

Appendix B

Guidelines for the NBC Portion of a Collective-Protection System SOP

This is intended as a guide for units in the field. Each unit should modify and expand this guidance to develop its own SOP. Each SOP should consider peculiarities of unit organization, mission, equipment, and environmental situation. An SOP should delineate operational details of a shelter or van equipped for collective protection. For example, details must include NBC-related duties of a guard (where applicable) and entry and exit procedures.

The SOP should consider the following:

- Type and location of the shelter or van.
- Frequency of and requirements for entries and exits.
- **General climate of the area of operations**—temperate, arctic, tropic, or desert.
 -) Local environmental conditions.
 -) Number of nonshelter personnel assigned to the same site as the shelter or van.

Use the following general guidance in preparing an SOP for operation of NBC protective shelters or vans. Modify it for prevailing conditions.

Clean Area Around the Protective Entrance

Provide procedures to decontaminate the area surrounding the shelter or van if liquid agent is present. There are several methods. Turn or remove a top layer of soil, remove snow, or add a clean layer of soil or sand. A clean surface can be obtained by laying down a piece of plastic, cardboard, canvas, plywood, or other material. Use of any one of these can prevent tracking in contaminated mud, soil, or liquid. Using either soap or detergent with water, wash the entrance steps and entrance door handle. Then decontaminate the steps and door handle, and rinse with water. Whenever possible, provide overhead cover, such as a canvas fly or similar equipment, for the area in front of the entrance. This protects removed clothing and equipment.

Personnel Entry Procedures

Cover entry procedures to ensure the least risk of contamination to soldiers and equipment inside and the

least interference with tactical operations. Each entry involves a trade off. Consider this question for each person: Does the time that may have to be spent in masks and the corresponding degradation of combat mission performance justify entry of this person?

General Guidance

Provide general guidance for integration of NBC operations with combat mission operations. Guidance could include the following:

During active chemical operations, the shelter guard checks all soldiers for contamination, using a chemical agent detector or detector paper. Unless the absence of contamination can be verified, assume soldiers are contaminated, and they must perform the specific entry procedures.

Detector paper detects agents only in liquid form, most likely thickened liquid agents. Unthickened agents absorb into overgarment materials and cannot be detected by detector paper. However, agent vapor may desorb from clothing inside shelters or vans and present vapor hazards. The CAM can detect desorbing vapors.

One of the guard's main NBC duties is assisting entering soldiers. He must help them decontaminate and remove contaminated overgarments. He, therefore, must check himself periodically for contamination, especially his gloves.

Preliminary Steps

Indicate steps required to decide if a person should be allowed entry. You could use the following in your SOP:

Use a chemical agent detector or detector paper, and check for the presence of liquid chemical agent on soldiers. Check each soldier's weapon, overgarment, gloves, mask and hood assembly, helmet, and overboots. A buddy or guard assists the soldier, when necessary.

After the detector check, store contaminated items outside. Use a protective cover, such as plastic or canvas, near the entrance, and ensure items are not in the path of the entrance door.

Carefully evaluate the need for grossly contaminated soldiers to enter. Consider possible interior

contamination and resulting degradation. Determine if these will be offset by combat mission performance of entering soldiers.

Entry Into Shelter or Van

Describe procedures for entering. Give sufficient detail to avoid confusion. Standardize these procedures, or at least make them compatible with and similar to those for larger shelters. Your SOP could include the procedures such as those that follow:

If liquid contamination is detected on soldiers, follow these procedures:

WARNING

When entries are performed in a contaminated environment, monitor every 15 minutes. If detector changes color, or the CAM indicates more than one bar, all soldiers should mask until the source of contamination is located and removed and/or further tests indicate contamination is no longer present.

Note location of any liquid agent on the entering soldier. Use decontaminants only on areas known to be contaminated. Soldier removes LCE and unfastens Velcro tabs, tie cords, and trouser-leg zippers.

Decontaminate hood. Effective decon may require two soldiers. The soldier to be decontaminated first (soldier 1) turns and faces the shelter guard or buddy (soldier 2). Soldier 2 loosens drawstrings over the voicemitter. Soldier 1 turns, and soldier 2 wipes top, back, and sides of the hood with single passes of decon wipes. Soldier 2 then decontaminates his own gloves. He tightly rolls the hood up and off soldier 1's overgarment jacket, tucking straps into the roll. This prepares the hood for removal. After soldier 1's hood is decontaminated, he performs the same procedures for soldier 2.

Soldier 1 turns and faces soldier 2. Soldier 2 unsnaps the jacket, top to bottom, and then unzips it. Soldier 1 turns his back to soldier 2, and soldier 2 carefully removes the jacket.

Soldier 2 unfastens snap and tie cordon the waistband and opens trouser front zipper on soldier 1. He slowly rolls trousers down to the hips with one roll. (Soldier 1 can do these latter two steps if necessary). Leaning forward, soldier 1 places both hands against the van or shelter while soldier 2 pulls trouser legs off one at a time. Trouser legs turn inside out as they come off. Overboots remain on. This prevents transfer of contaminated items. Soldier 1 then helps remove soldier 2's trousers. Soldier 1 loosens own overboots.

Carrying an M258A1 or M291 decon kit and his

M1/M1A1 waterproof bag, soldier 1 checks to be sure the air lock is unoccupied. He opens the entrance door and prepares to remove overboots. Soldier 1 stands before the entrance, removes the second overboot, and steps into the entrance with his exposed boot. He carefully places the overboots away from the entry path, closes the door, and starts the purge cycle.

During entrance purge, the soldier decontaminates gloves, mask, and hood including outer portion of the rolled hood, and then loosens both gloves. After completion of air purge, the soldier removes his mask and hood.

Removal and Storage of Mask and Hood Assembly

Ensure soldiers know detailed procedures for removing the mask and hood assembly. You could use the following in your SOP:

Still wearing the loosened gloves, soldier 1 bends at the waist with legs apart. He grasps the back of the rolled hood and lifts it forward over his head. He grasps the mask at the outlet-valve covers and pulls it down. He bows his head to slip his face out of the mask. Still holding the mask so filters face the floor, he lifts mask and hood off his head.

The soldier places the mask and hood assembly into his M1/M1A1 bag and seals the bag tightly. He loosens and drops his gloves to the floor. Then he enters the shelter, carrying his M1/M1A1 bag.

Shelter or Van

Emergency Operations

Familiarize soldiers with the procedures to follow should an equipment failure occur and the alarm sounds. You could use the following procedures:

If an alert is given and the shelter or van is prepared for NBC operations, the alarm system alerts occupants to any of several types of equipment failure. Soldiers should handle equipment-related emergencies according to each system's organizational maintenance manual. If one of the following conditions occurs, shelter or van occupants should take the actions given.

Sudden Loss of Positive Pressure in the Shelter. Lights and horns on the CCM signal an alarm. Occupants put on masks. An assigned occupant confirms this signal by checking CCM power, lights, and horn. If alarms are confirmed and compartment positive pressure is lost, occupants must remain masked while the assigned operator pursues the problem. He uses the organizational maintenance manual to locate the problem, and, if possible, repair it. The operator may not find the problem readily, or perhaps he cannot repair it. In either case, occupants must dress at the appropriate

MOPP level.

Malfunctioning of Gas-Particulate Filter Unit. If the change-filter light comes on, occupants put on masks. An assigned occupant determines if the filter is operating. He follows procedures in the organizational maintenance manual. If filters need to be replaced, occupants must work in the appropriate MOPP gear until filters are replaced, air is purged, and detectors indicate masks can be removed.

WARNING
Never change filters during a chemical attack.

Contamination of Interior by Entry of Contaminated Item or Personnel. Refer to monitoring procedures. If the interior becomes contaminated, occupants must work in appropriate MOPP gear until the airflow purges agent from the air, and a detector indicates agent is no longer present. Wipe off any unabsorbed liquid agent from equipment. Use a wet rag if moisture will not harm equipment. Warm the interior by turning air conditioner off. This may enhance evaporation and resorption of agent from materials. Selective use of forced air from a heat source can also aid in contamination removal. Decon begun shortly after agent is deposited is most effective.

Interior Procedures for Occupants

Monitoring Procedures

Describe step-by-step monitoring procedures. You could include the following in your SOP:
Each shelter or van must have a chemical agent detector kit placed at the downstream end of the airflow. This is usually near the door.

WARNING
Ensure the undressing area is well ventilated, and remove contaminated overgarments from the hot line area to avoid buildup of vapor

If the detector indicates presence of a chemical agent, occupants must mask immediately. Check shelter pressure, door, and power. If these are operating properly, change filters. Replace filters according to SOP and the appropriate operational maintenance manual.

Exit Procedures

Describe special exit procedures for shelter

occupants. Emphasize the importance of contamination avoidance. Your SOP could include the following

If an attack is imminent, occurring, or has occurred, occupants leaving the shelter should put on MOPP gear. The local situation and the shelter SOP will give guidance.

Occupants may need to leave the shelter temporarily or for brief periods during an attack. They should carefully avoid contamination of their MOPP gear. This minimizes contamination and reduces reentry time and risk.

In a shelter or van with more than one occupant, one may be assigned outside duties. That person should be rotated if possible. This helps to minimize low-level exposure and its cumulative effects.

Operating Procedures for Shelter Guards or Nonshelter Personnel

Describe operating procedures for shelter guards and nonshelter personnel, including visitors. Shelters or vans may be colocated with another unit. If so, assign nonshelter personnel as shelter guards, when possible. Nonshelter personnel are those not essential to the operation of shelter or van mission equipment. Guards attend to outside tasks. This reduces the number of entries and exits. You could use the following procedures in your SOP:

Exiting

When leaving the shelter, a soldier enters the air lock. Contamination may be present or suspected outside, or higher authority may prescribe continuous wearing of masks. If so, the soldier masks. If required, he dons MOPP gear, using prescribed procedures.

Monitoring

Once a chemical alert has been issued, but before an attack, the shelter guard monitors for agent presence, using a chemical agent detector and/or detector paper. After a chemical attack ceases, the guard periodically monitors outside air. Using a detector or detector paper, he determines if aerosol or liquid agent is still present. The guard also monitors the air periodically for agent vapor, using a detector kit.

Assisting Shelter or Van Operations

Shelter guards and nonshelter personnel assist in shelter or van operations. They perform such tasks as refueling generators, realigning antennas, and assisting in entry and exit of shelter personnel and visitors.

Disposal of Contaminated Equipment and Clothing

Give directions for disposal of contaminated equipment and clothing. Cover both emergency and prolonged NBC operations. You could use the following paragraph in your SOP:

Store contaminated equipment and clothing out of the way of entering soldiers. This helps avoid confusion and contamination spread. Choose a location under the shelter or van if possible. Later, when possible, take contaminated items to equipment decon stations for cleaning and possible reissue.

Supplies of Expendable Items

Cover the commander's guidance for storage of supplies of certain expendable items in protective shelters or vans. These are for use by soldiers entering and leaving the shelter or van. Include the following:

- Decon materials, such as soap or detergent, bleach, M258A1 and M291 skin decon kits, and water.
- Decon equipment including buckets, rags for wiping, and brushes for scrubbing.
- M2561M256A1 and M256A2 detector kits.
- Disposable field-expedient items.
- MOPP gear.
- BDUs in various sizes.
- Batteries for the CAM and M8A1.
- Plastic bags, trash cans, and other containers to be used for protecting uncontaminated items.