, or nuclear control center
HQ	headquarters

Figure C-4. Warning of expected contamination area reporting flow-CBRN 3 report



Legend:	
CBRN	chemical, biological, radiological, or nuclear
CBRN CC	chemical, biological, radiological, or nuclear control center
HQ	headquarters

Figure C-5. Reconnaissance, monitoring, and survey results reporting flow-CBRN 4 report



Legend:			
CBRN	chemical, biological, radiological, or nuclear	DCN	decontamination
		HQ	headquarters
CBRN CC	chemical, biological, radiological, or nuclear control center	O	operational

Figure C-6. Areas of actual contamination reporting flow-CBRN 5 report

CBRN SUPPORT REQUESTS

C-29. In preparation for CBRN operations or following a CBRN incident, the CBRN control center may receive support requests. The CBRN support center processes all support requests by collecting requests, evaluating available support resources, and recommending immediate response options to the commander or the current operations cell lead. To maximize support and minimize disruption to operations, the CBRN support center understands the overall mission plan, command relationships for task organized CBRN units, the units prioritized for support, and what support options are available from higher echelons.

C-30. CBRN support requests prior to mission execution may request—

- Task organization changes to attach CBRN forces for a specific capability.
- Task organization changes to detach CBRN forces for capabilities no longer required.
- CBRN route or area reconnaissance to validate clean lines of communication or areas to occupy.

C-31. CBRN support requests during mission execution may request—

- Decontamination support to a non-CBRN force following a CBRN incident.
- CBRN route or area reconnaissance post incident to map the extent of contamination.
- Decontamination support to CBRN force following a reconnaissance mission.
- CBRN assessment pre-planned or previously unknown CBRN site of potential interest.
- Site characterization or exploitation for CBRN site of potential interest.
- A sample transload from CBRN reconnaissance forces.

C-32. The CBRN support center CBRN staff ensures that their organizations understand reporting procedures and the CBRN capabilities available to request. Regular integration in training prior to combat is the best time to establish these procedures. Figure C-7, page 92, provides an example CBRN support request that identifies basic information required from the requesting unit to provide accurate support.

CBRN Support Request		
Line	***Contents***	***Example***
LINE 1- DTG Discovered:	DTG	081200ZAPR2023
LINE 2- Grid Location of Hazard:	GRID	MGRS: 32UNB058640
LINE 3- Radio Freq/Call Sign:	Freq: Call Sign	FREQ: 234 Call Sign: Dragon
LINE 4- Hazard Description: (select all that apply)	A: Contamination Release B: Munitions C: Containers D: Facility E: Other (describe)	C
LINE 5- Capability Requested:	D: Decontamination R: Reconnaissance & Surveillance O: Other (describe)	R
LINE 6- Hazards Present: (select all that apply)	C: Chemical Warfare Agent B: Biological Warfare Agent R: Radiation N: Nuclear Device T: Toxic Industrial Materials U: Unknown O: Other (describe)	T
LINE 7- Assets Threatened: (select all that apply)	A: US Military B: Non-US Military C: Civilians D: Infrastructure	A
LINE 8- Impact to Assets Threatened:	A: Critical – Mass Casualty/Death B: Severe – Severe Symptoms of Exposure C: Minor – Minor or Possible Exposures D: None – No Observed Exposures	C
LINE 9- Security at Hazard Site:	A: Will Remain on Site B: Will Not Remain on Site	A
Legend: CBRN chemical, biological, radiological, and nuclear DTG date time group Freq frequency MGRS military grid reference system US United States		

Figure C-7. Example CBRN support request

Appendix D
Training

The Army trains in the manner it expects Soldiers to fight. The threat of conducting operations within CBRN environments necessitates proficiency in basic CBRN skills. This appendix outlines the tasks for individuals, units, and CBRN staffs.

ESSENTIAL CBRN PROFICIENCY SKILLS

D-1. Officers, enlisted personnel, and civilian support personnel whose primary duties are concerned with the planning, coordination, supervision, and conduct of unit CBRN defense activities require essential CBRN proficiency skills. These personnel attend formal training that meets the requirements consistent with those duties. (Log into the Army Training Network to download collective and individual tasks.) These tasks have been developed and approved by the Army Training Development Capability and hosted on the Central Army Registry to develop unit training plans. Table D-1 identifies individual tasks for CBRN defense specialists, including unit CBRN defense officers, enlisted personnel, and DOD civilians (such as private contractors) assigned on an additional-duty basis to form the CBRN control party. These personnel normally operate at the company, battery, or troop task unit, but they may be at a higher level, depending on the organizational structure.

Table D-1. Individual tasks for CBRN defense specialists

Task number	*Title*
031-74D-1010	Collect a Solid Chemical Sample
031-74D-1014	Identify Decontamination Methods
031-74D-1015	Conduct Operator Wipe Down Using the M100 Sorbent Decontamination System
031-74D-1016	Detect Chemical Agent Vapors Using the Improved Chemical-Agent Monitor
031-74D-1017	Emplace a Chemical Agent Alarm
031-74D-1018	Collect a Liquid Chemical Sample
031-74D-1019	Detect Chemical Warfare Agents Vapors Using the Joint Chemical Agent Detector
031-74D-1020	Decontaminate Equipment Using the M26 Decontamination Apparatus
031-74D-2011	Submit RADIAC Equipment to Test, Measurement and Diagnostic Equipment
031-74D-2012	Manage Operational Decontamination
031-74D-2013	Establish a Detailed Troop Decontamination Line
031-74D-2014	Process Soldiers Through a Detailed Troop Decontamination
031-74D-2016	Establish a Detailed Equipment Decontamination Line
031-74D-2017	Process Vehicles Through a Detailed Equipment Decontamination
031-74D-2018	Plan Thorough Decontamination
031-74D-3000	Select Domestic CBRN Incident Decontamination Site
031-74D-3012	Plan Operational Decontamination
031-74D-6000	Plan for CBRN Defense Equipment in Support of a Deployment
Legend:	
CBRN	chemical, biological, radiological and nuclear
RADIAC	radioactivity detection indication and computation

COMMON CBRN DEFENSE INDIVIDUAL TASKS FOR ALL UNITS

D-2. All Service personnel must be trained in basic CBRN defense concepts to survive a CBRN-related attack and contribute to the survivability and operating proficiency of the organization in a CBRN environment. Individual standards of proficiency include common tasks that individuals must master to

survive a CBRN attack. Table D-2 identifies common tasks for CBRN defense. These are nonmilitary occupational specialty specific individual tasks.

Table D-2. Common tasks for CBRN defense

Task number	*Title*
031-COM-1000	Conduct MOPP Gear Exchange
031-COM-1001	React to a Nuclear Attack
031-COM-1002	React to Depleted Uranium
031-COM-1003	Mark CBRN-Contaminated Areas
031-COM-1004	Protect Yourself from Chemical and Biological Contamination Using Your Assigned Protective Mask
031-COM-1005	Protect Yourself from CBRN Injury/Contamination by Assuming MOPP Level 4
031-COM-1006	Decontaminate Your Skin
031-COM-1011	Decontaminate Individual Equipment
031-COM-1007	React to Chemical or Biological Hazard/Attack
031-COM-1008	Identify Liquid Chemical Agents Using M8 Paper
031-COM-1009	Detect Liquid Chemical Agents Using M9 Detector Paper
031-COM-1010	Maintain Your Assigned Protective Mask
031-COM-1012	Conduct Personal Hydration While Wearing Your Assigned Protective Mask
031-COM-2000	Conduct Unmasking Procedures
031-COM-2001	Report a CBRN Attack Using a CBRN 1 Report
031-COM-2004	Identify Chemical Agents Using a M256A2 Chemical-Agent Detector Kit
Legend: CBRN chemical, biological, radiological or nuclear MOPP mission-oriented protective posture	

COLLECTIVE TASKS FOR UNITS CONDUCTING OPERATIONS IN CBRN ENVIRONMENTS

D-3. Effective mission command philosophy is conducive to setting the conditions for battle-focused training and for the development of effective teams. Due to reporting and synchronization requirements, CBRN incidents incorporated into multiechelon training venues emphasizes mission command. Although staffs and crews train battle drills individually on reacting to CBRN incidents, battle-focused training emphasizes that planners replicate the conditions of a CBRN incident from initial observation, warning and reporting, synchronization between higher and adjacent units, to final resolution.

D-4. Commanders use unit training plans to address CBRN threats as a complex variable of the OE that directly impacts a unit's ability to execute mission-essential tasks. Unit noncommissioned officers identify CBRN supporting collective tasks (by echelon) to mitigate CBRN impact on a unit mission. The following recommended collective tasks provide commanders with a training strategy to achieve proficiency in a contested CBRN environment. Tables D-3 through D-5, pages 95 through 97, describe the recommended collective tasks for company, platoon, and all echelon staff sections.

Table D-3. Recommended collective tasks for a company.

Task Number	*Title*
03-CO-0066	Prepare for a Nuclear Attack
03-CO-0067	Prepare for a Friendly Nuclear Strike
03-CO-0068	Prepare for a Biological Attack
03-CO-0069	React to a Nuclear Attack
03-CO-0070	Prepare for a Chemical Attack
03-CO-0071	React to a Chemical Attack
03-CO-0072	React to a Biological Attack
03-CO-1007	Conduct Thorough Decontamination
03-CO-9200	Conduct Unmasking Procedures After a Chemical Attack
03-CO-9201	Implement CBRN Protective Measures
03-CO-9208	Cross a Radiological Contaminated Area
03-CO-9209	React to Obscuration
03-CO-9224	Conduct Operational Decontamination
03-CO-9225	Conduct a Chemical Reconnaissance
03-CO-9226	Cross a Chemically Contaminated Area
03-CO-9310	Conduct a Dismounted Chemical Survey
Legend: CBRN chemical, biological, radiological, and nuclear	

Table D-4. Recommended collective tasks for a platoon

Task Number	*Title*
03-PLT-0066	Prepare for Nuclear Attack
03-PLT-0067	Prepare for a Friendly Nuclear Strike
03-PLT-0068	Prepare for a Biological Attack
03-PLT-0069	React to a Nuclear Attack
03-PLT-0070	Prepare for a Chemical Attack
03-PLT-0071	React to a Chemical Attack
03-PLT-0072	React to a Biological Attack
03-PLT-1030	Prepare for CBRN Reconnaissance and Surveillance Mission
03-PLT-1034	Conduct Sampling at Platoon Level
03-PLT-1040	Prepare for Future Missions at Platoon Level
03-PLT-1076	Conduct a Toxic Industrial Material Reconnaissance
03-PLT-5127	Conduct Dismounted CBRN Site Reconnaissance
03-PLT-5129	Conduct Technical Decontamination
03-PLT-9200	Conduct Unmasking Procedures After a Chemical Attack
03-PLT-9201	Implement CBRN Protective Measures

Table D-4. Recommended collective tasks for a platoon (continued)

Task Number	*Title*
03-PLT-9208	Cross a Radiological Contaminated Area
03-PLT-9209	React to Obscuration
03-PLT-9224	Conduct Operational Decontamination
03-PLT-9225	Conduct a Chemical Reconnaissance
03-PLT-9226	Cross a Chemically Contaminated Area
03-PLT-9310	Conduct a Dismounted Chemical Survey
Legend: CBRN chemical, biological, radiological, and nuclear	

Table D-5. Recommended tasks for staff by echelon

Task Number	*Title*	*BN*	*BDE*	*DIV*	*CORP*	*EAC*	*MEB*	*ABCT*	*IBCT*	*SBCT*
03-DIV-2011	Conduct Chemical Vulnerability Assessment	X	X	X	X	X	X	X	X	X
03-DIV-2014	Conduct Nuclear Vulnerability Assessment	X	X	X	X	X	X	X	X	X
03-DIV-2013	Conduct Radiological Vulnerability Assessment	X	X	X	X	X	X	X	X	X
03-DIV-2020	Develop a CBRN Defense Plan	X	X	X	X	X	X	X	X	X
03-DIV-5530	Integrate Joint Force Staff Augmentees			X	X	X				
03-BDE-0065	Prepare for Operations Under CBRN Conditions	X	X	X			X	X	X	X
03-BDE-0066	Prepare for Nuclear Attack	X	X	X	X	X	X	X	X	X
03-BDE-0067	Prepare for a Friendly Nuclear Strike	X	X	X	X	X	X	X	X	X
03-BDE-0069	React to a Nuclear Attack	X	X	X	X	X	X	X	X	X
03-BDE-0070	Prepare for a Chemical Attack	X	X	X	X	X	X	X	X	X
03-BDE-0071	React to a Chemical Attack	X	X	X	X	X	X	X	X	X
03-BDE-0072	React to a Biological Attack	X	X	X	X	X	X	X	X	X
03-BDE-0404	Direct CBRN Defense Operations	X	X	X			X	X	X	X
03-BDE-1003	Plan Thorough Decontamination	X	X	X			X	X	X	X
03-BDE-1004	Prepare Thorough Decontamination	X	X	X			X	X	X	X
03-BDE-1068	Prepare for a Biological Attack	X	X	X	X	X	X	X	X	X
03-BDE-2001	Maintain a CBRN Running Estimate	X	X	X	X	X	X	X	X	X
03-BDE-2002	Coordinate With Staffs on CBRN Related Issues	X	X	X	X	X	X	X	X	X
03-BDE-2003	Recommend Operational Exposure Guidance	X	X	X	X	X	X	X	X	X
03-BDE-2004	Establish CBRN Warning and Reporting System			X	X	X				
03-BDE-2005	Process CBRN Reports	X	X	X	X	X	X	X	X	X
03-BDE-2006	Plan Biological Surveillance	X	X	X			X	X	X	X
03-BDE-2007	Conduct CBRN Reconnaissance and Surveillance Planning	X	X	X			X	X	X	X

Table D-5. Recommended tasks for staff by echelon (continued)

Task Number	*Title*	*BN*	*BDE*	*DIV*	*CORP*	*EAC*	*MEB*	*ABCT*	*IBCT*	*SBCT*
03-BDE-2008	Conduct CBRN Capabilities Assessment	X	X	X	X	X	X	X	X	X
03-BDE-2009	Conduct CBRN Threat Assessment	X	X	X	X	X	X	X	X	X
03-BDE-2010	Conduct Toxic Industrial Material Vulnerability Assessment	X	X	X	X	X	X	X	X	X
03-BDE-2012	Conduct Biological Vulnerability Assessment	X	X	X	X	X	X	X	X	X
03-BDE-2015	Conduct CBRN Vulnerability Assessment	X	X	X	X	X	X	X	X	X
03-BDE-2016	Process CBRN Meteorological Reports	X	X	X	X	X	X	X	X	X
03-BDE-2017	Conduct CBRN Operational Environment Assessment	X	X	X	X	X	X	X	X	X
03-BDE-2018	Establish the CBRN Common Operational Picture	X	X	X	X	X	X	X	X	X
03-BDE-2019	Plan CBRN Unit Employment	X	X	X			X	X	X	X
03-BDE-2021	Plan Chemical Biological Survey Mission	X	X	X			X	X	X	X
03-BDE-2022	Plan Radiological Survey Mission	X	X	X			X	X	X	X
03-BDE-2023	Develop CBRN Sample Management Plan	X	X	X	X	X	X	X	X	X
03-BDE-2024	Prepare Appendix 10 (CBRN Defense) to Annex E (Protection)	X	X	X	X	X	X	X	X	X
03-BDE-2025	Coordinate CBRN Protection	X	X	X	X	X	X	X	X	X
03-BDE-6800	Plan CBRN Operations	X	X	X			X	X	X	X
03-BDE-6900	Conduct CBRN Operations	X	X	X			X	X	X	X

Legend:

ABCT	armored brigade combat team	DIV	division
BDE	brigade	EAC	echelon above corps
BN	battalion	IBCT	infantry brigade combat team
CBRN	chemical, biological, radiological, and nuclear	MEB	maneuver enhancement brigade
		SBCT	Stryker brigade combat team

ADDITIONAL PROFICIENCY SKILLS FOR MEDICAL PERSONNEL

D-5. Medical personnel protect themselves, patients, and medical facilities against exposure to CBRN agents (CBRN defense) and—according to the latest developments in science and technology—carry out the measures necessary to maintain and restore the health of personnel exposed to CBRN environments (CBRN medical defense). For more information on medical countermeasures in the CBRN environment, see ATP 4-02.7.

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Glossary

The glossary lists acronyms and terms with Army or joint definitions. Where Army and joint definitions differ, (Army) precedes the definition. Terms for which FM 3-11 is the proponent manual are marked with an asterisk (*). The proponent manual for other terms is listed in parentheses after the definition.

SECTION I – ACRONYMS AND ABBREVIATIONS

AA	assembly area
ABCT	armored brigade combat team
ADP	Army doctrine publication
AFTTP	Air Force tactics, techniques, and procedures
AO	area of operations
ARS	armored reconnaissance squadron
ARSOF	Army special operations forces
ATTN	attention
ATP	Army techniques publication
BCT	brigade combat team
CBRN	chemical, biological, radiological, or nuclear
CBRNE	chemical, biological, radiological, nuclear and explosives
CBRNWRS	chemical, biological, radiological, and nuclear warning and reporting system
CCIR	commander's critical information requirement
CCMD	combatant command
COA	course of action
COLPRO	collective protection
COP	common operational picture
CS	chlorobenzylidenemalononitrile
CWMD	countering weapons of mass destruction
DA	Department of the Army
DOD	Department of Defense
DODD	Department of Defense directive
DODI	Department of Defense instruction
DSCA	defense support of civil authorities
EA	engagement area
EOD	explosive ordnance disposal
FM	field manual
FPCON	force protection condition
G-1	assistant chief of staff, personnel
G-2	assistant chief of staff, intelligence

G-3	assistant chief of staff, operations
G-4	assistant chief of staff, logistics
GTA	graphic training aid
HAU	hazard awareness and understanding
IBCT	infantry brigade combat team
ICBRN-R	International chemical, biological, radiological, and nuclear response
IPOE	intelligence preparation of the operational environment
JP	Joint publication
MCRP	Marine Corps reference publication
MDMP	military decision-making process
MEB	maneuver enhancement brigade
METT-TC(I)	mission, enemy, terrain and weather, troops and support available, time available, civil considerations and informational considerations
MO	Missouri
MOPP	mission-oriented protective posture
MSCOE	Maneuver Support Center of Excellence
NAI	named area of interest
NATO	North Atlantic Treaty Organization
NDT	nuclear disablement team
NTRP	Navy tactical reference publication
NTTP	Navy tactics, techniques, and procedures
OBJ	objective
OE	operational environment
PAA	position area for artillery
PIR	priority intelligence requirement
PL	phase line
R&S	reconnaissance and surveillance
S-1	battalion or brigade personnel staff officer
S-2	battalion or brigade intelligence staff officer
S-3	battalion or brigade operations staff officer
S-4	battalion or brigade logistics staff officer
SBCT	Stryker brigade combat team
STANAG	standardization agreement
TC	training circular
TF	task force
TIC	toxic industrial chemical
TIM	toxic industrial material
TM	technical manual
TRADOC	United States Army Training and Doctrine Command
U.S.	United States
USACBRNS	United States Army Chemical, Biological, Radiological, and Nuclear School
WMD	weapons of mass destruction

SECTION II – TERMS

***chemical, biological, radiological, and nuclear operations**

Chemical, biological, radiological, and nuclear operations include the employment of capabilities that assess, protect against, and mitigate chemical, biological, radiological, and nuclear threats and hazards to enable freedom of action.

chemical, biological, radiological, or nuclear defense

Actions taken to counter chemical, biological, radiological, or nuclear hazards; reduce their risks; and prepare for, respond to, and recover from chemical, biological, radiological, or nuclear incidents. (JP 3-11)

chemical, biological, radiological, or nuclear environment

An operational environment that includes probable chemical, biological, radiological, or nuclear threats and hazards and their resulting effects. (JP 3-11)

chemical, biological, radiological, or nuclear hazard

Chemical, biological, radiological, or nuclear elements that pose a threat to humans, animals, plants, or the environment. (JP 3-11)

chemical, biological, radiological, or nuclear incident

Any accidental or intentional release of a chemical, biological, radiological, or nuclear hazard. (JP 3-11)

chemical, biological, radiological, nuclear, and explosives

Components that are threats or potential hazards with adverse effects in the operational environment. (ATP 3-37.11)

contamination mitigation

The planning and actions taken to prepare for, respond to, and recover from contamination associated with all chemical, biological, radiological, and nuclear threats and hazards to continue military operations. (JP 3-11)

countering weapons of mass destruction

Efforts against actors of concern to curtail the conceptualization, development, possession, proliferation, use, and effects of weapons of mass destruction, related expertise, materials, technologies, and means of delivery. (JP 3-40)

hazard

A condition with the potential to cause injury, illness, or death of personnel; damage to or loss of equipment or property; or mission degradation. (JP 3-33)

nonpersistent agent

A chemical agent that, when released, dissipates or loses its ability to cause casualties rapidly, in a matter of minutes. (JP 3-11)

persistent agent

A chemical agent that is able to cause casualties for hours or longer. (JP 3-11)

protection warfighting function

The related tasks, systems, and methods that prevent or mitigate detection, threat effects, and hazards to preserve the force, deny the enemy freedom of action, and enable commanders to apply combat power. (ADP 3-0)

threat

Any combination of actors, entities, or forces that have the capability and intent to harm United States forces, United States national interests, or the homeland. (ADP 3-0)

toxic industrial biological

Any biological material manufactured, used, transported, or stored by industrial, agricultural, medical, or commercial processes which could pose a hazard. (JP 3-11)

toxic industrial chemical

Any chemical developed, manufactured, used, transported, or stored by industrial, agricultural, medical, or commercial processes which could pose a hazard. (JP 3-11)

toxic industrial material

A generic term for toxic chemical, biological, or radioactive substances that may be used, or stored for use, for industrial, agricultural, commercial, medical, military, or domestic purposes. (JP 3-11)

toxic industrial radiological

Any radiological material manufactured, used, transported, or stored by industrial, agricultural, medical, or commercial processes. (JP 3-11)

weapons of mass destruction

Weapons of mass destruction are chemical, biological, radiological, or nuclear weapons capable of causing a high order of destruction or causing mass casualties, excluding the means of transporting or propelling the weapon where such means is a separable and divisible part from the weapon. (JP 3-40)

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FM 3-11

10 April 2025

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