Relooking CBRN Defense Team Training

By Major Jacques A. Walden Sr.

When there is a chemical, biological, radiological, and nuclear (CBRN) threat in the theater of operations, it is important to use the principles of CBRN defense—avoidance, protection, and decontamination. Avoidance begins when a unit occupies a fighting position and starts to set up its chemical and biological detection equipment. Protection involves implementing unit detection capabilities with a chemical-agent alarm or radiological equipment. Decontamination procedures are necessary when it is suspected that a unit has been contaminated. It is the responsibility of the unit to train equipment operators and have personnel ready to respond to the use of CBRN weapons before, during, and after an attack.

As a US Army Reserve chemical officer in the Regional Readiness Command (RRC), I have visited 21 units in 8 major subordinate commands. The units varied in type and included transportation, military police, service and support, quartermaster, medical, ordnance, field hospital, and engineer elements. I understood when I was initially assigned to this position that there would be some CBRN issues to work on due to the absence of a regional chemical officer. But I was ready to take on the challenge and began by implementing a different approach to improving the CBRN training and readiness programs. Instead of going into units and immediately being the "bad guy," I allowed units to conduct self-assessment evaluations using a CBRN inspection checklist. The checklist covered unit CBRN program administration, reference material, standing operating procedures, training, and readiness preparedness. The evaluations allowed the CBRN representative to identify strengths and weaknesses in the CBRN program. Incorporating results from a unit self-assessment evaluation is a great starting point for improving CBRN training and readiness programs.

A Losing Battle

Army Regulation (AR) 350-1, *Army Training and Education*, states that "the commander will ensure that the appropriate section, squad, or platoon has personnel trained to operate and maintain the assigned NBC defense equipment" and "operators of unit NBC defense equipment will be trained to perform operator maintenance and serviceability criteria checks on the assigned equipment." After analyzing the evaluations, I saw that units were not appointing primary and alternate operators or providing training on the use and maintenance of modification table of organization and equipment (MTOE) CBRN equipment. Is it a losing battle to require that CBRN equipment operators be assigned and trained?

The following MTOE CBRN equipment is assigned to Active Army and reserve units to—

- Perform chemical detection operations.
  - M8A1 Chemical-Agent Alarm.
  - Chemical-Agent Monitor (CAM).
  - Improved CAM (ICAM).
- Perform radiation detection operations.
  - AN/VDR-2 Radiac Set.
  - AN/UDR-13 Radiac Set.
  - AN/PDR-75 Radiac Set.
  - IM174 Radiac Set.
  - AN/PDR-27 Radiac Set.
  - IM93 Dosimeter.
  - PP-1578 Radiac Charger.
- Perform protection and decontamination operations.
  - M41 Protective Assessment Test System (PATS).
  - M17 Sanator Decontamination System.

My assessments have shown that the M41 PATS is being utilized to its maximum. This system is used to test and validate the fit and seal of protective masks (such as the M40A1, M17A1, M42A1, and M45). The primary operator of this system is the CBRN noncommissioned officer (NCO) or officer and/or the alternate CBRN representative.

Primary and Alternate Operators

The feedback from units indicates that personnel and leadership do not always fully understand Army regulations. The regulations do not specifically spell out that every unit should have a primary and an alternate operator; however, I believe that this is the intent of the

guidance prescribed in AR 350-1. This is necessary due to the potential turnover in a unit and the chance that the one person most knowledgeable on a piece of equipment may not deploy with the unit.

It is the responsibility of the CBRN NCO to inspect and supervise the operation and maintenance of CBRN equipment. He is also responsible for conducting training on the use and employment of MTOE CBRN equipment. The CBRN NCO is **not** responsible for setting up the M8A1 alarm on the perimeter, conducting chemical-agent monitoring and detection missions, operating radiological equipment, conducting radiation monitoring and survey missions, or operating and maintaining the M17 Sanator. Unfortunately, CBRN NCOs are often misused in this fashion due to the lack of trained specialists.

If units use the primary and alternate operator concept to train soldiers on each piece of CBRN equipment, the unit will be prepared for future CBRN attacks (in the continental United States [CONUS] and outside continental United States [OCONUS]). This will also allow the CBRN NCO to monitor CBRN operations, assess results provided by the operators, and provide advice to the commander. If something happens to the CBRN NCO, the unit can continue its mission by utilizing the already-trained primary and alternate operators.

CBRN Defense Teams

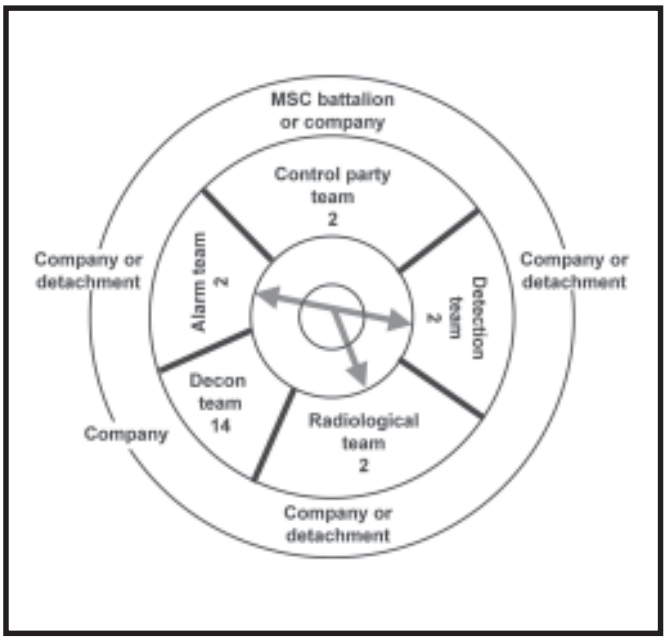
The primary and alternate operators could be described as the unit *CBRN defense teams*. The CBRN defense teams would be a commander's principal responders before, during, and after a CBRN attack. The CBRN defense teams would consist of a—

- **Chemical-alarm team.** The mission of the chemical-alarm team is to provide early warning for the unit.
- **Chemical detection team.** The mission of the chemical detection team is to conduct chemical surveys, perform detection operations, and identify chemical agents.
- **Radiological team.** The mission of the radiological team is to provide the capability to survey, monitor, detect, and measure the intensity of radiation created by fallout from a nuclear weapon.
- **Decontamination team.** The mission of the decontamination team is to conduct a detailed troop decontamination (DTD). A minimum of 14 soldiers is required to operate a DTD site (as described in Field Manual [FM] 3-5, *NBC Decontamination*). Every company must have the equipment required to conduct a DTD.
- **Control party team.** The control party team must be knowledgeable in—
  - Operating the Nuclear, Biological, and Chemical Warning and Reporting System (NBCWRS).
  - Performing unmasking procedures.
  - Plotting simplified fallout predictions.
  - Plotting detailed fallout predictions.
  - Plotting chemical-hazard predictions.
  - Identifying chemical agents and toxins.
  - Requesting decontamination support.
  - Conducting a threat assessment.
  - Conducting radiological monitoring and survey operations.
  - Performing total dose, time-of-entry/time-of-stay calculations, and optimum time-of-exit procedures.
  - Preparing personnel, vehicles, and equipment for crossing contaminated areas.
  - Identifying biological weapons and toxins.
  - Performing CBRN intelligence preparation of the battlefield (IPB) and doctrine procedures.

The figure on the following page outlines the minimum CBRN training requirements. For units that have assigned CBRN defense equipment, there should be a minimum of 22 soldiers trained. A primary and alternate operator for the M8A1 alarm can also operate the detection equipment and radiac equipment. That is, if a unit only has one alarm, one CAM, and one piece of radiac equipment, the unit only needs two soldiers. This is one approach to assigning CBRN operators.

Time To Train

Reserve units have a lot on their plates when it comes to conducting training. How do we find time and keep units and soldiers interested in CBRN defense team training? These units should not have to wait until they are mobilized to conduct training on CBRN defense equipment. The military procures millions of dollars worth of the most technologically advanced equipment in the area of CBRN defense. This equipment cannot be allowed to sit on a shelf and never be maintained or used for training. The challenge for most units is integrating this training into their schedules. With only 24 days a year (2 days or 16 hours



NBC defense team structure

a month) allocated for drill and 14 days of annual training, it appears that there is not enough time for CBRN training. Command emphasis must be present, and units must find innovative ways to include CBRN defense team training into their primary mission. The Active Army has 360 days per year to integrate CBRN training into their training plans. In some cases, reserve units do not have the required CBRN experts to provide the essential CBRN team training. And reserve units are spread across the state, making it more difficult to train. Additionally, a minimum number of CBRN NCO professional development and refresher training courses are conducted (likely due to minimal leadership support or a general lack of interest).

Proposed Courses of Action

If a company with 129 personnel assigned has 6 M8A1 alarms, 12 CAMs, 14 AN/VDR-2s, 1 AN/PDR-75, and 14 AN/UDR-13s (a total of 47 pieces of equipment), 94 soldiers must be trained to operate and maintain the equipment. Where are these soldiers going to come from, and when will they be trained? What are some of the potential courses of action (COAs) to sustain CBRN equipment training? The problem is determining the best training methodology to train all CBRN defense equipment operators in the Reserves. The following COAs could be considered:

- **COA 1.** Conduct distance learning (DL) (Phase I)/hands-on (Phase II) training. The appointed CBRN defense team would train teams in two phases. The Phase I training would be conducted through DL (at home with a compact disk or online for team-specific training). Phase II training would be hands-on training, conducted at the unit by the CBRN NCO or officer or contract subject matter experts.
- **COA 2.** Create mobile training teams. Assign a three-person chemical training team within the RRC to travel and provide CBRN defense team training to units.
- **COA 3.** Conduct DL (Phase I)/hands-on (Phase II) training using US Army Reserve Command (USARC) and US Army Chemical School (USACMLS) personnel. The appointed CBRN defense team would train teams in two phases. Phase I training would be conducted through DL; Phase II would be conducted using USARC and/or USACMLS subject matter experts. The designated subject matter experts would travel to designated unit sites to conduct the training as required.
- **COA 4.** Implement an MTOE or doctrine change. Design a CBRN detachment specifically focused on performing CBRN defense team tasks, missions, training, and equipment maintenance. The detachment, which would consist of 8 to 22 members, would act as the CBRN response experts for a major support command or brigade.
- **COA 5.** Establish CBRN training teams. The CBRN subject matter expert in each unit would implement a training plan or strategy.
- **COA 6.** Instruct units to send appointed operators to CBRN defense team training courses.

My recommendation would be to implement COA 1. Additionally, the following factors could be considered in the decision process:

- Screening criteria.
  - Do all of the major support commands have a CBRN NCO or officer appointed to monitor the progress of the program in subordinate units?
  - Do all units have appointed (by memorandum) CBRN equipment operators?
  - Are all team members able to gather together for the training?
  - Do all appointed operators have access to a computer?

- Evaluation criteria.
  - What is the best training methodology to sustain operator performance?
  - How can the training be easily integrated into training schedules?
  - What type of training is the most cost-effective?
  - What is the minimum amount of training time required?

The integration factor should be considered over all criteria. And the cost criteria should be considered the second priority. Cost criteria should include financial and unit survivability factors. The most advantageous method should be determined at the higher-echelon level (at the US Army Training and Doctrine Command [TRADOC], USARC, or USACMLS) to determine what is best for the Reserves. My attempt is only to give a starting point for discussion among the chemical and training communities.

Training Initiative

When I was a battalion chemical officer in 1986, CBRN team training was a requirement, but it was also fun and challenging. The leadership was very supportive of a biannual CBRN defense team competition known as *Olympic Dragon*. The battalion appointed 1 chemical-alarm team (with 2 soldiers), 3 detection teams (with 2 soldiers each), 2 radiological teams (with 2 soldiers each), several decontamination teams (with 13 soldiers each), and 1 control party team (with an NCO [in military occupational specialty 74D], an officer, and an NCO alternate) and trained them to task, condition, and standard.

Two written tests were administered prior to the exercise evaluation—a ten-question test specific to CBRN functions and a team-specific test. A battalion level competition was conducted to determine the teams that would compete at the brigade level competition. The top three teams in each category at the battalion and brigade levels received recognition. This competition did three things:

- Developed a sense of importance and pride in CBRN defense team training.
- Prepared soldiers and ensured that they were able to conduct the required task before, during, and after a CBRN attack.
- Instilled cohesion and esprit de corps.

This same evaluation concept could be incorporated in reserve training. The 12 RRCs could have a CBRN team competition, with each RRC sending its teams to an approved location to compete (such as to USACMLS at Fort Leonard Wood). Each major support command would conduct its own CBRN defense team competition based on the standards set by USACMLS or USARC.

Conclusion

Do reserve units need trained CBRN equipment operators? If we look at the threat today, the answer is a definite "Yes." Since 11 September 2001, and with all of the concerns about weapons of mass destruction and the requirement for increased homeland security initiatives, there is a need for increased CBRN training. Reserve units may be called up to support the homeland security mission or to deploy to a hostile environment with a possibility of CBRN threats.

DL is becoming a vital part of military training and education. There is interactive multimedia instruction (IMI) being developed to train basic and advanced military occupational specialty skills. IMI products in development include the M8A1 alarm, radiological equipment, and CAMs. As a CBRN training developer, I have found that these IMI products would be a great link to developing and training CBRN equipment operators.

My observations have led me to believe that this is a subject worthy of review by the chemical community. We need to establish a strong CBRN defense operator training effort for reserve units everywhere.

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References

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FM 3-5, *NBC Decontamination*, 28 July 2000.

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