

Introduction

Contamination avoidance is the best defense against enemy use of nuclear weapons. Avoidance reduces the risk of being targeted by nuclear weapons and minimizes the effects of nuclear contamination hazards. Knowing where contamination exists or how long the hazard may persist is essential to avoiding the hazard.

Enemy use of nuclear weapons makes battlefield operations more difficult and time consuming. Combat, combat support, and combat service support operations may be more difficult to perform in a nuclear environment. Tasks/missions may take more time because of the problems created by nuclear contamination. Nuclear attacks may cause casualties, materiel losses, and creation of obstacles. Training will reduce the problems caused by nuclear attacks on the unit. Units must locate clean areas as well as locate contamination in a nuclear environment. Contaminated units will have to perform decontamination (decon) operations.

To survive and accomplish the mission, individuals and units must take precautions to avoid or minimize effects of initial and residual nuclear hazards. The threat of contamination may force individuals and units into collective protection. Using collective protection requires special procedures that are time consuming. See FM 3-4 for information on what measures or steps an enemy nuclear attack may affect friendly forces. FM 3-3 outlines how to anticipate an enemy chemical or biological attack and minimize the effects on friendly forces.

Contamination Avoidance

There are four steps to contamination avoidance—implement passive defensive measures, warn and report nuclear attacks, locate, identify, track and predict hazards, and limit exposure to nuclear hazards. If the mission permits, avoiding nuclear hazards completely is the best course of action. This is not always possible. The mission may force you to occupy or cross a contaminated area. This manual outlines procedures to use when working or training to work in a contaminated environment. Using these procedures, which are summarized by the four steps of contamination avoidance, units can minimize performance degradation.

Implement Passive Defensive Measures

Passive defensive measures are those measures taken to reduce the probability of being hit by a nuclear attack or, if hit, to reduce the effects of the attack. Operational security measures such as good communication procedures, light discipline, and good camouflage reduce the chances of a

unit being targeted. Dispersion, hardening of positions and equipment, and using overhead cover reduces the effectiveness of an attack. Passive measures are discussed in more detail in Chapter 1.

Warn and Report

Once a nuclear attack has occurred everyone who might be affected by the hazard must be warned. This gives units time to protect themselves against a possible hazard. NBCWRS is used for warning and reporting nuclear hazards. These messages and their use are standardized and kept simple so they can be passed rapidly and be easily understood. The NBCWRS is discussed in Chapter 2. The Automated NBC Information System (ANBACIS) will assist in speeding this process.

Locate, Identify, Track, and Predict Nuclear Hazards

By locating, identifying, tracking, and/or predicting nuclear hazards, commanders can make informed decisions for operating in or around nuclear hazards. Planning nuclear reconnaissance is discussed in Chapter 5. Tactics and techniques of NBC reconnaissance are contained in FM 3-19, *NBC Reconnaissance*. Techniques for predicting nuclear hazards are given in Chapters 3, 4, and 6. A portion of ANBACIS provides for the automatic calculation of hazard areas due to nuclear weapons using or creating all NBC 1 through NBC 5 Reports.

Limit Exposure

If operation in a contaminated area is necessary, take steps to limit the amount of troop exposure. Chapter 5 discusses crossing contaminated areas. FM 3-4, *NBC Protection*, gives guidance on protective measures for such crossings and FM 3-19, *NBC Reconnaissance*, describes the techniques for finding the best crossing route.

Protection and Decontamination

If a unit is unable to avoid nuclear hazards, the individual soldier and unit must take protective measures. Actions that minimize equipment losses and limit the spread of contamination are discussed in this manual. Measures taken to aid in protection are covered in detail in FM 3-4.

If a unit is unable to avoid contamination, then some form of decon may be necessary. Decon reduces the immediate NBC hazard.

Tactical Considerations

If nuclear weapons are used, individual and collective protective measures must be taken. Time-consuming and manpower-intensive tasks such as nuclear reporting, radiological recon, surveys, and decon may be necessary.

Mission

Radioactive contamination forces the commander to reconsider how best to accomplish the mission with the available resources. The commander has three options. In order of preference, these are—

- First, do the mission in a clean area. The commander must decide whether the mission can be accomplished while staying out of contaminated areas.
- Second, do the mission in a contaminated area using a higher risk level, and use more soldiers, to do the mission faster.
- Third, do the mission in the same amount of time with the same number of soldiers, but wait for a longer period of time to start to allow for natural decay.

Enemy

In addition to trying to determine what the enemy plans to do, the commander also must determine how and where the enemy is most likely to use nuclear weapons. For example, if the enemy is attacking, expect nuclear weapons to be used to open gaps along avenues of advance or to destroy forces.

Terrain

Terrain modifies nuclear weapons' effects. Hills restrict the area affected by the initial effects of nuclear weapons

and disrupt the normal dispersion of fallout. Valleys and low areas provide defense against initial nuclear effects, but residual hazards may accumulate and linger.

Troops

The physical condition of troops is very important. Tactical decisions must consider how troops will be affected.

Time

Tasks may take longer in a nuclear environment. Adding nuclear requirements to conventional recon adds time to the mission. Decon operations are also time-consuming.

Anticipating the timing of nuclear attacks is important. Chemical and biological attacks are most likely to occur during the night and early morning or evening hours and may be employed to enhance nuclear weapons effects. Employment of nuclear weapons causes severe problems, especially among pilots and crewmen, due to dazzle and flash blindness.

Training

Commanders must understand the importance that training has on a soldier and the unit's ability to complete the mission. When troops are well trained, they can survive and fight on a contaminated battlefield. Poorly trained troops may not be able to recognize a nuclear attack. Well-trained troops can do their jobs, while in a nuclear environment. They know tasks take longer, but are able to adjust their procedures and/or work rate accordingly.