The NBC Environment

—a condition of the battlefield

NBC is a condition of the battlefield. Too often units train NBC as a specific "task." Realistic training calls for integrating NBC into unit missions. The following scenarios illustrate how a commander weaves NBC into his or her mission training plan.

Nuclear Scenario

This scenario uses a light truck company within a heavy division DISCOM. It outlines unit operations below company level.

TOE equipment required—

- Truck, cargo 5-ton.
- AN/VDR-2 radiacmeter, without probe.
- IM-93 dosimeter.
- Radio sets as required.
- Pocket radiac set.

Training equipment required—

- NWES 1 per witnessed explosion (ammo item).
- T-1 transmitter, with AN/VDR-2 probe or IM-174A receiver set (TASC item).
- NBC Casualty Assessment System (NBC-CAS) (TASC item).

Mission. Company conducts tactical road march from a marshalling area to an assembly area. Training goal is to practice convoy operations, provide training in monitoring radiation status, selecting best method to avoid contamination or limit exposure, reacting to a planned nuclear strike in the area of operations, and conducting a radiological survey (ground).

Situation. Nuclear weapons have been employed within the theater of operations. Message traffic arrives at company headquarters CP, to include: effective downwind message, NBC3 reports, and intelligence SITREPs. Continuous monitoring of radiacmeters has begun. Unit has no radiation dose accumulated exposure (RS-0).

Pre-activity set-up. Ground zero location for T-1 transmitter must be selected so pattern of fallout crosses the road march route. Each sub-unit authorized a radiacmeter is supplied with the receiver set device; either the IM-174A receiver or the AN/VDR-2 training probe is issued. All soldiers are issued the player detection device (PDD). NWES device is prepared so marshalling area personnel can view the burst.

Scenario orders. Commander issues a movement order to the unit, with the specified route of march on a map overlay. Drivers receive strip maps. The soldiers are briefed about the situation regarding the use of tactical nuclear weapons by both sides.

Significant events timeline.

H-60 minutes: Convoy prepares to travel, continuous radiological monitoring.

H-45 minutes: NBC STRIKWARN transmitted to Company CP. GZ is near route of march, MSD 3 zone, fallout pattern crosses route.

H-40 minutes: Message sent to unit in marshalling area, basic protection measures taken per company SOP.

H-15 minutes: Unit prepares for burst. NWES device is located for distant viewing by marshalling area soldiers.

H-Hour: NWES device is employed. All three charges are used to produce the ground burst effect. Soldiers prepare NBC1 reports, using basic data available, transmit to company CP and next higher headquarters. T-1 and NBC-CAS are activated.

"Nuclear weapons have been employed within the theater of operations."

H+10 minutes: Follow-up NBC1 reports are prepared as before. Convoy begins.

H+30 minutes: First units begin to enter radiological fallout zone. Cues to soldiers come from the simulated radiacmeters. PDD begins accumulating a total dose on each soldier.

H+40 minutes: OIC/NCOIC of march unit informs company CP of existing radiological area. Commander decides to bypass or cross contaminated zone.

H+60 minutes: (Cross contaminated zone). Units cross contaminated area in accordance with unit SOP. PDD is accumulating dose on all exposed personnel. AN/VDR-2 radiac is accumulating total dose.

H+60 minutes: (Bypass contaminated area). Follow-on units bypass contaminated area along alternate route; only first march unit has accumulated a radiation dose.

H+90 minutes: Contaminated units perform HASTY decon using organic resources to wash away fallout.

H+180 minutes: All march units are located in assembly area. Commander receives mission to conduct a radiological survey mission using ground units. T-1 transmitter is repositioned to better facilitate the road network. The company CP issues the operation order for the survey, both route and point surveys are performed.

H+240 minutes: Survey parties return from mission and perform hasty decon on each vehicle. Personnel who have exceeded the total dose threshold of radiological exposure become simulated casualties. Survey reports are submitted.

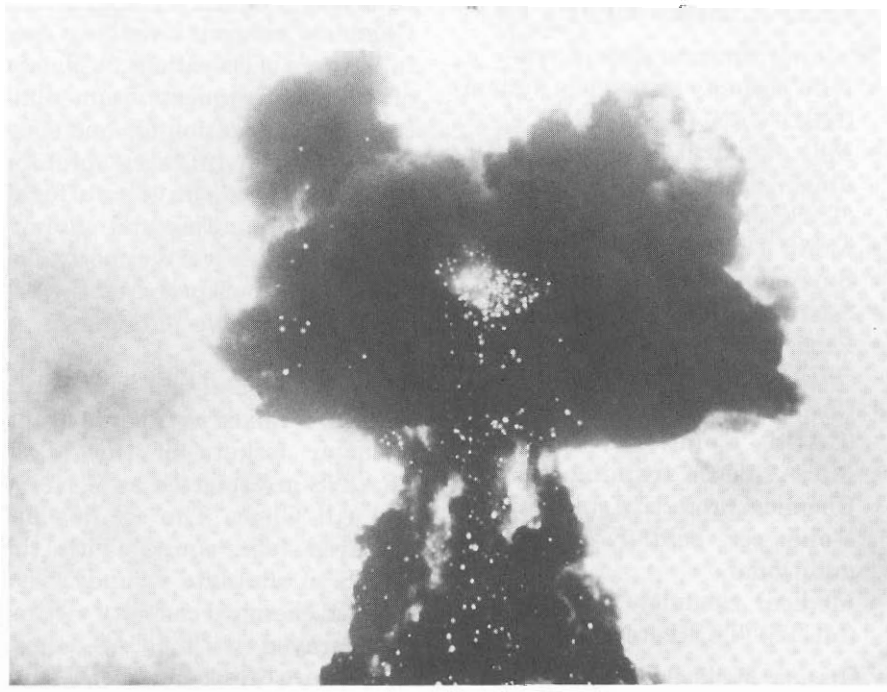
H+300 minutes: After-action reviews (AARs) are conducted at all levels regarding the convoy operations, the radiological protection actions, and the radiological survey. Map overlays of survey results are shown.

Training shortfalls. Lack of the NWES degrades the visual cues of the nuclear explosion, but is not critical to the mission completion. Message traffic and NBC reports are sufficient to create the environment. Lack of the NBC-CAS hampers the casualty play, but can be overcome by using the total dose feature of the AN/VDR-2 radiac. Personnel in units which exceed the acceptable dose guidance are simulated casualties by a controller/evaluator. The T-1 transmitter is critical to the mission, since soldiers use radiacmeters to monitor the radiation hazard levels.

Support from a battalion or brigade level control party or an NBC element assists in preparing the reports, survey routes, and final calculations for the map overlay of contamination.

Chemical Scenario

This scenario uses a medical platoon of a mechanized infantry battalion. It outlines unit operations



of battalion sub-elements.

TOE equipment required—

- Carrier, M113 ambulance configured.
- Shelter, M51.
- Aid station.
- Alarm, chemical agent M8A1 (M43A1 detector).
- NBC defense team set (mops, buckets, plastic bags).

Training equipment required—

- NBC casualty assessment system (NBC-CAS) (TASC item).
- M81 chemical agent automatic alarm detector unit simulator (TASC item).
- M256 TRAINS.
- Surrogate M8 detector paper.
- Surrogate M9 detector paper.
- Persistent chemical agent simulant (PCAS), 20 liters.
- Chemical agent disclosure solution (CADS), 1 pint.
- M58A1 decon training kit.
- Chemical protective suit (MOPP) —one per soldier, plus five additional.
- Medical casualty training set (MCTS) (TASC item).

Mission. Medical platoon conducts casualty evacuation procedures in support of the mechanized infantry task force. Training goal is to practice evacuation procedures, triage, and basic aid station clearing procedures. The unit will have routine and chemically contaminated victims to process.

Situation. The medical platoon is in support of task force operations. Chemical weapons have been used in the area of operations. A platoon of infantry requests immediate casualty evacuation for one of its squads. The infantry platoon reports they have suffered chemical casualties and submits an NBC1 observer's report. The medical platoon prepares the aid station to receive patients in an M51 shelter.

Pre-activity set-up. The PCAS solution is mixed as G nerve agent. Detector tickets of the M256 TRAINS are selected as G Nerve and All Clear. The victims are prepared (one squad) with the MCTS to simulate wounds. Five selected chemical casualty victims are sprayed with PCAS, those soldiers are dressed in MOPP suits that will be cut off in training. All soldiers are issued the PDD. The NBC-CAS transmitter is positioned to present a contaminated area around the attack site, but not over the aid station area. The M8A1 alarms are equipped with the infantry squad's M81 set.

Scenario orders. The medical platoon is called forward to evacuate the wounded. All soldiers are in MOPP4. Standard operating procedures are followed.

Significant events timeline.

H-120: M51 shelter is operational as medical aid station.

H-60: Infantry platoon conducts operations.

H-30: Infantry platoon suffers chemical agent attack.

H-15: Medical platoon departs aid station.

H-Hour: Medical platoon advance team arrives at infantry platoon area.

H-Hour: Detection team of medics determine the extent of contamination using the M8 and M9 paper. A hotline is established and marked on the edge of the contaminated area.

H+15: The medics perform triage on the wounded, designating which victims are contaminated. The uncontaminated victims are evacuated first.

H+30: The contaminated victims are taken to the hotline where the MOPP suit is cut off and hasty decon is performed. The medics on the clean side lift the victim up and out of the suit and onto a clean litter for movement to the aid station. Medics who enter the contaminated area perform MOPP gear exchange and hasty decon before leaving the contaminated area.

H+45: The ambulance carrying chemical casualties arrives at the aid station, where the victims are prepared for immediate surgery or other care as required. Evaluators set off the M8 alarms with the M81 if contamination has been transferred to the aid station area.

H+60: Using the CAS, evaluators check area and personnel for the spread of contamination. If contamination has been spread, all personnel must conduct hasty decon and perform MOPP gear exchange to reduce the contamination and MOPP level.

If no contamination has been spread, then unmasking procedures are initiated to reduce the MOPP level.

H+90: After-action reviews are conducted at all levels regarding the handling and care of patients, the extent of contamination avoidance, and the success of the operations.

Training shortfalls. Lack of the NBC-CAS can be overcome by using evaluators to monitor MOPP status. Use of the PCAS/CADS is critical to monitoring the contamination area, the transfer of the agent, and the decontamination efforts. Other simulants can be used with decreased training realism.

Biological Scenario

This scenario uses an infantry platoon of a light infantry company. It outlines operations below company level.

TOE equipment required—

- All platoon equipment needed for a reconnaissance mission.

Training equipment required—

- NBC casualty assessment system (NBC-CAS) (TASC item).
- M256 TRAINS (Supply NSN 6665-01-1694).
- Biological agent simulant (BAS).
- Biological agent decontamination simulant (BADS).
- Surrogate M8 paper.
- Surrogate M9 paper.
- M58A1 decon training kit.
- Simulator, projectile, airburst liquid (SPAL) (ammo item).
- M34 soil sampling kit.

Mission. Platoon conducts reconnaissance patrol on a suspected enemy assembly area. Training goal is to conduct patrol operations. The unit will experience a possible biological agent attack. The mission must be completed within the six-hour time limit allocated to the patrol.

Situation. The platoon is conducting operations in support of the company as they prepare defensive positions. A suspected enemy assembly area has been identified and confirmation is required. Intelligence reports indicate that the enemy has employed chemical agents in the area of operations to slow down the light forces' counter-attack. The enemy has employed standard agents and some unidentified agents.

Pre-activity set-up. The BAS solution is mixed and SPAL devices are filled with the BAS. Detector tickets of the M256 TRAINS are selected as "all clear" only. The NBC-CAS is set up to transmit a pattern across the reconnaissance route. The biological mode signal is selected and casualty cards issued from the PDD pack. All soldiers are issued the NBC-CAS sets. The SPAL device will be fired at the landing zone site for prisoners of war extraction after the helicopters depart.

Scenario orders. The platoon conducts a reconnaissance patrol to confirm the enemy assembly area. Mission completion is required within six hours. As much information about the enemy as possible must be obtained; prisoners are requested for interrogation. Helicopter extraction of prisoners of war is possible.

Significant events timeline.

H-120 minutes: The final patrol orders are issued. Practice sessions of the helicopter extractions are performed if time permits.

H-90 minutes: Patrol begins with a MOPP2 level.

H-30 minutes: Patrol reaches objective. Reconnaissance is completed with 2 to 3 prisoners of war captured during a brief skirmish. Patrol heads for landing zone.

H-5 minutes: Helicopters reach landing zone and extract prisoners of war. Patrol begins return march to assembly area.

H-Hour: SPAL device is fired and the patrol becomes contaminated. The NBC-CAS transmitter is turned on. Victims are designated by NBC-CAS equipment. M256 TRAINS detectors show the "all clear" state, but NBC-CAS transmitter is not turned off. If an unmasking procedure is performed, those personnel taking off their masks become casualties. No identification of agent is determined. Patrol submits NBC1 observer's report. Soil samples are taken.

H+30 minutes: Patrol conducts MOPP gear exchange, if practical.

H+60 minutes: Patrol returns to base of operations in MOPP4 and performs a hasty decon with BADS and conducts MOPP gear exchange. Evaluators check for spread of contamination. If agent is still present, the NBC-CAS transmitter is not turned off. If no agent is present, the transmitter is turned off. An unmasking procedure is performed. Based on contamination state, the unit returns to a lower MOPP level or continues decontamination efforts.

H+90 minutes: Final patrol debriefing is conducted. A soil sample of the attack area is submitted.

H+120 minutes: After-action reviews are conducted regarding the patrol actions, the extraction of prisoners of war, the actions on the agent attack, and the ability to perform the mission in MOPP4.

Training shortfalls. To create the correct biological conditions, no detection or identification of the agent type should occur, or confusion on identification should occur with the presently fielded chemical detection identification methods. Lack of the NBC-CAS can be overcome by use of more evaluators/controllers. Lack of the BAS/BADS can be overcome by using PCAS without agent type additives or a simulant that causes the surrogate M8 or M9 papers to react incorrectly in color changes.