

Appendix B

Levels of Proficiency for NBC Defense Personnel

This appendix addresses the levels of proficiency for NBC defense personnel and provides a recommended organization for NBC defense.

This section implements STANAG 2150, NATO Standards of Proficiency for NBC Defense.

BASIC STANDARDS OF PROFICIENCY

Individual soldiers must be trained in the concept of NBC defense in order to survive under conditions of NBC attack or hazards stemming from collateral damage. Through individual NBC defense, soldiers make their contribution to the survivability and operating proficiency of their unit in an NBC environment. There are two levels of individual proficiency - survival and basic operating. Survival standards are those that the individual must master in order to survive NBC attacks. Basic operating standards are those which the individual must master in order to contribute towards the continued operations of the unit as a whole under NBC conditions.

Survival

To meet survival standards of proficiency in NBC defense, the individual must be able to:

- Recognize nuclear and chemical attacks and take protective action.
- Be aware of the effects of biological attack.

- Recognize NBC alarms and signals.
- Recognize the existence of a chemical hazard and indications of a biological attack and take protective action.
- Properly don, seat, clear and check protective mask within prescribed standards.
- Take protective measures against thermal radiation (light, flash, and heat), blast, and nuclear radiation effects of nuclear explosions.
- Conduct immediate decontamination procedures.
- Remove protective mask using proper procedures.
- Perform first aid (self aid and buddy aid) for injuries caused by chemical agents or nuclear weapons.
- Practice a high order of health, personal hygiene

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and sanitation discipline as a protective measure against the spread of disease.

- Properly don protective clothing and be familiar with procedures for relieving himself while wearing that clothing and properly performing assigned missions/tasks while wearing protective clothing.

Basic Operating Standards

To meet basic operating standards of proficiency in NBC defense, the individual must be able to perform the survival standards listed above and:

- Properly use individual NBC protective equipment and maintain it in a high state of serviceability.
- Demonstrate an understanding of specific actions required of him by his/her unit's standing operating procedure (SOP) for maintaining operating efficiency during and after NBC attacks, including the necessary preparations before an attack in order to reduce the effects of NBC weapons.
- Recognize or detect chemical agent contamination and perform simple decontamination of his person, clothing, personal equipment, individual weapon and position, vehicle and crew-served weapon.
- Recognize all standard marking signs that indicate chemically, biologically or radiologically contaminated areas.
- Cross or by-pass marked NBC contaminated areas with minimum danger to himself.
- Demonstrate proficiency in performing his/her primary military duty, to include the use of crew/personal weapon(s), while wearing the protective mask and NBC protective clothing for extended periods. These periods are to be determined by the commander, based on such factors as weather conditions and equipment specifications.
- Properly remove his contaminated protective clothing according to the fixed undressing procedures as outlined in SOPS or other (e.g., nations) regulations.
- Be familiar with the effects of nuclear, biological and chemical weapons.
- Be familiar with the principles of collective protection, including passage of contamination control areas (CCAs), shelter organization and operation, where applicable.
- Demonstrate familiarity with the use of a dosimetric devices where applicable.

Basic Standards for Selected Personnel

Requiring Additional Training

To accomplish operational tasks beyond the scope of mere survival, certain selected personnel require additional training beyond the scope of individual standards but not to the degree required by specialists. Such tasks are NBC monitoring, survey, recon and contamination control.

Personnel trained in NBC monitoring, survey and recon must be able to:

- Recognize nuclear and chemical attacks and fully understand unit procedures for implementing warnings.
- Detect chemical agents and radiological hazards.
- Operate and maintain NBC specialist equipment applicable to the task.
- Conduct NBC surveys and continuous monitoring.
- Where practicable monitor personnel, food, drinking food, drinking water and equipment for NBC contamination and effectiveness of decontamination measures.
- Where possible, collect samples of suspected biological contamination and forward them as directed.
- If ordered, collect samples of liquid or solid chemical agents.
- Mark, where possible NBC contaminated areas, complete equipments, supplies and stores with standard marking signs in accordance with FM 3-3 and 3-3-1.
- Provide data for compilation of NBC reports in accordance with FM 3-3 and 3-3-1.

Personnel trained in contamination control must be able to:

- Perform necessary decontamination of supplies, equipment and areas for which they are responsible in the performance of their primary duties.
- Operate and maintain assigned decontamination equipment.
- Where applicable establish and operate a personnel decontamination station.
- Take measures where possible before and after an attack to avoid the spread of contamination.

All officers and enlisted personnel, in addition to basic survival skills are required to have knowledge appropriate to their rank and operational role, of:

- Deployment of NBC sentries and detection devices.
- NBC monitoring, survey and chemical recon.
- Survival procedures before, during and after an NBC attack and friendly nuclear strike.

- Chemical downwind hazards.
- Radiation dose control and exposure rules.
- General protective values of material against radiation, including the selection of buildings and the construction of shelters.
- The effects of prolonged wearing of NBC protective clothing on the morale and combat efficiency of personnel.
- The planning of operations, appropriate to their formations/units/sub-units, taking account of an NBC threat.
- Assessing the effects of NBC attack on operations involving their unit.
- The NBC defense organization and equipment available to the unit or headquarters.
- Contamination control.

BASIC STANDARDS OF PROFICIENCY FOR SPECIALISTS

Officers and enlisted personnel are required whose primary duties are concerned with the coordination of all unit NBC defense activities.

Specialists are:

Chemical Battle Staff Officers and Enlisted. Chemical Corps personnel assigned to full-time duty in NBC defense. Such personnel will normally be at units at the company level and above.

Unit NBC Defense Officers and Enlisted Personnel. Personnel assigned on an additional duty basis to form the NBC Control Party. These personnel should meet the level of company (or equivalent) but may meet a higher level,

Standards

Chemical Battle Staff Officers and Enlisted Personnel in cooperation with the functional groups of the staff as necessary, must be able to:

- Assist the commander in providing policy and guidance to lower echelons in all matters pertaining to the development of an NBC defense capability.
- Monitor NBC defense training within the command.
- Evaluate the capability of lower echelons to survive NBC attack and to continue operations in an NBC environment.
- Keep abreast of new concepts and techniques in NBC defense.
- In time of war, act in the capacity of adviser to the commander on all matters pertaining to NBC defense of subordinate units/formations. In addition,

augmented as necessary, be responsible for NBC data collection, analysis and reporting.

- Propose deployment of special NBC defense elements/units, if available.
- Where appropriate, operate and maintain calculators and computers and possess basic knowledge of the structure of programs used in NBC warning and reporting.

Unit NBC Defense Officers and Enlisted Personnel (Assisted by Enlisted Altercates) must be able to:

- Provide technical assistance to the commanders and staffs on NBC defense training and operations.
- Coordinate the unit's NBC defense activities.
- Give NBC defense instructions to achieve basic operating standards of proficiency for the unit and the individuals of the unit.
- Plan and supervise NBC defense training aspects of operational training exercises and maneuvers.
- Supervise preparation of unit NBC defense SOPs.
- Supervise operation and maintenance of NBC material.
- Determine by dosimetry or by calculation (as appropriate) total dose, time of stay in, and/or transit through radiologically contaminated areas to avoid exceeding command exposure guidance.
- Prepare fallout prediction patterns.
- Plan NBC recon and advise commanders on best routes to cross or by-pass an NBC contaminated area.
- Plan and coordinate decontamination within the unit and advise his commander on all aspects as time factor, terrain manpower etc.
- Maintain records of unit radiation exposure.
- Estimate downwind hazard for chemical attacks.
- Report NBC data to next higher headquarters.
- Analyse the vulnerability of the unit to NBC attack.
- Evaluate individual and unit competence in NBC defense and advise the commander on the unit's ability to survive and to continue operations in an NBC environment.
- Advise the commander on all matters pertaining to unit NBC defense. In addition, augmented as necessary, be responsible for NBC data collection, analysis and reporting.
- Where appropriate, operate and maintain calculators and computers and possess basic knowledge of the structure of programs used in NBC warning and reporting.

SURVIVAL AND UNIT BASIC OPERATING STANDARDS

Each unit must develop and maintain a capability for the successful accomplishment of its mission in a NBC environment. Planning and training for this capability will include preparation of a unit NBC SOP and frequent exercises to ensure familiarity in application of the SOP. Unit standards of proficiency are shown as “survival” and “basic operating”.

Survival

In order to survive a NBC attack, a unit must be able to:

- Take immediate and correct action on being warned of an imminent nuclear or chemical attack or arrival of a chemical agent or radiological fallout.
- Determine the presence and nature of NBC hazards in the unit’s area and take effective measures (to mitigate, to the extent possible, the effects of NBC attack).
- Properly use unit NBC protective equipment and supplies, and maintain them in a high state of serviceability and readiness.
- Enforce a high order of health, hygiene and sanitation to minimize the spread of disease following a biological attack.

Basic Operating

In order to meet basic operating standards of proficiency, the unit must be able to perform the survival standards listed above and:

- Practice a high degree of protection while continuing to conduct the primary mission of the unit.
- Perform necessary decontamination of supplies, equipment and areas for which they are responsible in the performance on their primary duties.
- Delineate the area of NBC hazard.
- Cross, by-pass or function in contaminated areas with minimum loss of efficiency, decontaminating where necessary.
- Delineate contaminated areas and mark using standard signs in accordance with FM 3-3 and FM 3-3-1.
- Operate efficiently over extended period of time (period to be determined by the commander based on such factors as weather conditions and equipment specifications) with personnel in full protective equipment, including wearing of the respirator/protective mask for long periods, and a

period of operations, away from vehicles, where this applies to arms of the service concerned.

- Report nuclear detonations, biological and chemical attacks and associate hazards and hazard areas in accordance with FM 3-3 and 3-3-1 and directives from higher headquarters.
- Assign NBC personnel based on standards of proficiency stated above.

GUIDE TO ORGANIZATION FOR NBC DEFENSE

The organization which best meets the need of one unit/formation will often not be applicable to another unit. For example, it is not possible to equate the organization of personnel and material for decontamination tasks in a hospital with the organization required within an infantry company. Similarly, a highly mobile infantry force will have different priorities and possibilities for NBC defense from an artillery unit.

However, it is still possible to state principles of organization which are universally applicable regardless of the size or mission of the unit. It is also possible to provide guidance to commanders in establishing an NBC organization which will meet the needs of most units, with the view that principles are to be employed by unit based on their mission and situation.

Guidance for commanders in establishing unit NBC defense organization is contained below and is only a recommendation.

Principles

The lowest level of unit which may be required to function as an independent entity must have an independent capability for survival and for those specialist tasks essential to maintenance of operations for a limited period.

Higher units must have the capability of providing for their own defense and maintenance of operations. In addition, they must have the capability of rendering support to the smaller units to enable operations to continue.

The designation of specific personnel to specific responsibilities in the area of unit NBC defense is mandatory. However, the normal command and staff structure should be followed to ensure that NBC defense is thoroughly integrated into unit SOPs.

Regardless of the size or mission of the unit, tasks essential to NBC defense remain the same and differences are only of degree. The elements of NBC defense are avoidance, protection, and decontamination.

Priorities for measures of NBC defense in an actual NBC environment must be decided upon by the commander in the situation bearing in mind the primary mission of the unit and the time, personnel and material available to mitigate the effects of the NBC attack. Measures for individual survival, however, are the responsibility of the individual and must be effected by individual initiative.

Responsibility

The commander is responsible for the readiness of his unit/formation to operate with maximum individual and unit effectiveness under NBC conditions. It is also mandatory that selected officers and enlisted personnel possess knowledge of those principles and techniques of NBC defense commensurate with his level of command. Finally, the commander, according to the given Table of Organization and Equipment (TOE) and national orders, must establish a NBC defense organization and ensure that personnel assigned to tasks in this organization receive specialized training.

Organization

Commanders of companies or equivalent sized units which do not have assigned NBC specialists should appoint on an additional duty basis one NBC Defense Officer/NBC Defense Senior Grade NCO and one enlisted Non-Commissioned Officer (assisted by one enlisted alternate). These personnel will form the NBC Control Party and will be trained to perform the tasks outlined in Appendix C.

Commanders of companies should assign and make training available for personnel in the following specialist areas:

- **Monitoring and Survey Team.** Each team should consist of a primary instrument operator and an assistant. One primary and one alternate monitoring and survey team should be appointed for each authorized radiological detection instrument and for each authorized chemical agent detector kit. Only the primary team will be equipped with the instruments. Personnel assigned to these teams should be trained to perform the tasks outlined in Appendix C.

- **Decontamination Team.** Each team should consist of one enlisted man in charge and several other enlisted men, including a Monitoring and Survey

Team. This team should be trained to perform the tasks outlined in Appendix C.

Normally, one Decontamination Team will be assigned per company; however, company commanders must carefully consider their potential requirement for decontamination, bearing in mind the mission and the vehicles or weapons assigned to the company.

To assist in formulation of policy and procedures and to supervise training, battalion headquarters, which are not assigned an organic Chemical Battle Staff Officer, should appoint an NBC Defense Officer on an additional duty basis in the operations and training section and ensure that this officer receives the necessary NBC training. Those headquarters which are not assigned an organic Chemical Battle Staff NCO should appoint an NBC Defense NCO and one enlisted alternate and ensure that these personnel receive the necessary training. These personnel will be responsible for evaluating the adequacy of NBC defense for units/formations subordinate to the headquarters. In addition, these personnel will comprise the NBC Control Team and, hence, will be responsible for the NBC defense of the headquarters to which they are assigned. This NBC Control Team should be augmented as necessary to enable NBC data collection, analysis and reporting.

BASIC STANDARDS OF PROFICIENCY - CIVILIANS

All civilians employed in wartime posts by national or NATO military agencies must be trained in surviving an NBC attack and in continuing to operate in their functions in a contaminated environment. Appropriate standards of proficiency in both areas are listed under survival and basic operating standards.

Survival

To meet survival standards of proficiency in NBC defense a civilian must be able to:

- Recognize nuclear and chemical attacks and take protective action.
- Be aware of the effects of biological attack.
- Recognize NBC alarms and signals.
- Recognize the existence of a chemical hazard and indications of a biological attack and take protective action.
- Properly don, seat, clear and check protective mask within prescribed standards following an alarm or

FM 3-100/MCWP 3-3.7.1

recognition of a chemical or biological attack.

- Take protective measures against thermal radiation (light, flash and heat), blast and nuclear radiation effects of nuclear explosions.
- Carry out immediate individual decon drill.
- Follow procedures for protective mask removal.
- Perform first-aid (self-aid and buddy-aid) to include assisted ventilation techniques when possible, and the use of appropriate components of his first-aid/personal kit, for injuries caused by chemical agents of nuclear weapons.
- Practice a high order of health, personal hygiene and sanitation discipline as a protective measure against the spread of disease.
- Properly don protective clothing and be familiar with procedures for relieving himself/herself while wearing the clothing and properly perform assigned missions/tasks while wearing protective clothing.

Basic Operating

To meet basic operating standards of proficiency in NBC defense, a civilian must be able to perform the survival standards listed above and:

- Properly use individual protective equipment.
- Demonstrate an understanding of specific actions required of him by his unit's standing operating

procedures (SOP) for maintaining operational efficiency during and after NBC attacks.

- Recognize or detect chemical agent contamination and perform field expedient decon of the personal, clothing, personal equipment, and equipment that has to be handled.
- Recognize all standard marking signs that indicate chemically, biologically or radiologically contaminated areas.
- Cross or by-pass NBC contaminated areas with minimum danger to himself.
- Perform primary duties wearing the respirator/protective mask and protective clothing for extended periods. These periods to be determined by the commander based on equipment, job and environmental factors.
- Properly remove his contaminated protective clothing according to the fixed undressing procedures as outlined in SOPs or other (for example, national) regulations.
- Be familiar with effects of NBC weapons.
- Be familiar with the principles of collective protection, including shelter organization and operation where applicable.
- Demonstrate familiarity with the use of dosimeters.