Gas! Gas! Gas! I've Buttoned Up; Now What?

by COL Esli T. Pitts and CPT Meaghan E. Kelly

Airburst artillery was exploding in the distance as White 4 keyed the net. "Black 6, this is White 4. Observing red rain at MR 465 776. No change to slant. 0615. Continuing mission. Over."

Axeman 6, the tank-company commander, acknowledged the report. Looking at his map, he noted that White's platoon was closest to the point of impact. He called the company: "Guidons, this is Black 6. Assume we are observing enemy prep fires. No change to defend time at 0700."

White 4 dropped down in his hatch. Artillery was nothing new, but the volume of fire in this particular mission was intense. The rounds were bursting about 500 meters to the north, but since they were beyond an intervisibility line, he thought there was limited likelihood of damage unless a round hit significantly outside the apparent sheaf. (Lucky they had been doing survivability moves!) White 1 chose to remain in position but directed all four tanks to close their hatches to the open-protected position. He shuddered, picturing a hot fragment slicing into one of the crew.

Turns out it wasn't shrapnel they had to worry about.

Having massed their guns long enough to deliver a chemical strike, the enemy artillery displaced. With the wind blowing at about three mph, it took about six minutes for the first traces of nerve agents to hit White 3 on the company's right flank.

A chemical alarm 100 meters out would have given them 72 seconds' warning, but there was none. As it was, White 3 was the first to detect the strike, feeling the effects within a minute of breathing it in. Lacking respiratory protection, they died quickly, and the rest of White soon followed. Some crewmembers were already wearing protective overgarments, but none had their protective mask readily available, so the chemical agent rapidly attacked their nervous systems. White 4's loader was typical. He tried to hold his breath while digging his mask out of the sponson box, but his mask was just too deep, having slipped beneath a can of oil, a spare barrel and the muzzle-boresight device. Fully exposed to the agent, he died while stretched across the top of the turret and then slipped to the floor. His Antidote Treatment Nerve Agent Auto-injectors (ATNAAs) remained in his protective-mask carrier.

White 2, on the farthest flank, lived the longest. White 2 Golf managed to key the platoon net and announce "Gas!" but nobody else had enough remaining motor functions to relay it on the company net. Unlike most, White 2 Delta had his mask with him in the driver's station. Medics eventually found him dead in the seat with the mask in his hands. The new filter, still wrapped in plastic, sat in the mud and leaves at his feet.

The chemical strike drifted into Blue's battle position with only slightly better results. Blue 4 called a warning on the company net, allowing both Red and the command post to take action. Blue's crews buttoned up and turned on their chemical, biological, radioactive and nuclear (CBRN) overpressure systems. Unfortunately, systems of 31 and 32 hadn't been serviced in years and were inoperative. Those crews died believing they were sealed in their tanks. Blue 3's system actually functioned, but without a round in the tube, the seal was not intact – they were the last to die. Blue 4, a former drill sergeant, got his crew into masks, administered ATNAAs to two of the Soldiers and followed up with Convulsive Antidote, Nerve Agent for the loader. He saved their lives, but the lack of microphone cables for their masks kept them off the net for almost 20 minutes. While searching for cables, they experienced a fire in the old CBRN filters, forcing them to shut down. Blue 4 was combat ineffective.

Things were no better at the company command post. The first sergeant grabbed the battalion command net and announced "Flash, Flash, Flash, Gas!" but failed to identify the calling unit before succumbing to the deadly air. He keyed the net again but was unable to speak clearly and began vomiting. Axeman 6 sprinted from his truck to get his mask from his tank's sponson box but never made it. The executive officer was more fortunate since he had his mask with him while talking with the mechanics. However, upon returning to his tank, the crew refused to

unbutton, and he was forced to remain outside on the ground. The mechanics were effective at donning their masks and, in one case, administering their ATNAAs.

Red Platoon, on the left flank, was largely unaffected by the strike due to the wind direction. However, it was unaware of this and tried to react. It fought through the same problems the other platoons had with similar, though less lethal, results. Red's crews dug out their masks, buttoned up, turned on the overpressure systems and then sat alone in their tanks, unaware that they were not actually downwind or that their CBRN systems were also inoperative. The extent of actions-on-contact in Red Platoon was that Red 1 dropped a chemical strike icon on his Joint Capabilities Release (JCR), which was enough for Lancer Main to identify that they had been struck.

The enemy regimental commander had successfully disrupted friendly forces with a non-persistent chemical strike at his planned point of penetration. The company's lack of readiness had done the rest. Now the regiment's lead elements were 45 minutes from assaulting that position, taking advantage of the ensuing chaos while knowing the area would be clear of contamination by the time they arrived.

Battle, a tank company tasked as the brigade reserve, was set in a tactical-assembly area several kilometers to the rear. Unknown to them, they had previously been located by enemy reconnaissance efforts and targeted with a persistent chemical strike to fix them in their assembly area. Proving that everybody struggles with synchronization, the enemy's second strike began two minutes after the non-persistent strike. Those two minutes, plus Battle's training proficiency, proved invaluable.

The brigade would defend in mission-orientated protective posture (MOPP) Level 2, but not everybody was there yet. Battle Company's White and Blue Platoons were still in the middle of upgrading from MOPP 0 to MOPP 2 for the defense when Axeman's Red 1 posted the strike. Seeing the icon, Battle's crew began to hurry. Blue 4's insistence that MOPP 0 really did mean having your gear inside the tanks at individual crew stations (and not in the bustle rack) likely saved lives that morning. It isn't easy to don MOPP gear inside the tank, but it's better than getting caught outside during a chemical strike, which is what happened to White. White's crews were scrambling to get their gear from bustle racks and sponson boxes as the strike arrived in a high concentration of airbursts upwind of the assembly area. The first volleys were on target and Battle's multiple chemical alarms immediately began to blare as the oily chemicals fell toward Battle.

Battle's reactions were evidence of their good training. Unlike Axeman, Battle 6 had identified (and reiterated) the line "auto masking is in effect" from the operations order, and they recognized the incoming artillery as a trigger to automatically don their protective masks. Battle 6 had also directed that chemical defensive gear be checked during pre-combat inspections. Not all the Soldiers were fully proficient in donning their masks, and a lot can happen in nine seconds, but the Battles had a good head start. It helped that they were carrying their masks rather than storing them.



Figure 1. Soldiers dismount to recon in MOPP 4.

Unlike the vapor hazard to Axeman, Battle's primary threat was liquid contamination. Battle's first action was to seek overhead cover to avoid exposure to it. Red Platoon, already in MOPP 2, buttoned up. As part of the battle drill, they assumed there was also a vapor hazard and so they battle-carried a main gun round, turned on their overpressure systems and continued to MOPP 4 under the assumption that the overpressure systems were inoperative. Blue continued to don MOPP gear while taking similar precautions as Red. White, still with Soldiers exposed on top of turrets, was in the worst shape.

With the gentle reminders of their noncommissioned officers (NCOs), exposed Soldiers automatically decontaminated their skin. They were familiar with the drill: don protective mask and get undercover. Then pull out the Reactive Skin Decontamination Lotion (RSDL) and decon their faces or other contaminated skin. Hold breath, break the seal on the mask and pull it out and away from the face. The decon technique left slippery lotion on their hands and faces. Wipe away from the eyes. Scrub down. Don't forget to get the recesses in the skin such as the nose, corners of mouth and between the fingers. Don't forget to turn your hand away and decon the inside of the mask as well.

Unfortunately, several Soldiers in White and the company trains did not initially realize they were already contaminated. Continuing to MOPP 4 protected them from more exposure, but it did nothing for the persistent agent already on their skin. Underneath their protective garments, the agent did its work and those Soldiers were soon in agony.

Battle's commander and executive officer quickly reacted to the strike. Once his own crew had responded, he came up on the net. "Guidons, this is Black 6, radio check in sequence, over." After a few moments, all three platoons had responded, and he continued. "Come to REDCON [readiness condition] 1 and give me a slant report." Meanwhile, the executive officer focused on reporting to higher. He had already called up a report of "red rain" (observing artillery) and, on recognizing it as a chemical strike, dropped an icon on the JCR. The CBRN 1 report was one of several he kept laminated to the inside of his hatch, and he quickly filled it out.

"Hammer Main, this is Battle 5; CBRN 1 report follows, over."

"Battle 5, this is Hammer Main, send it, over."

"CBRN 1 follows:

Line Bravo/ MR465735/-//. Break.

Line Delta/270630LOCT2019. Break.

Line Foxtrot/ MR465735/AA//. Break.

Line India/ Air/Substance Name: HD Blister/Persistent /Manned Point Detection System//

Line Mike Romeo/Liquid/Puff. Over."

Step 2, develop situation

At this point, Axeman has largely failed to execute Step 1 to actions-on-contact: deploy and report. Meanwhile, Battle has reacted appropriately. His Soldiers deployed by seeking covered positions, upgrading their protective-posture level and initiating immediate decon efforts. While there were some casualties, they were minimal. They also reported effectively, using both the JCR and the radio to submit a CBRN 1 report. Let's look at how they conducted Step 2, develop the situation.

Red Platoon, Axeman's only remaining combat power, sat in their tanks. Red 4 had dropped off the net, and Red 1 was not sure what to do next. Finally, he called Red 2 and asked if he'd emplaced his Joint Chemical Agent Detector. The answer was no. Not only had he not emplaced it, he hadn't even brought it on the operation. Nor had he brought an M256 kit. Nor had Red 3. Not that it would have done any good in this particular instance, but his check also revealed a lack of M8 or M9 paper. (He laughed bitterly at the strips of 100 mile-per-hour tape he had wrapped around the wrist and ankle of his wet-weather gear to simulate M9 paper.) Red was unable to determine the type or nature of the chem strike. Why hadn't he heard from Black 5, 6 or 7 since the attack? He tapped out a message to the battalion tactical-operations center on the JCR. As Red 1 realized he was now the company commander, the red horde was closing on their battle position. Outside, the wind and the rising temperatures were already doing their best to disperse the vapor.

Blue 4's filter fire had gone out, fortunately with no injury to the crew. They had all evacuated the tank, trading the fear of death by fire for one by nerve agent. Sitting helplessly on the blowout panels, Blue 4 recalled the box of M256 kits the CBRN NCO had issued him prior to the deployment. He had stuffed it into the bustle rack instead of giving it to the CBRN tank. He had never trained with them but had seen they had printed instructions on them. Awkwardly, working with his gloves on, he pulled one out and began to work it. As he read the instructions, he quickly realized that his wristwatch was underneath his thick rubber gloves. He yelled for the gunner to give him times from the JCR, and for the loader to check the other platoons' frequencies to see if anybody else was still up. Minutes later, he was in communications with Red 1. The next thing he heard on the radio was "Contact, tanks, West. Out," followed by the report of a main gun firing. The crew looked at each other and, as one, slid toward their hatches. Axeman (-) was in contact.

Battle 6 had re-established communications within the company. By his count, they still had 13 operational tanks, but the platoons had identified four Soldiers showing serious chemical-agent symptoms. These would require evacuation to the dirty aid station, using the designated dirty route.

He sent his guidance. "Guidons, Guidons, Guidons, this is Black 6. Maintain REDCON 1. Have your CBRN tanks initiate chemical survey; let's confirm what we were attacked with. Report your results to Black 5. Break. All others, maintain security but continue immediate decon of remaining skin and essential individual equipment. Report completion to Black 5. Break. Be prepared to move in the event that we are targeted for a follow-on strike. Considering we'll be tracking contamination across the brigade's rear area, we'll get their approval before we move. Five, once you've got platoon reports, call an initial CBRN 4 report to brigade. Acknowledge, over." All stations acknowledged, and he settled back in the turret for a minute. If there was enough time, he could also mark the extent of the contamination on the ground.

From what he'd seen, it appeared that they had been attacked with a liquid agent of some kind. That would imply an existing but limited vapor hazard. However, the liquid would spread if touched. Battle would need to identify the agent, then decontaminate key equipment to prevent the spread of the agent from equipment to personnel. With everybody buttoned up, this could be problematic. Fortunately they had emplaced fresh M9 paper on different parts of the tank, even though it was difficult to see through the vision blocks.

The platoons' designated CBRN survey teams slowly came out of their hatches, checking the visible M9 paper hanging from their vehicles for signs. Then they transitioned to the M8 paper, blotting it on suspicious areas. The M8 paper matched the results of the M9 paper: Liquid, H, blister agent. Having done an initial check with the paper, each CBRN tank's crew also started an M256A1 kit. That was nearly a 20-minute process, but in the end, it would give a definitive reading as well as indicate whether the strike was persistent or non-persistent. While this was going on, the platoons continued their immediate decon. Most had already decontaminated their skin, and tank commanders continued to assess their crews for signs and symptoms of contamination. Several crewmembers decontaminated their skin again, just in case. Despite their identification of the strike as H, blister agent, the Soldiers were more familiar with the symptoms of nerve agent, leading to some false assumptions. One nervous loader injected himself with his ATNAA.

After the three platoons each reported their contamination findings as blister agent to the company command post, the executive officer finished the initial CBRN 4 report and submitted it to brigade. As before, he did so both by radio and over the JCR.

"Hammer Main, this is Battle 5. CBRN 4 Report follows, over."

"This is Hammer Main, send it."

"Line India / SH1/TS: Blister/Persistent (P)//. Break."

"Line Quebec / MR465735/Liq/Manned Survey (MSVY) /SCD//. Break."

"Line Sierra / 270700LOCT2019//. Over."

Decontaminating their skin was just a battle drill, but surprisingly, training had prepared them well for the next step: the reality of decontaminating skin and individual equipment. About two-thirds of the company had varying amounts of chemical agents on the tanks or exposed gear outside the vehicles. The crews would continue immediate decon (see Table 1), the most basic level, which would only address a portion of the contaminants. First,

they would dump contaminated external stowage. (Fortunately, properly covering it before the mission prevented too much loss.) Even so, there was one joker: "Black 6, this is White 4. Who's going to sign the statement of charges for all this gear we're throwing out?"

Levels of Decontamination		
Levels	Purpose	Who
Immediate decon	Rapid decontamination of skin and individual equipment necessary to save lives or prevent the initial spread of contaminants.	Contaminated element
Operational decon	Consists of vehicle spraydown to remove gross contaminants and minimize spread of contaminants. Also consists of MOPP-gear exchange to provide short-term or temporary relief from MOPP 4. Uses organic decontamination apparatus. Requires high volumes of water.	Battalion operational decon team
Thorough decon	Thorough decon consists of two simultaneous lanes: - Detailed troop decon (DTD) provides complete decontamination of troops and individual equipment. -Detailed equipment decon (DED) provides decontamination of vehicles and equipment. At the conclusion of thorough decon, units are considered clean. Units will decontaminate all salvageable equipment. Unsalvageable equipment will be left in the contaminated sumps, marked and reported to higher as dirty.	-DTD is the responsibility of the supported unit -DED is provided by divisional chemical company / decon platoon

Table 1. Levels of decontamination.

Immediate decontamination focused on those things the crew needed to fight their tanks, such as the external machineguns or the insides of those hatches that had still been open when the strike happened. Crewmen used M334 wipes to decon all contaminated individual equipment by wiping the surface, using sweeping motions away from the body. The crew took care not to spread any contamination to any area that had been visually determined as clean. As they decontaminated the equipment, they were careful to also redo their gloves.

Halfway through decontamination, the CBRN teams began to complete their M256 kits and call the results up to the executive officer. They all indicated H, mustard (a form of blister agent). The executive officer reported the update to brigade: "Hammer Main, this is Battle 5. We've completed our M256 kits with no change to our CBRN 4."

Shortly after, Battle 6 sent a situational report (sitrep) to the brigade. "Hammer Main, this is Battle 6, SITREP follows." He paused for an acknowledgement before continuing. "Our slant is 13 and zero with nine vehicles having enough to stop the onslaught. Lancer 6 contacted brigade and recommended release of the brigade reserve to his battalion." Hammer 6 approved, and Battle soon got the call: "Guidons, Guidons, Guidons, this is Hammer 3. [Fragmentary order] follows."

Lancer was tasked to assume attachment of Battle and establish an attack-by-fire (ABF) position to prevent penetration of Lancer's positions. It didn't take Battle long to enter Lancer's net and establish the ABF. In the distance, they could see the hulks of Axeman's White and Blue Platoons – victims of surprise and their own lack of training. Red also died, though they had delayed the enemy regimental attack long enough for Battle to establish

the ABF. Ultimately, Battle's training enabled them to survive a chemical strike, maintain themselves as viable combat power despite contamination and destroy the enemy's lead battalion.

Only after the fight did Battle 6 move his company to a decon point, where they linked up with the division's chemical company, conducted thorough decontamination and finally come out of MOPP 4.



Figure 2. A Soldier decontaminates his vehicle.

Prior to 2003, Soldiers generally trained in MOPP 2, and there was a high probability they would be in MOPP 4 before it was over. Sometimes they performed like Axeman during training and sometimes more like Battle. Then came the wars in Iraq and Afghanistan, and chemical proficiency was replaced, rightly so, by different training requirements.

Operating in a chemically contaminated environment now is less likely than it was, but it is still a possibility that should drive training as the Army's focus returns to near-peer competitors. Some leaders bring the habit of training for CBRN proficiency into battalion command – with mixed results at best, mainly due to a lack of time. Subsequently, battalion/task-force maneuver trainers see units challenged to operate in a chemical environment due to constraints in training and equipment. CBRN proficiency is fairly easy to achieve provided leaders and their Soldiers have enough time. Lacking time, there are other considerations that can still build CBRN readiness over time.

Mindset

First is a mindset for CBRN proficiency. Leaders at any echelon can create an expectation they will train to operate in a chemical environment, which can be communicated to the unit through training guidance, training schedules or just by walking up behind a squad and announcing "Gas, gas, gas!"

Training and operating in MOPP gear is hard. It's different. It is debilitating. And, yes, it can be risky. Putting a battalion into MOPP 2 (and MOPP 4 as necessary) is not popular in the hot months, but it is nothing that previous generations didn't do routinely.

The first step is to require Soldiers to carry their protective masks as part of the field uniform during the next training event. Critical to the mindset is a commitment to do CBRN tasks correctly, such as wearing full MOPP gear properly, or that Soldiers don't "take a knee" or set down equipment in contaminated areas.

Individual protective equipment

Gone are the days when the company executive officer maintained sizes for CBRN gear and a basic load of chemical defensive equipment. For deployable units, this facilitated building Individual Chemical Equipment (ICE) packs, with one built for issue upon alert and a second one carried in the company trains. (Question: Where do you

store 60-70 2nd ICE packs in the company trains? Answer: Build racks in the supply sergeant's truck. And don't forget to move them when platoons task-organize.)

It also means that boxes of contingency chemical equipment must be stored throughout the company area. However, at a minimum, all Soldiers in a company should be issued appropriate equipment for training. This includes a complete training Joint Service Lightweight Integrated Suit Technology (JSLIST) with a protective mask that has been properly fitted using the M41 Protective Assessment Test System (PATS) and the correct alcohol.



Figure 3. Soldiers in MOPP 4 gear.

Units should stock enough M8 paper, M9 paper, RSDL and M100 decon kits to get them through the next several collective-training events.

CBRN equipment

All of a company's CBRN detection equipment should be assigned to the platoons' CBRN survey teams and properly maintained through command maintenance, scheduled services and calibrations under the supervision of the CBRN NCO and CBRN officer. Even if they lack proficiency, crews should bring their CBRN detection equipment to the field for all training events so they can learn to employ and stow it per the load plan.

All these items should be inspected routinely during pre-combat checks (PCCs) and pre-combat inspections (PCIs), in priorities of work and during recovery operations. The CBRN NCO should maintain all equipment not assigned to the platoons' teams. The CBRN NCO should maintain an appropriate bench stock of repair parts for masks and other unit equipment.

Leader training

At minimum, platoon leadership and above should know how to react to a chemical attack — it is a battle drill that requires training to gain and maintain proficiency. If Soldiers know how to get into MOPP gear, leaders can lead them through most of the other tasks and preserve combat power. Leader training should address all required leader actions during actions on contact.

- **Step 1** deploy and report focuses on immediate actions to protect individuals from attack and includes submitting a CBRN 1 report.
- **Step 2** develop the situation focuses on confirming the nature and extent of attack, marking, continued immediate decontamination and updating CBRN reporting with a CBRN 4.
- Steps 3 and 4 will largely be externally directed. However, leader training should also include operating in a contaminated environment, how to conduct MOPP-gear exchange and unmasking procedures, and participation in operational decontamination as the supported unit. Also, leaders must understand the rules of engagement for chemical play at combat-training centers. Confusing purple smoke (indicates the Family of Scatterable Mines) with yellow smoke (usually indicates CBRN) is awkward at best.

Vehicle maintenance, operator training

Take a look at unit vehicles' service packets. Were the CBRN systems fully serviced? Do the overpressure systems work? Are they being checked during monthly preventive-maintenance checks? Are crews actually taking a coax and a dummy round to the motorpool to do so properly? Do the crews know how to operate the system?

CBRN survey-team training

At least one, but ideally two, tanks per platoon should be designated as CBRN tanks. These crews should be trained to detect, identify, report and monitor chemical contamination and how to mark it. They should also be able to lead the platoon through MOPP-gear exchange, unmasking procedures and operational decontamination. They should maintain and employ the platoon's CBRN equipment. They should also be the platoon's experts in individual task training, including immediate decontamination.

Build this CBRN training at company- or battalion-level to maximize resources.

Operational decontamination teams

The operational decontamination team represents the battalion's ability to conduct minor decontamination of vehicles and equipment to provide temporary relief from the contaminated environment, conduct MOPP-gear exchange and get the affected Soldiers and equipment back into the fight. It is not "thorough decontamination." It requires organization, practice and a lot of water.

Once both the decon apparatus and the operational decon team (generally mechanics and the support platoon) resided in Headquarters and Headquarters Company (HHC) and lived in the field trains unless postured forward. The company's executive officer often trained and employed the team. Now, with the decon apparatus assigned to HHC, it is not co-located with an available manpower source during operations; it requires guidance and coordination across two companies to establish and train the team's Soldiers.

First, leaders should challenge the chemical officer and NCO to demonstrate the decon apparatus in operation, with water blivets filled, operational pumps and the equipment actually spraying water. Then leaders should identify a leader for the team, build a battle roster and then train an operational decon team.

The battalion should also train the same team to support the detailed-troop decon lane as part of thorough decontamination. Once the team is trained, leaders should exercise the team's Soldiers frequently during or after other collective training.

Individual training

Depending on a unit's circumstances, individual-training proficiency will be either the easiest or most difficult to achieve. There was a time when maneuver units did a day of CBRN task training every quarter. There is a long list of individual tasks to train on.

Round-robin training is an effective methodology (see Figure 4), but don't forget the gas chamber and mask-confidence tasks. Select some tasks and build a quality training event. Individual training should also include firing CBRN tables during individual and crew-served weapons qualifications.

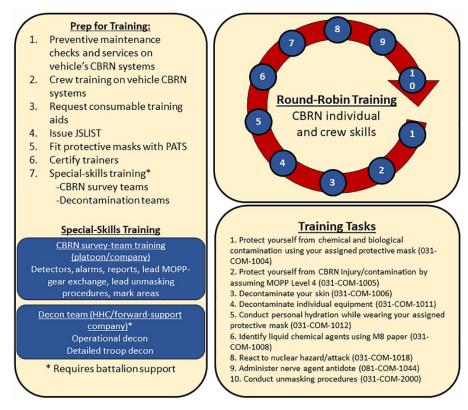


Figure 4. Round-robin training.

Collective training

Having gained individual and leader proficiency, it is time to put it all together and incorporate CBRN conditions into collective training.

Situational-training exercise (STX): Whether a unit is just beginning to build proficiency or already incorporates CBRN conditions into training, a focused lane allows its leaders to emphasize all aspects of the battle drill in a way that often gets cut when training other collective tasks (for example, if the M256 kit was completed in less than 20 minutes, somebody faked it).

See Figure 5 for an example of a company CBRN STX executed at the platoon level. A platoon establishes an assembly area near the gas chamber. After occupation, they experience a chemical attack and respond accordingly. After initial-response actions were complete, Soldiers would take an admin pause to pass through the gas chamber for mask-confidence training. Following that, they remount and conduct a basic mission while buttoned up, then continue monitoring and eventually unmasking procedures.

This is a perfect opportunity to exercise the operational decon team as well.

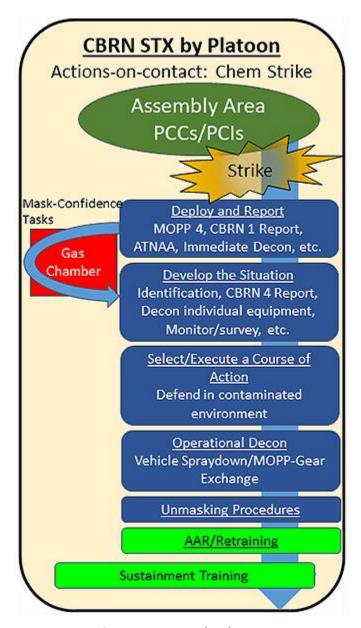


Figure 5. CBRN STX by platoon.

Mission command: While this training describes maneuver-unit training, do not neglect the tactical-operations centers, command posts or unit trains when building unit proficiency with CBRN tasks. Ideally, these nodes can not only react to a chemical strike on their position, but they guide their units through those reactions. They can also manage the fallout from those strikes; for instance, they can move decon assets, designate dirty routes, and prepare and submit CBRN reports and chemical-downwind messages. The graduate level is when they can do so while continuing ongoing operations without impact.



Figure 6. A Soldier makes notes on a masking-criteria chart.

Tactical standard-operating procedures (TACSOPs): TACSOPs are a great mechanism to establish accountability for the way leaders want to conduct CBRN operations in their units.

CBRN proficiency used to be the standard. Now it is more of a graduate-level skillset. Given the current increased focus on readiness across the Army, integrating CBRN into routine training events is a natural progression and a logical next step to making units that much better. With that in mind, leaders at any echelon always have the latitude to say those three magic words: "Gas! Gas! Gas!"

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Acronym Quick-Scan

AAR – after-action report

ABF - attack-by-fire

ATNAA – Antidote Treatment Nerve Agent Auto-Injector

CBRN – chemical, biological, radiological, nuclear

DED – detailed equipment decontamination

DTD-detailed troop decontamination

HHC – headquarters and headquarters company

ICE – Individual Chemical Equipment

JCR – Joint Capabilities Release

JSLIST – Joint Service Lightweight Integrated Suit Technology

NCO – noncommissioned officer

PATS – Protective Assessment Test System

PCC – pre-combat check

PCI – pre-combat inspection

 $\textbf{REDCON}-readiness\ condition$

RSDL – Reactive Skin Decontamination Lotion

MOPP – mission-oriented protective posture

SITREP – situational report

STX – situational-training exercise

TACSOP – tactical standard operating procedures