



Military and civilian disaster drill.

1st Combat Camera Squadron (Reynaldo Ramon)

Responding to Chemical and Biological Incidents at Home

By THOMAS X. HAMMES

It is 5:30 on a cool, still evening in Washington. There is a slight haze due to the rush hour traffic. It is getting dark and a thermal inversion is holding the haze in place. A tanker truck pulls to a downtown curb. The driver turns on the flashers, exits, and walks up the street, apparently in search of a pay phone to call for help. He is never seen again.

Two men get out on the other side of the vehicle. One moves to the valves extending from the tank and quickly begins opening them. An officer at a nearby Federal building comes out to see what is going on. The second man shoots him repeatedly. With the sounds of the shots still echoing, both men run south. They don't get far before falling to the sidewalk gasping.

Pedestrians and drivers begin coughing and collapsing in an expanding circle around the truck. The odor of chlorine fills the air. Everyone is trying to escape, but the gas is expanding and being drawn into vehicle and building ventilation systems.

9-1-1 calls from cell phones and surrounding buildings flood the switchboards. More alarming to inbound firefighters, the calls are coming from many floors of the buildings. As the responders close on the scene, they find the streets blocked with wrecked, stalled, and abandoned vehicles.

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City fire and emergency services would be overwhelmed in the above scenario. The casualties could number in the hundreds and be scattered through numerous multistory buildings and vehicles. Simply conducting a methodical search for casualties would require a major effort. Chlorine gas is heavier than air. Drawn into buildings by ventilation systems, it could form pockets, particularly in stairwells and other low points. Thus every rescuer would need individual protective equipment to move safely. DC Fire has made major strides in preparing for such an emergency, yet like all city fire departments it simply cannot afford the necessary manpower and equipment.

On Scene in Two Hours

Fortunately, DC Fire has trained with and can call on the Marine Corps Chemical Biological Incident Response Force (CBIRF). Its 117 marines and sailors, on 1-hour alert, can be on scene within 2 hours. Working under the direction of DC Incident Command System, they can increase the city's ability to conduct rescue and mass decontamination operations. If the initial force is insufficient, an additional 200 marines and sailors can be dispatched within 4 hours. Since CBIRF trains full-time and has protective equipment to conduct three entries per person, the unit can conduct sustained operations. Unfortunately, it is the only Department of Defense (DOD) unit that provides a major search, extraction, and decontamination capability.

First responders know what is required to react to a chemical, biological, radiological, nuclear, or high-yield explosive (CBRNE) attack. They must execute mitigation and rescue. Mitigation consists of both stopping the release of more agent and cordoning off the area to limit victims. Rescue consists of entering the contaminated area, finding victims, extracting them, decontaminating them, and treating them. Both tasks must be accomplished quickly to minimize casualties. The final task, recovery, is not one for first responders; it will be a time-consuming process better handled by contractors.

Most major municipalities can at least mitigate the effects of a chemical or high-yield explosive attack. They have well-trained hazardous materials (HAZMAT) teams that can stop additional release. Their police departments can identify the contaminated area by observing people in the vicinity. They can then expand the area to allow for contamination migration and establish the cordon. In addition, many cities have basic radiation detection instruments and can establish a cordon in radiological or nuclear attacks. Biological attacks unfold more slowly, and mitigation is primarily thorough identification and quarantine using preventative health and medical experts.

Unfortunately, municipalities cannot conduct the large-scale search, rescue, decontamination, and treatment needed in such an attack. Even the Tokyo Fire Department, one of the best

most major municipalities can at least mitigate the effects of a chemical or high-yield explosive attack

trained and equipped in the world, was overwhelmed by a badly executed sarin gas attack on their subway system. Cities simply cannot afford to keep the large number of trained personnel on alert to respond to such an incident.

Examining the sequence of events after a CBRNE event reveals the gap in resources. Obviously, local authorities will provide the initial response. In the case of a CBRNE event, they will immediately call in all off-duty first responders. Even then, only HAZMAT-trained and equipped responders can safely enter such an environment. Given the intense physical effort required to conduct mass personnel rescue and decontamination, the on-duty shift will exhaust its people—and more importantly its on-truck supply of protective equipment—within hours. Currently, their only source of relief will be the off-duty shifts using whatever equipment is available in ready local stocks. The best local response forces can sustain is 8 to 16 hours in a contaminated environment, even drawing on robust mutual aid agreements.

While the Department of Justice-funded pre-positioned stocks will provide additional equipment, no personnel come with it.

Out-of-state, mobilized military and commercial assets should begin arriving in significant numbers around the 72 to 120 hour mark assuming rapid identification and mobilization. Federal-local coordination is improving but still cannot ensure reinforcement by that time. Even when they do arrive, few personnel will have the training and equipment to work in a contaminated environment.

During the gap before mobilized assets arrive, the first responders will be struggling to continue rescue operations. Even with total mobilization of all shifts and resources, they will be overwhelmed by the number of casualties. Moving casualties is physically demanding and exponentially more so in a contaminated environment. Responders must wear heavy, hot, and restrictive personal protective equipment.

Under current Occupational Safety and Health Administration (OSHA) and National Institute for Occupational Safety and Health (NIOSH) regulations, they are limited to level A (fully encapsulated) suits whenever they enter an unknown environment. Even after the agent is identified, most departments around the country lack any other personal protective equipment.

Thus the deficiency in response to CBRNE lies primarily in the rescue of victims between the time local responders are overwhelmed and other assets can mobilize. Neither state nor Federal assets, with the exception of CBIRF, are currently prepared to assist. A secondary deficiency lies in the limited number of rescue personnel that can be mobilized after the initial crisis.

This may seem like a harsh assessment given the effort since 9/11. In fact there has been a great deal of discussion and some progress on defining the DOD role in homeland defense. With the standup of the Office of the Assistant Secretary of Defense for Homeland



WMD specialists training at Center for National Response.

130th Airlift Wing (William H. Hinamon)

Security, the department now has a single point of contact. This staff can take a coherent overall look at what the DOD response role should be.

Unfortunately, this top-level effort is still in its infancy. On the tactical level, despite an alphabet soup of acronyms, DOD provides little support to first responders. CBIRF offers a robust, immediate asset within the national capital region, but elsewhere its response is slowed by the time-distance problem.

Who Has the Mission?

While there is a long list of other DOD assets, none are trained or equipped for rescue operations in a contaminated environment. The most publicized asset, National Guard civil support teams (CSTs), consists of 32 teams stationed around the country, but they are limited to 22 personnel

per team. While they bring an exceptional reconnaissance, advice, and communication capability, they provide extremely limited assistance for the actual rescue and decontamination of victims. In essence, they can tell a local incident commander what the contaminant is, recommend what to

the Army has been studying a guardian brigade to consolidate many of its chemical and biological defense assets

do, and provide a powerful communications capability. But they cannot help downrange.

Aside from CBIRF and CST, the other DOD assets are essentially headquarters. These provide even more communications assets and numerous experts to advise the incident or unified commander, but they cannot assist in the trenches. The Army provides

the chemical biological rapid response team (CBRRT), which furnishes expert advice, superb communications assets, and a command team. They bring no one who can assist the first responders in the hot zone.

The Army has also been studying a guardian brigade to consolidate many of its chemical and biological defense assets: outstanding technical escort unit soldiers, CBRRT, some chemical companies, explosive ordnance disposal experts, detection experts, and numerous scientists. Unfortunately, these assets still consist mostly of headquarters and technical experts. The proposed organization contains very few soldiers equipped to go downrange and none specifically trained for search, extraction, decontamination, and treatment of casualties.



Medical disaster assistance team setting up litters for homeland security exercise.

1st Combat Camera Squadron (Sarayuth Pimthong)

Combining them in a brigade may offer training and organization benefits but will not increase the number of responders on the scene. However, it will require more personnel for the brigade headquarters.

In addition to these headquarters, all the services and many Federal agencies have experts who can respond to biological and radiological incidents. However, none are trained and equipped to participate in the rescue aspects of CBRNE response.

One final problem with DOD assistance is the first responders' perception of what such help means. There is an impression among local authorities that when DOD comes to town, it brings two things: a large headquarters and someone saying, "We're from DOD and we're in charge." Frankly, first responders do not think they need either.

The obvious question is whether DOD should take on the mission. Isn't it more suited to the Department of

Homeland Security (DHS)? It could end up there once the department is stood up and fully functioning. But some aspects of CBRNE response heavily favor a military force heading the effort.

First, the mission requires fit young people. Extracting bodies from a contaminated environment is physically demanding, calling for a combination of aerobic and anaerobic conditioning that should be a hallmark of ground combat forces but is not usually enforceable in civilian organizations. Second, until certain OSHA, NIOSH, and Code of Federal Regulations requirements are rewritten, civilian responders do not have access to the full range of personal protective equipment military personnel can use. Third, training, maintenance, and readiness requirements are high for this type of work. Military forces have

a culture of performing exactly these functions in peacetime. Finally, the sheer cost of maintaining over a hundred civilian personnel on alert is prohibitive. There is no additional pay for alert status in the military. Further, tours in these units are usually limited to a few years, so the burden of one-hour alert status does not become unbearable. Marines and sailors of CBIRF stand a month of one-hour alert followed by a month of regular duty. During the alert month, they conduct all training and exercises in the immediate vicinity of CBIRF headquarters so they can always respond in an hour.

The one DHS exception could be the Coast Guard. It already provides three regional, highly skilled HAZMAT strike teams under its national strike team. It also has the necessary military structure. While true experts, the teams lack sufficient manpower. Perhaps the Coast Guard could be enlarged to fulfill the rescue mission, but



Weapons of mass destruction civil support team conducting casualty evacuation drill.

U.S. Navy (William R. Goodwin)

it is currently badly stretched and has a very small manpower base.

The solution is multiple CBIRF-like units that are regionally based. Their location should depend on population mass. CBRNE weapons are most effective when used in heavily populated areas. Obviously, response is faster if the unit is located in the area attacked. Therefore, we would station units in Atlanta, Boston, Chicago, Denver, Los Angeles, Seattle, and Washington. This concept would provide numerous benefits:

- The vast majority of the population is within a five-hour drive of a CBIRF unit.
- Each unit would keep a 117-man response team ready to deploy in its own vehicles on 1-hour alert, and another unit of similar size and identically equipped would be ready in 4 hours.
- Units could reinforce each other by ground or air, providing both the massive effort and long-term sustainment needed for rescue operations in a mass casualty event. The industrial accident at Bhopal, India, showed how big an incident can be. Records from World War I and the Iran-Iraq war reveal that victims of chemical attacks may be disabled and immobile but still live for days. Clearly we need a robust, sustainable capability.

■ The Nation could respond to multiple attacks, a key capability given the al Qaeda pattern of conducting simultaneous strikes.

Finding the Right Unit

The next issue is who should provide the units. DOD could use active forces, Reserve/Guard forces, or a mix. To understand the skills required, we should examine CBIRF, which has determined that the following unit capabilities are needed to conduct operations in a contaminated environment:

if unprotected victims are still moving or breathing by the time security marines arrive, the atmosphere should be safe for the marines

CBRNE reconnaissance, security, extraction, decontamination, medical, command and control, and support.

CBRNE reconnaissance. This requires the ability to detect and identify chemical warfare agents, toxic industrial chemicals, toxic industrial materials, biological agents, and all types of radiological contamination. CBIRF uses all standard DOD chemical detection equipment and papers, the mass

spectrograph/gas chromatograph, and a more sophisticated mobile lab. It also has a standoff chemical agent detection van. For biological agents, it employs assay tickets and polymerase chain reaction technology that uses DNA identification of proteins present in biological agents. For radiological detection, it has individual detectors for each marine and sailor as well as all military detection equipment. This allows it to identify alpha, beta, gamma, X-ray, and neutron radiation. These skills require extensive training and are highly perishable.

Security. This is not security as it is normally envisioned. It is not about facing outward and isolating the site. CBIRF security personnel face inward. They must keep the decontamination and medical facilities from being overrun and contaminated by victims while they set up. To protect the set up, they must wear personal protective equipment. These marines are dressed when they arrive, move downrange, triage and assist victims, and keep order while decon sets up and recon enters the hot zone. Since they are wearing only limited protection, they use risk-based assessment to determine their limit of advance. Simply stated, if unprotected victims are in distress but are still moving or breathing by the time security marines arrive, the atmosphere should be safe for the marines, who will advance to help those victims but no farther and never

indoors until the recon teams have made entry. Security marines are not full-time extraction marines; they have had the two-week CBIRF basic course to become qualified responders and participated in two days of training in risk assessment and tactics. Each month before they are assigned to a response force, they attend a day of refresher training. Thus they are qualified to assist with the manpower-intensive task of moving nonambulatory victims.

Search and extraction. These marines are full-time extractors and train to a higher level than security marines. They train to work on supplied air in up to level B protection and to search collapsed structures and

Transporting mock victims on C-130, Life Saver.



1st Combat Camera Squadron (Saravuth Prithong)

are equipped to find whether the atmosphere is explosive or has a low oxygen level.

Decontamination. Decon marines take the same two-week course, then move to a full-time decontamination platoon where they train to meet standards for setting up the site rapidly, determining the best decon methods, and deconning the patients and equipment taken downrange. The actual tent set up for ambulatory, nonambulatory, and force protection lines is relatively cheap—\$20,000–\$25,000—and the force requirement is only 15 personnel; so it is possible to have multiple decon set ups in an organization. CBIRF has three complete sets of decon tents—they simply never throw away the previous set. They have full-time manning for two tents and can augment with headquarters/security marines to man the third set.

Medical. CBIRF has 2 board-certified emergency room physicians, an

assistant, an emergency room nurse, and 22 corpsmen. All are trained to treat combined CBRNE and trauma casualties. This unit should be bigger since medical care will be in high demand and CBIRF apparently has the only medical personnel who routinely enter contaminated zones and work in protective equipment.

Command group and cold zone support. The command group provides the scene size up, coordination, liaison, and operational control of all CBIRF forces. Cold zone support provides all aspects of logistic, administrative, and communications support to include resources for reconstituting each team when it exits the hot zone.

The key question is how to expand existing capability so the entire Nation is covered. There are three options: an active duty force expanded to regimental size, a Reserve or Guard force, or a combination.

An active duty force would provide the fastest response for localities

with a battalion stationed nearby. The regimental headquarters and a response battalion would logically be collocated near Washington, DC, the most obvious target for a terror attack. With fewer than 3,000 personnel, the regiment could expand up to another six battalions located to provide maximum coverage based on population density studies and drive times from their locations. The probability of being a target should also be factored in. There will be argument against using regular forces, given their heavy worldwide tasking. Yet the 3,000 personnel required is only .25 percent of the 1.2 million active duty personnel. And equipping six additional CBIRFs would cost only \$150 million—.03 percent of the \$400 billion DOD budget. The CBIRF annual operations and maintenance cost is less than \$4 million, so a 7-battalion regiment could be run for under \$30 million.

Given that homeland protection is DOD's top priority, this seems reasonable to fulfill a critical need. An alternative is to build a CBRNE regiment

from the Guard or Reserve. The National Guard is working on a proposal for 10 regional response forces. Unfortunately, the proposal calls for CBRNE response to be an additional duty, not the primary duty. Worse, the units will not be formed at the same armory. They will be composite units assembled from platoons from various companies that would remain focused on their conventional wartime missions. Somehow they are to provide their designated CBRNE platoons with the specialized training to function in CBRNE rescue. Further, these platoons are supposed to integrate easily with the platoons from other companies, sometimes from different states, at the crisis site. The intense teamwork required on site virtually ensures such a unit will fail at the scene.

While the current planned configuration for a National Guard CBRNE response unit will probably not work, the Guard can provide such units if they are formed from a single unit, then trained and equipped with the primary mission of providing response in

in keeping with the dispersed nature of the Guard, each response company would be in a separate armory with the battalion headquarters collocated

CBRNE events. In fact, the Guard could be highly effective in this mission.

Such a battalion should have about 400 soldiers. CBRNE must be its primary mission. In keeping with the dispersed nature of the Guard, each response company would be in a separate armory with the battalion headquarters collocated with a company. The companies should be grouped geographically.

Besides the battalion headquarters, there should be three response companies per battalion. Their schedule would be the same as other Guard units except they would not train for combat. They would focus totally on CBRNE response. Their two days of monthly training would be devoted to the specific platoon skill—decontamination, search, or extractions, for example. About every fourth month this

would be tested in a company level response drill. The monthly training would be capped by full profile response training during the two-week annual training, culminating in at least two exercises with first responders. Ideally, each exercise would involve different departments and scenarios.

Rotation

On completion of annual training, a response company would stand one month alert. It would not remain on active duty but would have to stay within a certain time radius of the armory. Each soldier would carry a pager. The pager alert would also serve as electronic mobilization orders. Each soldier's response gear would be in his personal vehicle. That way he could either meet the force at the marshalling area or at the armory. Depending on the location of armories and where soldiers live, the alert time could vary, but the lead elements need to be moving out in an hour or less.

Under this process, each company would have the alert for a month. Each battalion could cover one quarter. Four battalions from one brigade would cover a year. A brigade could be assigned to each Federal Emergency Management Agency region so each region would always

have a response company on alert. That is a huge commitment—yet only 40 small battalions would provide complete coverage. The Army National Guard fields 8 divisions and 15 enhanced brigades, or about 47 total brigades. The vast majority were not activated for Desert Storm or Iraqi Freedom. Ten of these brigades could be converted to this critical mission since they do not seem to be needed for warfighting.

Battalion and brigade staffs would be much smaller than their combat arms counterparts under this plan. They would be essentially administrative headquarters, although the battalion staff must be prepared to function as the response force command element if two or more companies are committed to an event. CBIRF manages that with fewer than 20 personnel.

Company staffs would be larger than combat arms company staffs in order to provide personnel for the incident response command post, support personnel to furnish administrative, intelligence, logistic, and communications support, and professional trainers. In addition, each company would need full-time soldiers or civilian contractors to maintain the equipment, stay current on changes in tactics and techniques in this fast-moving field, and then set up the training to keep the company current. CBIRF used four full-time trainers—a former fire chief, a former tech rescue leader, a former paramedic/rescue man, and a former nuclear, biological, and chemical (NBC) staff noncommissioned officer.

Platoons

Each company would consist of a headquarters/security platoon, reconnaissance element, extraction platoon, personnel decontamination platoon, and medical platoon. The headquarters platoon must be larger than that normally associated with a line company but in keeping with those associated with independent companies. Its personnel would have their normal duties but would also train to provide a protective skirmish line to the force as it sets up. This requires knowledge of level C protective equipment and basic military police compliance techniques. CBIRF uses the standard techniques taught in the Marine Corps martial arts program. However, CBIRF has found that the most effective way to protect the force is to provide initial victim assistance. The team would use a bull-horn and hand signals to guide ambulatory victims to the decon triage area where medical personnel would immediately begin to triage and treat victims with symptoms. Security force personnel would talk the others through buddy assistance and provide initial supplies for simple buddy decontamination. The security force personnel would also have a fire hose line for gross decontamination using the fog setting. Since the full decon site set up should take no more than 15 minutes, the initial victims would be triaged and ready to decontaminate about the time the line is ready. Once the decontamination line is functioning and the



Police using robot to detect mock explosives, Life Saver.

1st Combat Camera Squadron (Reynaldo Ramon)

reconnaissance element has found the edge of the hot zone, security personnel would move to that position to assist at the casualty collection point. They would also operate any vehicles that provide evacuation from the casualty collection point to the decontamination site. (CBIRF uses a Gator/trailer combination for this mission.)

The headquarters/security platoon would provide the command group, the security platoon, and the cold zone support group. The command group consists of the company commander, emergency services officer (firefighter), NBC officer, medical officer, radio operator, logistic officer, law enforcement liaison officer, and incident commander liaison officer. This team provides all on-site command, control, and coordination functions.

The headquarters/security platoon would provide the security force personnel to execute the missions above. The company executive officer would lead all other soldiers in the platoon.

In addition, the headquarters/security platoon, with 35 personnel, would provide a cold zone support group of 10 soldiers to give logistic support and assist with reconstitution of the platoons after their first entry.

The recon element would need full-time soldiers due to extensive training and highly perishable skills. They must be able to detect and quantify all chemical warfare agents, toxic industrial chemicals/materials, and biological and radiological agents. Fortunately, this mission can be filled by the existing National Guard CST. Since they would no longer have their command, coordination, communication, decontamination, or medical functions, the 22 personnel can easily be configured as the reconnaissance element. They have the skills; they would simply need to organize and train to send a higher percentage of their personnel downrange to provide the multiple teams required in a major incident. CST must be embedded in each response company so they train together constantly. This calls for either forming new teams

or reassigning existing teams from states with low threat of attack.

The extraction platoon's primary function is to enter the hot zone, find victims, package them for movement, then move them to the edge of the hot zone. It will have a commander (preferably a professional crash fire rescuer), a sergeant, two radio operators, and two 14-man extraction squads with a squad leader, his rescue buddy/radio man, and three fire teams of four. Each team will be broken into two-man extraction teams. This gives each rescue squad six two-man rescue teams plus the squad leader and his buddy. The platoon could flood a target with 12 teams plus two squad leader teams, and the platoon commander and sergeant with their radio operators can be two more teams. The total is 32 personnel. This platoon will require extensive training on protective equipment to be prepared and equipped for level A, B, or C entries.

They must also be trained in victim packaging and movement as well as primary and secondary search.

The decontamination platoon will focus on personnel. It should be composed mostly of NBC people and led by an NBC officer with an NBC sergeant. They will maintain three decontamination lines. The first is for decontamination of response force personnel, the second for ambulatory patients, and the third for nonambulatory patients. Only 15 soldiers are required to run a full ambulatory, nonambulatory, and force protection line, but the workload is heavy. Relief personnel are essential. The platoon total is 25.

The medical platoon should consist of 3 medical officers and 12 medics. If the manning is available it should be larger. They must run three

Guardsmen can develop long-term relationships with first responders and other companies and battalions in their region

sites. The casualty collection point is the first medical treatment site and is placed at the very edge of the hot zone with the junior medical officer in charge. He should take six medics. This is the first opportunity to treat the victims. They are outside the hot zone and are not being affected by the poison, so medical personnel can get immediate drugs on board and stabilize major trauma. The next medical station is decon triage, manned by an emergency room nurse and four other medics. They maintain treatment while patients wait for decontamination. The final station is medical stabilization, consisting of the senior medical officer and two medics. It is located just beyond decontamination in the cold zone. This station should be quickly turned over to civilian first responders, and the response company personnel should move downrange to decon triage. The platoon total is 15.

While it will require major reorganization, using the Guard for this mission has a number of positive aspects. First, providing emergency support to the community is a traditional Guard mission. Second, Guardsmen

can develop long-term relationships with first responders and other companies and battalions in their region. Third, a large number of personnel (40 battalions, or 16,000) will be trained to deal with an emergency in their community whether they are on alert or not. Fourth, it provides a vital wartime mission for the Guard. In essence, international terrorists want to bring the fight to our hometowns. If they succeed, it will be because we have had no intelligence or warning. Response under these conditions is clearly in keeping with the historical role of the minuteman.

The third option, mixed Guard and Regulars, also has distinct advantages. One to three active battalions in a CBRNE regiment would provide a catalyst for developing new training, techniques, and equipment for the mission. It would offer a reservoir of knowledge for active forces in post-CBRNE attack consequence management. That is a distinctly different problem than traditional NBC defense for military units.

They can also provide an active duty advocate for their Guard counterparts. The relationship could be like that between enhanced Guard brigades and their active duty counterparts.

While expanding CBRNE capabilities is clearly an idea whose time has come, there will be numerous and loud objections. Some will cite stretched DOD assets. But official department policy states that homeland defense is the number one priority. Mitigation of damage and rescue of civilians post-attack is part of that mission. Certainly a tiny percentage of DOD assets can be spared for this top priority.

Some will argue that posse comitatus prohibits Federal troops being used in domestic events. This is an invalid argument since CBRNE units are not armed and do not attempt to enforce laws.

Some will argue that it is a mission for Homeland Security. This may be legitimate, but unique physical and disciplinary requirements make it more appropriate for military forces.

More to the point, why should we pay to stand up another bureaucracy to execute this function when the National Guard already exists with the manpower, experience, funding, and facilities? More importantly, from its minuteman roots the Guard has a long history of being first to defend their communities.

Some will argue this will be a long process. Indeed, CBIRF has been focused on the mission and refining tactics, techniques, procedures, and training since 1996. Everything from standard operating procedures to individual equipment has been worked out. Further, National Guard CSTs already possess the most time-consuming and perishable skills—those of CBRNE reconnaissance. Whichever option we choose, it will not require a great deal of time to execute.

In short, the combination of 9/11 and the anthrax letters have put us on notice that CBRNE attacks are highly effective means for terrorist to attack the United States. DOD has made progress in many areas in response. Unfortunately, it has largely neglected dealing with the consequences of a CBRNE attack. It is time to rectify that oversight. **JFQ**