

APPENDIX B

NUCLEAR, BIOLOGICAL, AND CHEMICAL WARFARE CONSIDERATIONS

B-1. Threat

a. The potential for the employment of NBC weaponry against a deployed US force must be considered a condition of the battlefield by commanders at all levels. The ease of NBC employment, the difficulty of identification and treatment, and most importantly, the publicity value of even a minor biological agent attack lends itself well to the LIC environment. The use of an agent, either chemical or biological, would rapidly focus international attention on the US force deployed, its mission, training, and readiness posture to protect itself. Further, a terrorist organization claiming responsibility for the attack would receive media attention which is frequently their goal. In this regard, chemical agents with their historical shock value would be particularly well suited from the terrorist standpoint to gain the maximum psychological impact.

b. The ability of small organizations (especially terrorists) to either produce or procure supplies of chemical or biological warfare agents has been documented. The degree to which such agents pose a threat against a deployed US force is dependent upon the goals and objectives of the terrorist organizations. As such, the degree of threat must be developed from the standard threat indicators formula—capabilities + intentions = threat. This threat must be addressed as a part of the overall threat identification process. Protective procedures can be developed by the commander following this NBC threat assessment. Protective measures for a commander to consider fall into the following categories:

- Training.
- Protection.
- Detection and identification.
- Prophylaxis.
- Contaminant avoidance.
- Decontamination (patients, personnel, and materiel).

B-2. Biological Weaponry

a. Biological weaponry ranges in spectrum from sophisticated, specifically engineered infectious microorganisms and toxins produced in modern biotechnology laboratories, to simple expedient food contaminants employed by insurgents or terrorists in the LIC arena. Gross contamination of water supplies or ingestion of adulterated foodstuffs present the most likely mode of biological agent delivery. Commonly used techniques which have been employed in the LIC arena include—

- Sharpened stakes (Punji stakes) smeared with human or animal waste to cause infection in addition to the actual puncture wound.
- Water source contamination using infectious waste (discarded bandages or medical dressings), animal and human excreta, or remains. This also includes contamination of ice sources.
- Contamination of locally procured foodstuffs with infectious organisms.
- Direct contamination of foodstuffs by locally hired cooks and food handlers sympathetic to or coerced by insurgents or terrorists.

b. In considering the threat posed by biological weaponry, the primary means of protection available to US forces remains those PVNTMED measures directed in the deploying unit's Processing for Overseas Replacement/Movement (POR/POM) operating procedures, that is, maintaining current immunization status. Once deployed, the most effective means to counter a biological threat is through a rigorous field sanitation program incorporating water and food inspection by qualified personnel, a certification program for the hire of local nationals, and a health care program to closely monitor the health of the command. In this last case, health care personnel must be alert to any increase in infectious disease rates or disease cases not commonly found in the AO, and keep the commander informed as they occur. Medical observation continues to be the

primary warning available as field biological agent detectors are not available.

c. Suspected or confirmed incidents of biological warfare are reported through the Special Telegraphic Reports of Selected Diseases (RCS MED-16[R4]). Format for report is provided in AR 40-400 and through NBC reporting procedures as outlined in FM 3-3.

d. Treatment of biological agent patients is based on symptomatic indicators.

B-3. Chemical Weaponry

a. Chemical weaponry provides the terrorist or insurgent with a capability to produce casualties and capture media attention as does no other single weapon at his disposal. Chemical agents are relatively easy to make and to employ; their effects are immediate and dramatic; in short, they are ideal weapons in the political-military media wars of LIC. Chemical weapons are used for their injury or death production mechanism, especially the well-known variety of toxins and incapacitating agents. It is this last category which most potentially threatens the deployed US force. Possible means by which agents can be employed include:

- Terrorist or insurgent chemical attack using locally made low-strength agents.
 - Water source contamination.
 - Contamination of foodstuffs.
 - Direct contamination of foodstuffs by locally hired cooks and food handlers.
- Terrorist or insurgent chemical attack using chemical weapons provided through a country sympathetic to terrorist cause.
 - Indirect exposure to irritant and riot control agents.

b. Although not classed as chemical agents (weapons), incendiary/flame munitions, phosphorus compounds, and irritants (CS and CN) will most likely be encountered by US Army forces in a LIC environment.

c. The NBC defense principles of training, prevention, contamination avoidance, detection, protection, and decontamination apply in LIC as well as mid- to high-intensity conflict. United States forces must try to avoid or limit the spread of contamination. Chemical protective measures for US forces involved in deployments generally fall into two categories: detection and avoidance, or physical protection. As is the case of biological agent protection, a thorough food and water sanitation program greatly reduces the possibility of a clandestine chemical assault achieving its goal. In the area of an overt chemical attack, or indirect exposure, physical protection measures and supporting equipment are readily available to the force commander for detection and protection. Detection and decontamination are essential to enable units to decrease their mission-oriented protection posture (MOPP) level. Individual and unit training on basic soldier skills and leader tasks with emphasis on preparing and reacting to NBC attack, MOPP gear use, and identification, detection, and warning procedures are the keys to protection of the force.

d. Signs, symptoms, first aid, patient decontamination, and medical treatment procedures for chemical agent casualties or military chemical injuries are provided in FM 8-285.

B-4. Nuclear Weaponry

a. The employment of nuclear weapons in a LIC environment is not likely; however, commanders must be prepared for their use. The impact of nuclear weapons would rapidly escalate a LIC environment into a major conflict.

b. The use of radioactive material to contaminate food and water supplies is a more likely method of employment by insurgent or terrorist organizations. Monitoring food and water is a must. Special laboratory support and devices may be required.

c. Food suspected of being contaminated with radioactive material must be inspected by veterinary personnel. They will determine if the food can be used as is, decontaminated then used, or must be destroyed.

d. Preventive medicine personnel will evaluate the water supply to determine if it is safe to consume.

B-5. Operations Under NBC Conditions

Operations under NBC conditions for US forces will cause additional concerns for medical units.

Increased incidence of heat casualties may occur due to prolonged wearing of MOPP gear. An increased number of psychological casualties may also occur from personnel thinking they were exposed to chemical agents. Additionally, if persistent blister agents are used, significant resources may be required to care for these patients. Due to the slow wound healing, these injuries require a long and intensive treatment process.