

Appendix B NBC Operations

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NBC ENVIRONMENT

Contamination avoidance, individual and collective protection, and decontamination are defenses against NBC hazards. DISCOM units train in these defensive measures to lessen the effects of NBC attacks.

The NBC environment poses a challenge to DISCOM systems. In an NBC environment, personnel casualties increase. This increases the mortuary affairs and HSS work load. Equipment and supply distribution points sustain damage from nuclear blasts and fires caused

by thermal radiation. Maintenance needs increase sharply. Maintenance elements quickly deplete supplies and equipment. Demands for repair parts increase, while fewer people are available to continue the support mission. In an NBC environment, logistics and HSS personnel work in full protective equipment for extended periods. This reduces productivity. The LID needs additional assets to provide adequate decontamination support.

NBC PLANNING

DISCOM plans for NBC operations are flexible. They also receive wide dissemination. NBC operations require emphasis on —

- Vulnerability analysis.
- Contamination avoidance.
- Increased dispersion of units.
- Plans for alternate methods of supply, services, and HSS. Planners expect interruptions in the LOCs.
- Balance of the need for increased movement against the capability to perform the mission.
- Continuation of CSS with reduced resources.
- Possible changes in basic loads,
- Plans to increase the CSS capability by the addition of NBC decontamination teams as required.
- Provisions for rapid augmentation or movement of HSS units, on-site emergency treatment, and timely evacuation of large numbers of patients.
- Traffic control to prevent development of potential targets resulting from traffic congestion.
- Plans for the rehabilitation of critical routes as soon as possible after damage.
- Plans for the procurement of civilian manpower and materiel resources. Such resources supplement DISCOM capabilities.
- Plans which reflect that the tempo of all operations slow down. Plans also reflect that some activities come to a halt in an NBC environment. This occurs because individuals or units have to operate in protective clothing, equipment, or facilities. In addition, personnel change work procedures to lessen contamination.
- Significant increases in demand and consumption of individual and unit NBC clothing, equipment, and supplies.

COUNTERING NUCLEAR WEAPONS OR CHEMICAL/BIOLOGICAL AGENTS

Enemy use of NBC weapons places unusual demands on DISCOM activities. The following paragraphs discuss these demands and the measures to counter them.

SUSTAINING THE SOLDIER

In an active NBC environment, DISCOM units reduce division stockage to the lowest level needed for mission

accomplishment. This allows for maximum mobility, dispersion, and contamination avoidance. Forward units carry full basic loads and protect themselves from contamination. Supply personnel issue critical supply items to the division on a push basis. Emergency resupply may be by air. Supply personnel disperse and cover reserve stocks. They do this to avoid presenting lucrative targets and to lessen the risk of destruction or contamination.

In an active NBC environment, DISCOM personnel frequently test supplies and logistics assets for contamination. Continuous monitoring is desirable. Supply personnel use containers made from composite materials to package supplies. They issue the containers in protective overwrap. The overwrap limits liquid contamination of the contents. It also allows easy decontamination of the containers. Supply personnel do not issue contaminated stocks. They segregate them from clean stocks until they fully decontaminate them.

In emergencies when no other stocks are available, they issue certain contaminated supplies. However, they issue contaminated supplies only if it would give the receiving unit a decisive tactical advantage. They issue contaminated supplies first to units similarly contaminated. Only under the most dire circumstances do they issue contaminated stocks to an uncontaminated unit. The issuing and receiving commanders jointly decide to issue contaminated items. Supply personnel try to avoid the spread of contamination. They clearly mark contaminated stocks using standard NBC markers.

Supply personnel do not provide Class I resupply to units in or near contaminated areas. Units carry enough MREs to operate without daily resupply. Units store rations under protective coverings or in containers. They limit decontamination efforts to removing the containers and carton overwrap. They do not use contaminated rations. Supporting chemical units and medical personnel provide technical help and advice on the use of rations.

Some Class II items, such as chemical defense equipment, receive priority of issue to selected units on an NBC battlefield. The commander gives highest priority to units in contaminated areas. The next priority is to units that recently left contaminated areas. The third priority is to units deployed in forward areas. Protective overgarments are available in PUL packages.

Supply points do not issue and units do not use contaminated water. Purification operations practice avoidance. If personnel suspect that a water source is

contaminated, they mark it with standard NBC markers. No one uses that water source until personnel test it, treat it with a ROWPU if necessary, and determine that it is safe to use. Preventive medicine personnel advise on the safe use of water. Sometimes personnel cannot treat contaminated water for drinking purposes. In that case, they dispose of it in a manner that prevents secondary contamination. They also mark the area. They monitor all water treatment, storage, and dispensing equipment frequently.

The influx of large numbers of patients and the loss of medical facilities and personnel from NBC attacks have a heavy impact on HSS. Advanced stages of MOPP result in heat buildup and reduced mobility. They also result in degradation of speech, sight, touch, and hearing. This degrades individual and unit effectiveness. Medical units require help to continue operations in an NBC environment.

When the commander plans an operation, the division surgeon reviews current health and radiation exposure status of units. He also reviews the exposure predicted in the commander's plan. The division surgeon gives the commander general estimates of the –

- Reduction in effectiveness of personnel due to exposure to radiation.
- Number and time-phasing of casualties.
- Resulting medical work load and the requirements for medical units to perform it.

Contamination is one of the major problems in providing HSS in an NBC environment. Medical units take necessary action to avoid contamination and lessen the initial effects of nuclear weapons. They protect medical supplies and equipment from contamination with chemical agent resistant coatings or protective coverings. They disperse Class VIII stocks. They decontaminate contaminated items before issue.

Each physically capable individual carries out required decontamination of himself and his equipment as soon as possible. Personnel set up conveniently located decontamination stations at MTFs. (Figure B-1 shows an example.) Patients are decontaminated before evacuation by aircraft or ground vehicles. Medical units only decontaminate patients who have reached MTFs and are unable to perform self-aid. If MTFs have to decontaminate patients, decontamination support is essential. A significant degradation of HSS results if medical personnel operate decontamination stations. The commander forms and trains patient decontamination teams

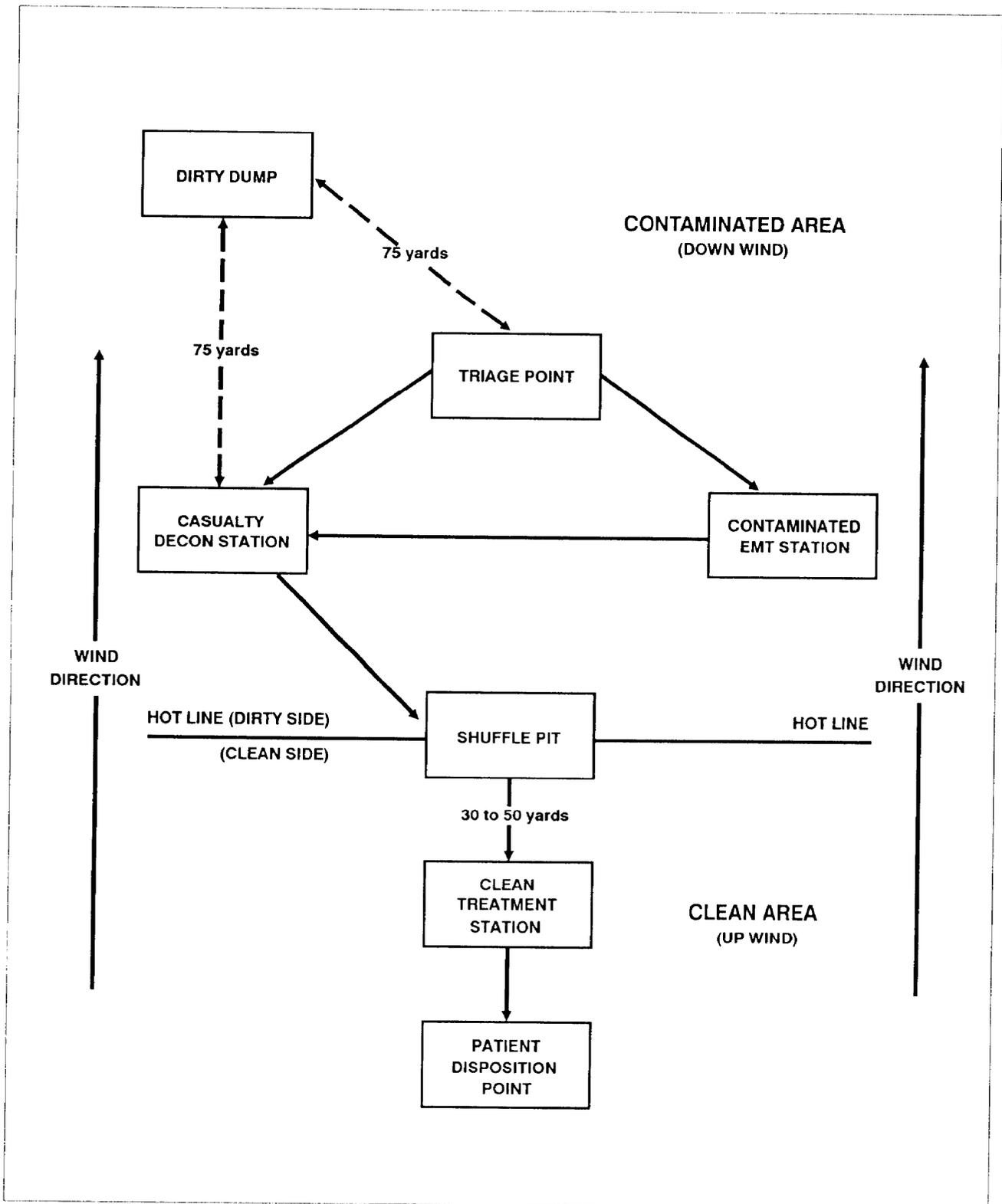


Figure B-1. Layout of a chemical agent patient decontamination station, in an uncontaminated area, without collective protective shelter.

from the unit. They help decontaminate contaminated patients. FM 8-10-4 contains instructions inpatient decontamination. Personnel do not admit patients to MTFs in contaminated clothing or blankets. Occasionally, a contaminated patient requires immediate treatment. No decontamination procedure should prevent life-saving procedures. HSS personnel treat a contaminated patient in the contaminated treatment area. FM 8-285 and TC8-12 cover treatment of chemical patients.

Personnel base treatment and evacuation of NBC patients upon manifested signs and symptoms. SOPs govern the use of prophylactic measures following known or suspected biological or chemical agent attack. Following a nuclear attack, individuals who suspect radiation injury reach the MTF seeking medical attention. Suspected nuclear radiation injury alone does not justify evacuation. Ordinarily, in nuclear and conventional warfare, burns and traumatic injury are the basis for early medical care and evacuation.

In an NBC environment, special mortuary affairs task groups are formed. They provide NBC monitoring equipment and personnel. They identify remains due to NBC warfare. If possible, they decontaminate remains and evacuate them to a collection point. If they cannot decontaminate the remains, they tag them with an international NBC tag. They inter them at a site within the contaminated area. They mark the site with the standard NBC marker. They record locations and site layout according to standard procedures and FM 10-63. Personnel recover and decontaminate remains for final disposition after hostilities cease or if the tactical situation, time, and other resources permit. They follow FM 10-63 and local policies.

Commanders curtail renovation operations in an NBC environment in favor of higher priority missions. They also curtail laundry service except clothing decontamination and critical functions such as hospital service.

ARMING THE FORCE

Selected high-usage Class IV items come in shipping containers. They protect against NBC effects. This reduces handling and allows for responsive support. Supply personnel may issue contaminated or partially decontaminated Class IV items when properly identified. The user decontaminates contaminated Class IV items.

In NBC conditions, supply personnel separate Class V supplies from other commodities. They keep them as

mobile as possible. Protective covers lessen exposure to nuclear and chemical contamination. Ammunition support elements are responsible for decontaminating ammunition under their control. Large-scale decontamination requires additional support. If the situation requires the issue of contaminated stocks, supply personnel use the standard NBC marker. After issue, the user performs required decontamination. ATP personnel prepare to operate in contaminated areas if no uncontaminated areas are available.

FUELING THE FORCE

Class III supply is critical in an NBC environment. More frequent moves increase consumption. In emergencies, corps units deliver directly to tactical units and forward arming and refueling points. Emergency resupply to isolated units may be by air. Supply personnel disperse storage locations and activities. They protect ancillary equipment to the same extent as major items of equipment. Storage tanks and bladders protect bulk petroleum to a large degree. However, supply personnel take precautions to reduce contamination on tanks and bladders.

FIXING THE FORCE

Avoiding contamination of equipment is easier than decontaminating it. Decontamination is time-consuming. It also causes corrosion and damage to some types of equipment. Providing overhead cover for equipment and supplies reduces liquid contamination.

Using units decontaminate their own equipment. Equipment turned over to maintenance personnel is as free of contamination as the using unit can make it. When using units cannot decontaminate equipment, they mark the equipment with the type and the date/time of contamination. If possible, they mark the specific areas of equipment contamination. They also segregate contaminated material.

Sometimes using units cannot decontaminate damaged or inoperable equipment that is critical to the battle. Maintenance personnel prepare to repair it at a contaminated MCP. Use of a contaminated MCP limits contamination and combines contaminated repair assets. A contaminated MCP is similar to a hasty decontamination site. It is far enough forward to limit the spread of contamination. Yet it is far enough back to buy time for MOPP IV-clad mechanics.

Corps heavy materiel supply companies decontaminate Class VII items before issue. If supply points have

to issue contaminated items, the receiving unit is responsible for decontamination. Before issue of contaminated items, supply personnel put the standard NBC marker on the items. They make every effort to avoid abandoning Class VII items.

In NBC conditions, personnel salvage only critical items in short supply. They salvage contaminated items that are essential to return a major weapon system to operation. They do this with command approval. They mark items that they cannot decontaminate with standard NBC markers.

MOVING THE FORCE

As offensive opportunities develop, LID forces quickly assemble for attack. They conduct the operation and then disperse. This lessens risk by not presenting a large target until it is close to enemy elements. This also reduces the likelihood of NBC attack. This tactic generates a need for responsive, timely movements control.

Personnel reduce stockage levels at supply points as the threat of NBC attack increases. This reduces the risk of having materiel contaminated. It presents less lucrative targets. These lower stockage levels cause increased dependence on a continuous, reliable transportation service.

Nuclear attack presents a variety of problems to the MCO. Blown-down trees block routes. Radiation makes areas impassible. EMP generation disrupts communications.

Chemical attack causes unique problems as well. The corrosive nature of some chemical agents destroys or makes inoperative some types of equipment. The efficiency of mechanics, equipment operators, and support personnel decreases as they work in MOPP gear. The forward delivery concept places large numbers of vehicles in the division rear and brigade areas. Chemical contamination of these assets drastically reduces transportation capabilities. The time required to decontaminate, coupled with probable shortages of decontamination supplies and equipment, causes spot shortages of vehicles.

Personnel deliver contaminated cargo only to similarly contaminated units. If cargo becomes contaminated in transit, drivers immediately contact the TMT commander or the MCO for disposition instructions. They contact the DMMC to determine if they should deliver the cargo to the original consignee. However, if the cargo is in the area of the receiver, and the receiver is contaminated, the DMMC contacts the receiver. They decide if the cargo is essential and whether drivers should deliver it immediately, as is. It is the receiving unit's responsibility to decontaminate "dirty" cargo.

Drivers do not move contaminated cargo over "clean" routes unless combat need dictates otherwise. Planners route movement of "clean" cargo to bypass contaminated areas. If bypass is not possible, or practical, personnel airlift materiel if time permits. Personnel set up transfer points on the fringes of contaminated areas. There they transload "clean" cargo onto "dirty" equipment.

In short, time is lost. The MCO constantly plans for the worst. Alternative routes should always be available. Backup modes are identified for critical supplies. Personnel maintain cargo visibility constantly. The MCO is able to identify and divert critical materiel at any time. Plans and supplies for decontamination are available. FMs 3-5 and 3-100 provide further information.

Requirements for airdrop increase on a nuclear or chemical battlefield. Air delivery hurries resupply. It also provides a swift means to bypass contaminated areas. Personnel check all airdropped supplies and equipment for contamination. If contaminated, they decontaminate them before further processing. They mark items which remain contaminated with a standard NBC marker. Whenever rigging takes place in a contaminated area, they mark all supplies and airdrop equipment with standard NBC markers. They also advise air crews. FM 100-27 contains more information on airdrop. Airdrop planning factors are in FM 101-10-1/2.