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Domestic Consequence Management has been marginalized in recent national strategy guidance. Agencies, forces, and command structures designated to respond and recover from a terrorist attack are not prepared for a large weapon of mass destruction (WMD) scenario. Radiological, explosive, and chemical WMDs represent the most likely terrorist threats to the homeland. An analysis of three case studies, each designed to model the most likely threats, yields deficiencies in command and control, logistics, and training. With a new command and control construct for homeland response and recovery, improved emphasis on the Department of Defense (DOD) roles in catastrophic consequence management, and clarified legal constraints for DOD operations in the homeland, Commander, U.S. Northern Command (NORTHCOM) could provide a comprehensive and workable federal domestic consequence management plan.

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The Weakest Pillar: U.S. Northern Command's Role in Solving the Federal Government's Domestic Consequence Management Problem

by

Robert DeBuse

Commander, U.S. Navy

A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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Abstract

Domestic Consequence Management has been marginalized in recent national strategy guidance. Agencies, forces, and command structures designated to respond and recover from a terrorist attack are not prepared for a large weapon of mass destruction (WMD) scenario. Radiological, explosive, and chemical WMDs represent the most likely terrorist threats to the homeland. An analysis of three case studies, each designed to model the most likely threats, yields deficiencies in command and control, logistics, and training. With a new command and control construct for homeland response and recovery, improved emphasis on the Department of Defense (DOD) roles in catastrophic consequence management, and clarified legal constraints for DOD operations in the homeland, Commander, U.S. Northern Command (NORTHCOM) could provide a comprehensive and workable federal domestic consequence management plan.

Get on board. Do your business around the country. Fly and enjoy America's great destination spots. Get down to Disney World in Florida. Take your families and enjoy life, the way we want it to be enjoyed.

President George W. Bush, 27 September 2001¹

Introduction

The U.S. Government's ability to defend the homeland and to aid in rapid response and recovery in the wake of a terrorist attack has met an all time low. Less than four years after the biggest terrorist attack on American soil taxed the resolve of the federal response system, a new disaster struck the poorly prepared U.S. Gulf Coast. Analysts who reviewed the federal response to Hurricane Katrina critically questioned the government's homeland security and defense capabilities.² Seven years after the 11 September 2001, terrorist attacks the federal government is attempting to place another bandage over the hemorrhaging response support system. The *National Response Plan (NRP)* was renamed the *National Response Framework (NRF)* to better reflect the intent of the federal government and to prevent advertising any claim that there is an actual federal plan.³ These developments have contributed to the lowest approval rating for the President of the United States and the Congress since the Gallup Poll started conducting this type of analysis.⁴ This patterned development points to a much larger problem. Perhaps the current arrangement of homeland defense, homeland security, and civil support within the federal government deserves a fresh look. In particular, the entire apparatus which provides prepared response and recovery options for domestic consequence management (CM) in the event of a terrorist attack using chemical, biological, radiological, nuclear, or high-yield explosives

¹ George W. Bush, President of the United States, (address. Airline Employees, O'Hare International Airport, Chicago, IL, 27 September 2001).

² U.S. Government Accountability Office, *Hurricane Katrina: Better Plans and Exercises Needed to Guide the Military's Response to Catastrophic Natural Disasters*, (Washington D.C: GAO, May 2006), [page].

³ U.S. Department of Homeland Security, *National Response Framework*, (Washington DC: Office of the Secretary of Homeland Security, January 2008), [page].

⁴ Jeffrey M. Jones, "Confidence in Congress: Lowest Ever for Any U.S. Institution," 20 June 2008, <http://www.gallup.com/poll/108142/Confidence-Congress-Lowest-Ever-Any-US-Institution.aspx> (accessed 12 October 2008).

(CBRNE) must be strengthened. Currently, it is a “shaken pot”⁵ of federal agencies with disparate goals and command relationships.

Hodgepodge is an apt word to describe the current concept of coordinating a response to a catastrophic terrorist event within the United States. Instead of focusing the efforts of the various interagency organizations with roles in domestic CM, the federal government has adopted a framework that requires all levels of government to essentially discover their own solution to this difficult problem. This process of discovery learning is endemic to wicked problems which are not fully understood.⁶ Because the response to a coordinated terrorist use of CBRNE weapons in the homeland is such an ill-constructed problem, any designed response to an attack may not be adequate. However, with a new command and control construct for homeland response and recovery, improved emphasis on the Department of Defense (DOD) roles in catastrophic CM, and clarified legal constraints for DOD operations in the homeland, Commander, U.S. Northern Command (NORTHCOM) could provide a comprehensive and workable federal domestic CM plan.

To be clear, this paper will confine its analysis to the federal, state and local preparations to respond and recover from an attack using or an inadvertent release of chemical, biological, radiological, nuclear, or high-yield explosives (CBRNE) agents. This paper will conduct an analysis of most likely terrorist attack methodologies. It will show that the hazards associated with CBRNE releases are not easily dismissed. It will also demonstrate the inefficiency contained in the national strategies designed to respond and recover from attacks in the homeland. Finally, it will provide recommendations for future investment, further study, and

⁵ Jill Kitson, “When Languages Borrow Words From Other Languages,” *Lingua Franca Radio National*, 21 December 2002, <http://www.abc.net.au/rn/arts/ling/stories/s750145.htm> (accessed 12 October 2008). The word “hodgepodge” is derived from the Anglo-French word ‘hochepot’, which literally means “shaken pot.”

⁶ Hartig, William J. *Problem Solving and the Military Professional*. (Newport, RI. 2007).

increased effort from the federal government. What it will not address is CM efforts outside the United States.⁷ Additionally, it will not address the other two pillars of the national strategy to combat weapons of mass destruction (WMD), non-proliferation and counter-proliferation.

Background

Despite President Bush's exhortations to carry on with their lives as if no attack had occurred, American citizens who are exposed to CBRNE attacks or releases will have to address the immediate hazards. The terrorist threat is real. In 2005, 85 leading experts in national security, diplomacy, military affairs, and homeland defense estimated the chance of an attack with a weapon of mass destruction somewhere in the world in the next ten years ran as high as 70 percent.⁸ The Deputy Director for Antiterrorism and Homeland Defense (J-34) on the Joint Staff analyzed the potential terrorist threats and summarized the most likely and most dangerous threats in Figure 1. This figure shows that nuclear and chemical weapons are significantly more dangerous than the lower impact weapons like high-yield explosives, industrial chemicals and radiological sources used in improvised dispersion devices. However, the deputy director surmises from this figure that terrorists are more likely to use the less effective, more available materials in a WMD. A sound plan is developed against the most likely threat and accepts risk when considering the most dangerous. This assumption begs the question, "what are the national priorities for combating WMD?"

There are several national level strategic documents which frame a set of confusing guidance on the federal response posture to the threat of WMD in the homeland. Figure 2, although a little dated, depicts the convoluted and confusing relationship between the relevant

⁷ Chairman, U.S. Joint Chiefs of Staff, *Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives Consequence Management*, Joint Publication 3-41, (Washington, DC: CJCS, 2 October 2006), GL-8. A joint definition of the term "domestic" helps encapsulate the term United States.

⁸ Richard G. Lugar, *The Lugar Survey on Proliferation Threats and Responses*, (Washington, DC: U.S. Senate, June 2005), 6.

strategic documents. It is a convoluted guidance because some lower guidance was provided chronologically prior to more senior guidance. While not in direct conflict with each other, none seem to address the roles of the military and federal agencies in CM very well. The current *National Security Strategy* advocates “improving protection to mitigate the consequences of WMD use.”⁹ This is the extent of the guidance on CM from this document. An older document, the *National Strategy to Combat WMD* provided an anemic approach to tackling the issue and defined three pillars for combating WMD. These pillars are (1) non-proliferation, (2) counter-proliferation, and (3) consequence management.¹⁰ In the entire six-page document, less than half of a page defined the requirements for CM. This is the sum of the guidance provided from the White House.

When the DOD attempted to characterize this problem in the *National Military Strategy to Combat WMD* the spectrum of operations was broken into eight mission areas (also termed pillars), six underlying principles, and three strategic enablers.¹¹ Consequence management is one of the eight pillars of combating WMD for the nation’s military. However, within the DOD framework CM, is marginalized. The focus of the military’s efforts is currently on the counter-proliferation and non-proliferation missions that protect the homeland in depth. Instead of one of three pillars, SM is now one of eight as shown in Figure 3. Additionally, the other two *National Security Strategy* pillars involve all of the military strategic objectives, CM is only applicable in one quadrant of this matrix, see Figure 4. The reason this approach was adopted can be understood in the newly published *National Defense Strategy*. This document prioritized

⁹ U.S. President, *The National Security Strategy of the United States of America*, (Washington, DC: White House, 2006), 18.

¹⁰ U.S. President, *The National Strategy to Combat Weapons of Mass Destruction*. (Washington, DC: White House, 2006), 2.

¹¹ Chairman, U.S. Joint Chiefs of Staff, *National Military Strategy to Combat Weapons of Mass Destruction*, (Washington, DC: CJCS, 13 February 2006), 22.

homeland defense as the top goal for the department. However, in the discussion of the *respond and recover* actions, the strategy deferred the lead and all planning to the Department of Homeland Security (DHS) as the manager for all disasters in the homeland. The overall effect of the White House and the DOD's strategic guidance statements is to de-emphasize the CM mission for the military. There are several reasons for decreased emphasis on CM. One is that DOD is not the leading agency. Instead, DHS is assigned the lead role for CM in the homeland. As will be shown next, DHS faces significant challenges in this task.

In 2001, the DHS did not exist. Therefore, there can be no discussion of its role in the recovery efforts following those attacks. In 2005, the entire federal government was heavily criticized for a perceived lack of responsiveness to the aftermath of Hurricane Katrina in Louisiana, Mississippi, and Alabama. DHS was the lead agency for this federal response. The massive destruction left the local and state officials overwhelmed and waiting for federal assistance. The lack of understanding at the local and state level of the *NRP* contributed to a poor response. The U.S. Government Accounting Office (GAO) issued a report that condemned the lack of utilization of DOD command and control infrastructure, the federal government's inability to interoperate, the delayed response based on misunderstandings of the *NRP*, and a litany of other grievances that the federal contingency response created during the hurricane response.¹² A closer look at the problem through three case studies may shed light on what is in store for DHS planners.

Case Studies

The disasters discussed above both required a federal response to a natural disaster or a terrorist event. However, neither of the incidents involved what the government defines as a

¹² U.S. Government Accountability Office, *Hurricane Katrina: Better Plans and Exercises Needed to Guide the Military's Response to Catastrophic Natural Disasters*, (Washington D.C: GAO, May 2006), 5-8.

WMD. The presence of a great quantity of hazardous materials or a small quantity of extremely hazardous materials would have complicated these incidents. Three case studies should provide sufficient background to obtain an appreciation of the potential effects of CBRNE contaminants.

Radiological – Goiania, Brazil

The first study is a radiological contamination. In September 1987, looters of an abandoned radiotherapy center in the small town of Goiania, Brazil opened a common piece of specialized medical equipment and caused widespread radiological contamination. The radioactive source was relatively small and located in a teletherapy unit. The International Atomic Energy Agency (IAEA) claims that these units are commonly found around the world and are used for medical treatments of cancer patients¹³.

The spread of the contaminant was quick, unrecognized, and uncontained. Despite the reported small contaminant source, only 0.093 kg, it was rapidly spread throughout the town.¹⁴ A chronology of the event detailed the two looters' actions as they opened the small, sealed canister and discovered a fascinating blue rice-like substance. They distributed this substance to their families and other neighbors. The cesium chloride salts had significant radiation signatures, but none were life threatening. This is until the family members handled the glowing blue substance, painted their bodies with the powder, and eventually ingested the contaminant. Another complication resulted when local medical staffs were unable to identify the cause of lesions and burn-like marks on several patients. The burns were evaluated as spider bites, snake bites, and allergic reactions to food. This delayed the response to the incident and increased the

¹³ International Atomic Energy Agency, *The Radiological Incident in Goiania*, (Vienna: International Atomic Energy Agency, 1988), 18.

¹⁴ *Ibid*, 22-29.

area of contamination to at least 85 different sites.¹⁵ At the hospitals, on the fly decontamination procedures were instituted and some of the cesium was contained. The delay in recognizing the problem took a significant toll.

The human and property costs of this incident were large. Because the contaminant was not identified for 20 days, it took more than 120 days after the looting to contain it. Meanwhile, 112,000 people had to be monitored in the town's soccer stadium. Of these, 249 were contaminated, 151 showed signs of radiation, 20 people were seriously injured with large radiation exposure, 28 people received radiation burns, and five people died.¹⁶ Remediation and disposal took over seven months and is still not back to normal readings as of 2003. In summary, the event was a significant disaster for the small town and is a germane case study in the devastating potential of a single radiological dispersion device (RDD). The IAEA's published findings recommended several specific actions to aid in response and recovery. Specifically, the agency recommended improvement in the following three areas:¹⁷

Command and Control

- Establish and exercise a defined, integrated chains of command and information
- To avoid bureaucracy, establish the chain of command's authorities
- Develop the means to communicate even in remote locations

Logistics

- Exercise a plan to mobilize personnel, instruments and provide logistics support
- Procure and stockpile specialized equipment, medicine and instrumentation

¹⁵ Peter D. Zimmerman with Cheryl Loeb, "Dirty Bombs: The Threat Revisited," *Defense Horizons* 38, (January 2004): 4.

¹⁶ Zimmerman, "Dirty Bombs: The Threat Revisited," 4.

¹⁷ International Atomic Energy Agency, *The Radiological Incident in Goiania*, 87-91.

Training

- Train all first responders on radiological symptoms and treatment
- Develop and train radiological decontamination techniques

Explosive – Texas City, TX

The second case study is an explosive disaster.

In April 1947, a liberty ship, SS *Grandcamp*, laden with ammonium nitrate caught fire alongside an industrial pier in Texas City, TX. While waiting for a tug boat and fire boat to arrive, the captain ordered the standard treatment for a shipboard fire. The standard treatment for extinguishing fires in cargo holds was to seal the room and suppress the fire with steam. The combination of a confined space and super-heated steam caused a high order detonation aboard SS *Grandcamp*. Gregory Havel, a former fire chief and current fire technical instructor, claims that the explosion was so great it could be felt 150 miles away in Louisiana and it registered on a seismograph in Denver, Colorado.¹⁸ Another example of how devastating the blast was: *Grandcamp's* propeller was found buried in the ground two miles from the blast site.¹⁹

The initial explosion caused several other sequential catastrophes. First, nearly the entire fire department was killed in the blast. In addition, the fire department's complement of apparatus was destroyed. Then, a 15-foot high wave engulfed the harbor area and damaged several homes. A second, ammonium nitrate-laden liberty ship, SS *High Flyer*, caught fire and was cut from the pier to drift away. The blast also set fire to several oil and chemical storage tanks and pipelines. Fires continued throughout the night as there were no other first responders

¹⁸ Havel, Gregory. "Texas City Disaster". *Fire Engineering*, 6 October 2008, http://www.fireengineering.com/display_article/341684/25/none/none/CNSTC/The-Texas-City-Disaster (accessed 12 October 2008).

¹⁹ "Coast Guard History Corner." *Coast Guard Reservist*, 18, no.8 (June 1971): 3

capable of extinguishing them. In the early morning, SS *High Flyer* detonated and caused even more damage to the small port city.

The casualties inflicted on Texas City were estimated at 561 dead, over 3,000 injured, \$100 million in property damages, and \$500 million in lost petroleum products.²⁰ Local historians report that “the city was unable to account for all of the dead because of the severe damage.”²¹ Response efforts lasted for a week before the last fire was put out. The last body was recovered in May, nearly a month later. Recovery efforts continued for several years. This case demonstrates the massive and long-lasting effect an industrial strength compound with the right circumstances can have on an entire community. Havel has formed his own list of lessons to be learned from this incident:²²

Command and Control

- Rely on an Incident Command System
- Leverage mutual aid agreements to fill gaps in capabilities

Logistics

- Leverage mutual aid agreements to fill gaps in capabilities

Training

- Develop and exercise large-scale emergency plans for disasters
- Increase training and awareness of hazardous material (ammonium nitrate)

Chemical – Graniteville, SC

The final case study involves a recent example of another industrial chemical, this time toxic. In January 2005, a *Norfolk Southern* train collided with a parked train in Graniteville, SC.

²⁰ “Coast Guard History Corner,” 3.

²¹ Susie Moncla, “The Texas City Disaster – April 16 & 17, 1947”, Texas City Library, 1 April 2008, <http://www.texascity-library.org/HistoryTCDisaster.pdf> (accessed 12 October 2008).

²² Havel, “Texas City Disaster”

This town is about 20 miles from Augusta, GA. Four tank cars with hazardous materials were derailed. One car, which contained chlorine, was breached. This tank car leaked approximately 40 tons of chlorine into the surrounding area. The first responders were able to assess the situation but then relayed orders to evacuate an arbitrary 1 mile radius around the site. Further analysis of the incident revealed that at least 1.9 miles should have been evacuated. The *Journal of Emergency Management* asserts, that additional people could have been exposed to the chlorine for no reason while others self-evacuated without being contaminated.²³ This increased the inefficiency of a rapid response that already involved multi-jurisdictional and communications problems. Also, the initial requirement was for all residents to shelter in place. This is an incorrect emergency recommendation for a chemical spill which creates a low-oxygen situation.

Again, the cost of recovery from a relatively small scale incident was very large. Ten people were killed, 200 experienced inhalation and absorption injuries, and 5,400 were evacuated. Cleanup of this incident took thirteen days, but it took 23 days before train services resumed.²⁴ Specifically, the *Department of Transportation, Federal Highway Administration*²⁵ and the *Journal of Emergency Management*²⁶ recommended significant areas for improvement which followed the patterns of the previous two case studies:

Command and Control

- Develop emergency messages to avoid miscommunication
- Establish an incident command center without bickering
- Relay relevant messages on reliable communications systems

²³ Jerry T. Mitchell, Susan L. Cutter, and Andrew S. Edmonds, "Improving Shadow Evacuation Management: Case Study of the Graniteville, South Carolina Chlorine Spill," *Journal of Emergency Management* 5, no. 1 (January/February 2007): 6.

²⁴ *Ibid*, 5.

²⁵ *Ibid*, 6.

²⁶ U.S. Department of Transportation, Federal Highway Administration, *Case Studies Assessment of State of the Practice and State of the Art in Evacuation Transportation Management*, (Washington DC: Federal Highway Administration, 6 February 2006), 33.

Logistics

- Plan to control shadow (unnecessary) evacuees, and increased logistics needs
- Provide for transportation of residents unable to evacuate

Training

- Locals were not utilized to help understand the area's geography
- Arbitrary evacuation zones not based on sound EMS principles
- Train more often and train jointly
- Responders were generally unfamiliar with the *NRP*

Problem Analysis and Bounding

The case studies provide a point of departure for the analysis of a coordinated terrorist attack on the U.S. homeland. The cases were small in scale. They all involved the most likely CBRNE materials available for terrorists to use. Conclusions that can be drawn from the case studies include: (1) a consistent of command and control discipline, training, and understanding; (2) a lack of understanding of the contaminants or hazardous materials involved; (3) logistical problems with evacuations, transportation, and medical management; and (4) an inability to integrate response and recovery operations with other providers. Even though these events were small in scale, the effects were long-lasting and costly. If terrorist use of WMD occurred on the scale of the 11 September 2001 attacks, the response would have to be a federal action. Under today's rubric, DHS would be the lead agency for coordination of the federal effort. This is problematic as previous DHS efforts have failed to unite the federal response.

The *NRP* failed to meet the objectives of the federal government and was recently renamed the *National Response Framework*.²⁷ Several reasons are cited for the changed name, including administrative expediency, a desire to reduce bureaucracy, and - perhaps the most honest – a need to convey that the document was never really a plan but an agreement. This is the crux of the problem in assigning DHS as the lead agency for federal coordination. The department lacks the experience, assets, and personnel able to manage large scale events that a CBRNE attack would involve. Additionally, the *NRP* and the *National Response framework* fail to integrate DHS' interagency partners. Figure 5 and Figure 6 show the complicated nature of the DHS' proposed federal response. These DHS plans, or frameworks, do not solve the issues of command and control, integration, training, logistics, and understanding that were highlighted from the three case studies. These issues are sure to be magnified in the event of a large-scale attack on the homeland, which demands unity of effort through a unified command. A close review of the two figures and the *National Response Framework* shows there is little or no coordination between the rest of the federal government and the DOD.

In fact the DOD is specifically provided a separate chain of command and diminished command and control functions under the *NRP*. There are two major reasons that DOD is left off the planning. One argument holds that DOD and the whole of the military is legally constrained from full intervention in events in the homeland. These critics point to the *Posse Comitatus Act* (PCA) as a reason to stay out of the homeland. However, as John Brinkerhoff²⁸

²⁷ U.S. Department of Homeland Security, *National Response Framework*, (Washington DC: Office of the Secretary of Homeland Security, January 2008), 2.

²⁸ John R. Brinkerhoff, "The Posse Comitatus Act and Homeland Security," *Journal of Homeland Security*, Department of Homeland Security, October 2000, <http://www.homelandsecurity.org/journal/Articles/brinkerhoffpossecomitatus.htm> (accessed 12 October 2008).

and Major Craig Trebilcock²⁹ pointed out, although in two very different ways, the PCA should not be used as a barrier keeping DOD from offering assistance to local and state authorities.

Rather, the two argue that the underlying reason for the PCA was, and still is, designed to keep local and state authorities from impressing military personnel into service and removing them from the military chain of command. This is an 1870s approach to federal support and it has never been updated.

Others detractors point to the sovereignty of the state and the fact that Title 32 forces, national guardsmen and reservists, are designed to take this mission before Title 10, active duty forces, assume CM roles. As far as the Title 32 versus Title 10 issue is concerned, General V. “Gene” Renuart, Commander, U.S. NORTHCOM, has noted the previous reluctance to penetrate this artificial barrier and has been a supporter of breaking this barrier. Last year, following the successful deployment of U.S. Navy salvage divers in support of local and federal recovery efforts in Minneapolis, MN, General Renuart made the following comment:

Those divers worked around the clock for days, and were able to reunite eight families with the remains of their loved ones. Nobody made a big deal about Title 10 or Title 32. Nobody worried about who was in charge, because the sheriff was in charge. It was the sheriff, as the first responder, that was in charge. And we were able to effect a positive result because of that effort. The smartest thing we can do is to try to look for the resources that can be of assistance to you, and put them in a position where they can be used.³⁰

Additionally, in each of the case studies a coordinated federal response was a shortfall. The GAO analysis showed that DHS is not getting the job done. The fact is that DOD, through NORTHCOM, has a better comparative advantage than any other federal agency to lead certain aspects of this mission.

²⁹ MAJ Craig T. Trebilcock, “The Myth of Posse Comitatus,” *Journal of Homeland Security*, Department of Homeland Security. October 2000, <http://www.homelandsecurity.org/journal/articles/Trebilcock.htm> (accessed 12 October 2008).

³⁰ Gen Victor E. Renuart, commander, U.S. Northern Command, (address. National Emergency Management Association 2008 Mid-Year Conference, Washington, DC, 11 March 2008).

General Renuart and his predecessor Admiral Timothy Keating, both set out to make NORTHCOM the bridge between the 60 federal agencies involved in domestic CM and the active and reserve portions of the military. The process they used to construct their plan and design a workable solution resembles the design process of the first and successive artificial hearts. Before advanced medical techniques were designed to prevent cardiac patients from succumbing to total heart failure, scientists and doctors dreamed of building a device that would bridge the span of time between severe heart disease and transplantation. In 1982, Dr. Robert Jarvik's total artificial heart was implanted into a human being for the first time. Dr. Barney Clark, a dentist from Seattle survived for 112 days with a permanent heart transplant. This device gave hope for the treatment of future heart failure patients. However, the equipment was bulky, limited mobility, and created a great deal of noise. Also, the total artificial heart essentially replaced the entire prime mover in the patient's circulatory system. It was a very intrusive procedure. All of these factors made the total artificial heart prohibitive as a long-term solution.

In 2002, Dr. Jarvik completed his re-engineered solution for the problem of heart failure. He noted that not all heart failures involved the total heart and therefore did not require total heart replacement. In fact, the right ventricle seemed to fair better than the left in most heart failure patients. His radical new design for bridging the gap between failure and transplantation was a left ventricle assist device (LVAD). This device was implanted into the heart itself and served as a "booster" pump with only one moving part. The advantages of the smaller, C-cell battery sized, device was obvious. It provided a "heartbeat", improved the circulation through the failing part of the heart, worked to support the rest of the functioning components, and reduced the amount of support equipment. This radical new approach proved successful as a

permanent heart procedure in Europe and extended the bridge between procedures for potential heart transplant recipients in the United States. The key concept one should take from this discourse is that the complex problem simply required a new approach to the solution. As Colonel Hartig argued, the example of a cardiovascular surgeon faces a closed-system that represents a complex yet well-structured, or tame, problem.³¹ The surgeon who must take into account all of the issues with compatibility, disease, organ rejection, and patient recovery mentality faces a closed-system with a finite number of solutions. This does not apply to the domestic CM realm. It is still a wicked problem.

However, NORTHCOM's plan to integrate Title 32 and Title 10 forces across the mission is similar to using the LVAD to assist a damaged heart regain its beat. The Defense Coordinating Officer (DCO), this officer's small support staff, the Defense Coordinating Element (DCE), and the Emergency Preparedness Liaison Officers (EPLO) represent the LVAD. The small elements are able to engage the local and state officials in their assigned areas, which correspond to Federal Emergency Management Agency (FEMA) regions.³² This reduces the state and local apprehension that the active duty military might be taking over. Additionally, Secretary of Defense Robert Gates' notion to assign the former Chief of the National Guard Bureau, the senior ranking officer in the National Guard, as Deputy Commander of NORTHCOM, will help resolve the all too common command and control issues between Title 32 and Title 10 forces.³³ This is a good first step.

The next move is already under way. The negotiation, development, and fielding of the first CBRNE CM Response Force (CCMRF) complements the already established WMD Civil

³¹ Hartig, William J. *Problem Solving and the Military Professional*. (Newport, RI. 2007).

³² Gen Victor E. Renuart, commander, U.S. Northern Command, (address. National Emergency Management Association 2008 Mid-Year Conference, Washington, DC, 11 March 2008).

³³ Robert M. Gates, Secretary of Defense. (address, National Guard Association 130th General Conference, Baltimore, MD, 22 September 2008)

Support Teams (CST), CBRNE Enhanced Response Forces Provisional (CERF-P) and the U.S. Marine Corps' expeditionary Chemical Biological Incident response Force (CBIRF).³⁴ The tiered force structure enables local level involvement and rapid expansion with assigned and trained forces. In short NORTHCOM has a comparative advantage that enables it to command and control vast forces over the preponderance of the homeland, solve shortcomings that the rest of the federal government cannot overcome, and contribute to the number one priority in the *National Security Strategy*, homeland defense. NORTHCOM could coordinate all command and control for federal level responses better than DHS, that is the DOD's comparative advantage. DHS still has a role and should serve as the LVAD-like bridge between the disparate local and state agencies that require support. A blending of these two capabilities may serve the country well.

Conclusions

The current hodgepodge of government agencies which are loosely aligned to support the domestic CM effort is a detractor from real preparation and planning. The case studies showed a need for several federal entities when dealing with CM. First, there must be a strong leadership and a defined command and control architecture. Second, participants in CM must be familiar with each other before actual crises occur. Third, logistics issues must be solved early on to prevent death, alleviate human suffering, and minimize property damage. The quickest response was always deemed better than a delayed response. Finally, the case studies demonstrated a need for a distributed network of professionals, special instruments, and protective equipment. These deficiencies exist in today's CM response forces due to a lack of a unifying plan.

There are attitudinal, practical, and perceived legal barriers to allowing U.S. NORTHCOM from assuming a greater role in the CM arena. The first is a shortsighted strategic

³⁴ Gen Renuart, (address. National Emergency Management Association 2008 Mid-Year Conference,).

view of DOD's role. Assigning CM a marginalized role in the *National Military Strategy to Combat WMD*, reduces the urgency to provide ready and trained forces for the government's top goal. Second, there are significant barriers to fielding and controlling a response force with responsibilities over the entire homeland. However, NORTHCOM's construct that enables small DCO-led staffs to engage local and state officials early, and then a tiered response, with localized forces, helps reduce the significant weight of time, space, and force issues. Finally, the perceived legal barriers that the *Posse Comitatus Act* presents must be fully understood and explained to the national decision makers. It is a law that needs a revision.

Recommendations

This paper presents the following recommendations for NORTHCOM:

- Engage the Joint Staff in the revision of the national strategic guidance documents to properly emphasize domestic CM
- Engage DHS regarding the use of NORTHCOM assigned assets for command and control of all federal level CM exercises and operations
- Engage Congress, the Joint Staff and the Office of the Secretary of Defense to revise the *Posse Comitatus Act*
- Assign a three-star National Guardsman or Reservist as Deputy Commander
- Expand the use of DCO, DCE, and EPLO to as many states as possible

Bibliography

- Aylward, BG Peter M., deputy director, Antiterrorism and Homeland Defense (J-34), "Backup Material for Operations Deputy Tank." The Joint Staff. Powerpoint, 07 January 2008, Washington DC: The Joint Staff.
- Brinkerhoff, John R. "The Posse Comitatus Act and Homeland Security." *Journal of Homeland Security*, Department of Homeland Security, February 2002.
<http://www.homelandsecurity.org/journal/Articles/brinkerhoffpossecomitatus.htm> (accessed 12 October 2008).
- Bush, George W. President of the United States. Address. Airline Employees, O'Hare International Airport, Chicago, IL, 27 September 2001,
<http://www.whitehouse.gov/news/releases/2001/09/20010927-1.html> (accessed 21 October 2008).
- "Coast Guard History Corner." *Coast Guard Reservist*, 18, no.8 (June 1971): 3
- Gates, Robert M. Secretary of Defense. Address. National Guard Association 130th General Conference, Baltimore, MD, 22 September 2008,
<http://www.defenselink.mil/speeches/speech.aspx?speechid=1276> (accessed 12 October 2008).
- Gates, Robert M. Secretary of Defense. Address. Center for Strategic and International Studies, Washington, DC, 26 January 2008, <http://www.defenselink.mil/speeches/speech.aspx?speechid=1211> (accessed 12 October 2008).
- Gates, Robert M. Secretary of Defense. Address. Evening Lecture at the U.S. Military Academy, West Point, NY, 21 April 2008, <http://www.defenselink.mil/speeches/speech.aspx?speechid=1233> (accessed 12 October 2008).
- Gates, Robert M. Secretary of Defense. Address. Remarks to Air War College, Maxwell, AL, 21 April 2008, <http://www.defenselink.mil/speeches/speech.aspx?speechid=1231> (accessed 12 October 2008).
- Gates, Robert M. Secretary of Defense. Address. Special Operations Forces International Conference, Tampa, FL, 21 May 2008,
<http://www.defenselink.mil/speeches/speech.aspx?speechid=1245> (accessed 12 October 2008).
- Hartig, William J. *Problem Solving and the Military Professional*. Newport, RI. 2007.
- Havel, Gregory. "Texas City Disaster". *Fire Engineering*, 6 October 2008,
http://www.fireengineering.com/display_article/341684/25/none/none/CNSTC/The-Texas-City-Disaster (accessed 12 October 2008).

- International Atomic Energy Agency. *The Radiological Incident in Goiania*. Vienna: International Atomic Energy Agency, 1988.
- Jarvik Heart, Inc. "The Jarvik 2000 Overview." Jarvik Heart Inc, 2008. <http://www.jarvikheart.com/basic.asp?id=19> (accessed 12 October 2008).
- Jones, Jeffrey M. "Confidence in Congress: Lowest Ever for Any U.S. Institution." 20 June 2008. <http://www.gallup.com/poll/108142/Confidence-Congress-Lowest-Ever-Any-US-Institution.aspx> (accessed 12 October 2008).
- Kitson, Jill. "When Languages Borrow Words From Other Languages." *Lingua Franca Radio National*. 21 December 2002. <http://www.abc.net.au/rn/arts/ling/stories/s750145.htm> (accessed 12 October 2008)
- Lindsley, Chris. "Dr. Jarvik on the Jarvik 2000: A Q&A with the Famous Inventor and Cardiac Pioneer." University of Maryland Medical Center, Maryland Heart Center, 6 September 2002. <http://www.umm.edu/heart/jarvikQA.htm> (accessed 12 October 2008).
- Lugar, Richard G. *The Lugar Survey on Proliferation Threats and Responses*. Washington, DC: U.S. Senate, June 2005.
- Mitchell, Jerry T., Susan L. Cutter, and Andrew S. Edmonds. "Improving Shadow Evacuation Management: Case Study of the Graniteville, South Carolina Chlorine Spill." *Journal of Emergency Management* 5, no. 1 (January/February 2007): 28-34.
- Moncla, Susie. "The Texas City Disaster – April 16 & 17, 1947." Texas City Library, 1 April 2008. <http://www.texascity-library.org/History/TCDisaster.pdf> (accessed 12 October 2008).
- Renuart, Gen Victor E. commander, U.S. Northern Command. Address. National Emergency Management Association 2008 Mid-Year Conference, Washington, DC, 11 March 2008, <http://www.northcom.mil/News/Transcripts/031108.html> (accessed 12 October 2008).
- Simon, Herbert A. "Problem forming, problem finding, and problem solving in design." *Design and systems: General applications of methodology*, New Brunswick, NJ: Transaction Publishers, 1995, vol. 3, pp. 245-257.
- Transportation Research Record. "Train Wreck and Chlorine Spill in Graniteville, South Carolina: Transportation Effects and Lessons in Small-Town Capacity for No-Notice Evacuation." *Journal of the Transportation Research Board*. Volume 2009 / 2007 (December 2007): pp. 130-135.
- Trebilcock, MAJ Craig T. "The Myth of Posse Comitatus." *Journal of Homeland Security*, Department of Homeland Security, October 2000. <http://www.homelandsecurity.org/journal/articles/Trebilcock.htm> (accessed 12 October 2008).

- U.S. Government Accountability Office. *Hurricane Katrina: Better Plans and Exercises Needed to Guide the Military's Response to Catastrophic Natural Disasters*. Washington D.C: GAO, May 2006.
- U.S. Department of Defense. *National Defense Strategy*. Washington DC: Office of the Secretary of Defense, June 2008.
- U.S. Department of Homeland Security. *National Response Framework*. Washington DC: Office of the Secretary of Homeland Security, January 2008.
- U.S. Department of Transportation, Federal Highway Administration. *Case Studies Assessment of State of the Practice and State of the Art in Evacuation Transportation Management*. Washington DC: Federal Highway Administration, 6 February 2006, pp.31-44.
- U.S. Office of the Chairman of the Joint Chiefs of Staff. *Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives Consequence Management*. Joint Publication 3-41. Washington, DC: CJCS, 2 October 2006.
- U.S. Office of the Chairman of the Joint Chiefs of Staff. *Joint Operations*. Joint Publication (JP) 3-0 (CH 1). Washington, DC: CJCS, 17 September 2006, incorporating change 1, 13 February 2008.
- U.S. Office of the Chairman of the Joint Chiefs of Staff. *National Military Strategy to Combat Weapons of Mass Destruction*. Washington, DC: CJCS, 13 February 2006.
- U.S. Office of the Chairman of the Joint Chiefs of Staff. *The National Military Strategy of the United States of America: A Strategy for Today; A Vision for Tomorrow*. Washington, DC: CJCS, 2004.
- U.S. President. *The National Strategy to Combat Weapons of Mass Destruction*. Washington DC: White House, 2002.
- U.S. President. *The National Security Strategy of the United States of America*. Washington DC: White House, 2006.
- U.S. Northern Command. "About U.S. Northern Command." United States Northern Command. <http://www.northcom.mil/About/index.html> (accessed 12 October 2008).
- Vego, Milan N. *Joint Operational Warfare: Theory and Practice*. Newport, RI: United States Naval War College, 2007.
- Zimmerman, Peter D. with Cheryl Loeb. "Dirty Bombs: The Threat Revisited." *Defense Horizons*. January 2004, no. 38: pp. 1-11.

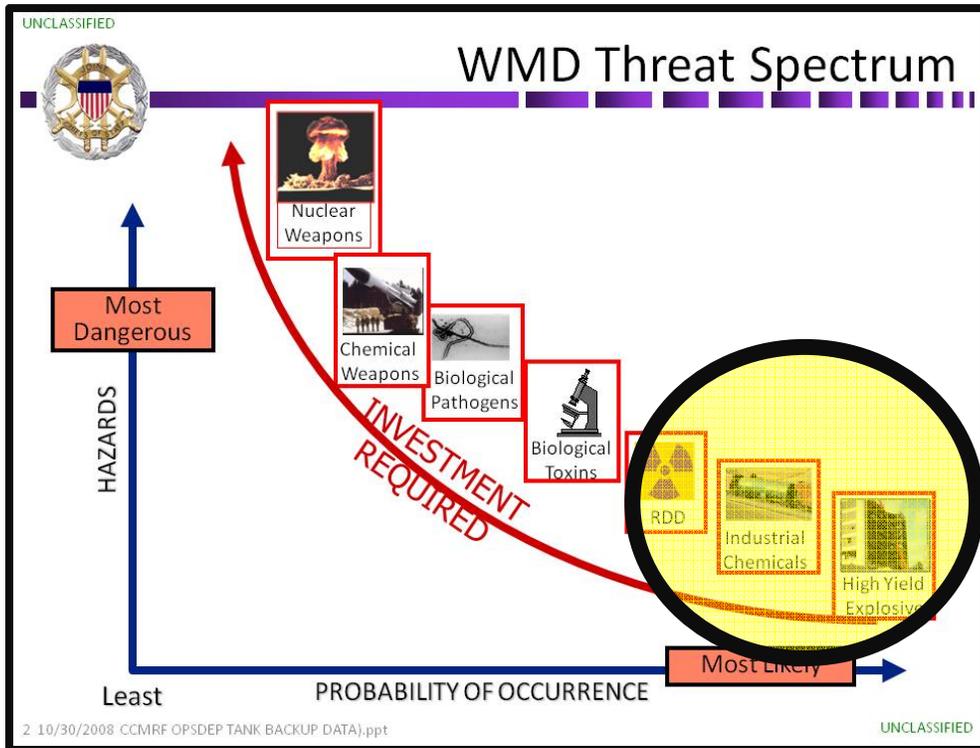


Figure 2. WMD Threat Spectrum (This figure taken from BG Peter M. Aylward, deputy director, Antiterrorism and Homeland Defense (J-34), "Backup Material for Operations Deputy Tank," The Joint Staff, Powerpoint, 07 January 2008, slide 3)

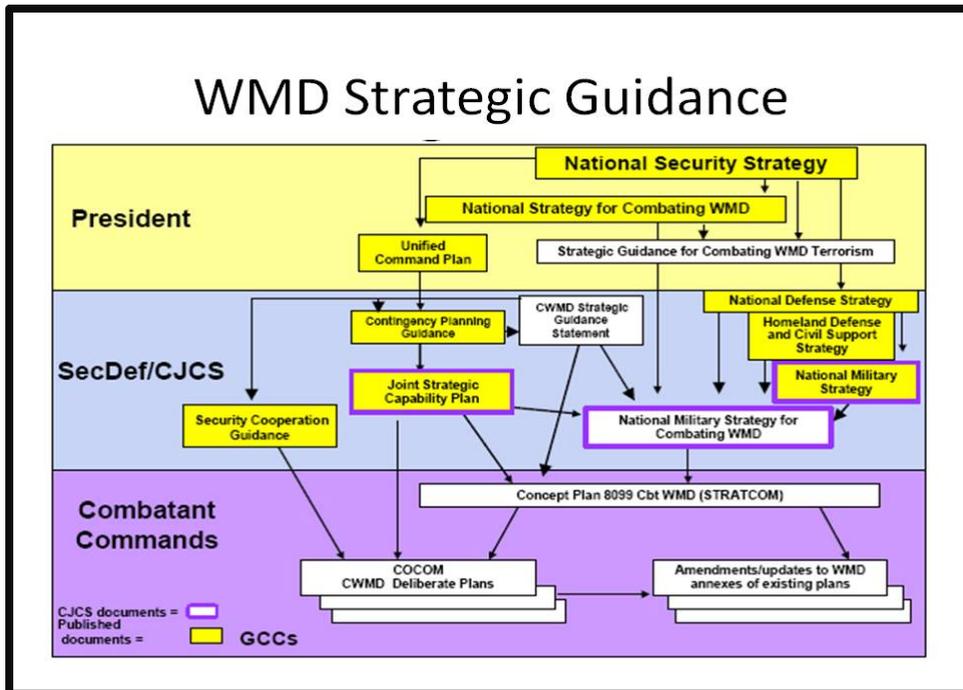


Figure 1. WMD Strategic Guidance (This figure taken from Chairman, U.S. Joint Chiefs of Staff, National Military Strategy to Combat Weapons of Mass Destruction, (Washington, DC: CJCS, 13 February 2006), 12)

8 Mission Areas – NMS CbtWMD



Figure 3. 8 Mission Areas - NMS CbtWMD (This figure taken from Chairman, U.S. Joint Chiefs of Staff, *National Military Strategy to Combat Weapons of Mass Destruction*, (Washington, DC: CJCS, 13 February 2006), 19)

Strategic Military Framework

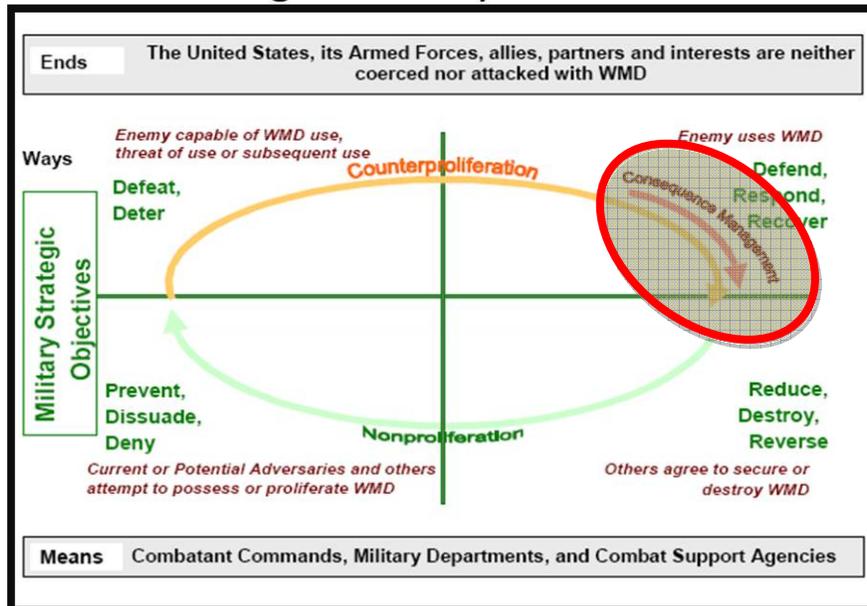


Figure 4. Strategic Military Framework (This figure taken from Chairman, U.S. Joint Chiefs of Staff, *National Military Strategy to Combat Weapons of Mass Destruction*, (Washington, DC: CJCS, 13 February 2006), 16)

Joint Field Office Structure

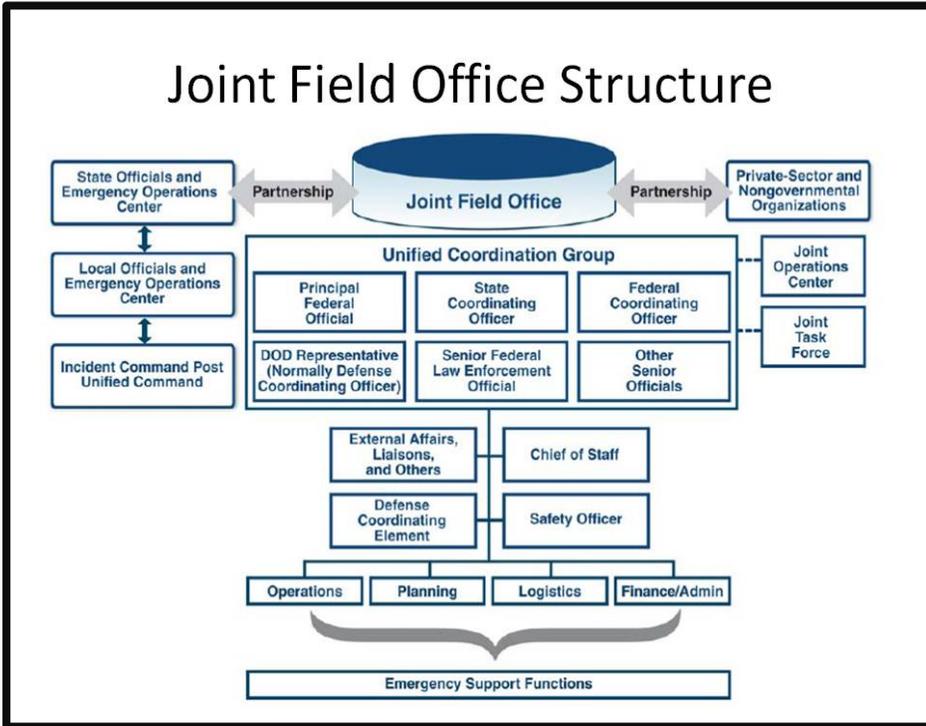


Figure 5. Joint Field Office Structure (This figure taken from U.S. Department of Homeland Security, National Response Framework, (Washington DC: Office of the Secretary of Homeland Security, January 2008), 63)

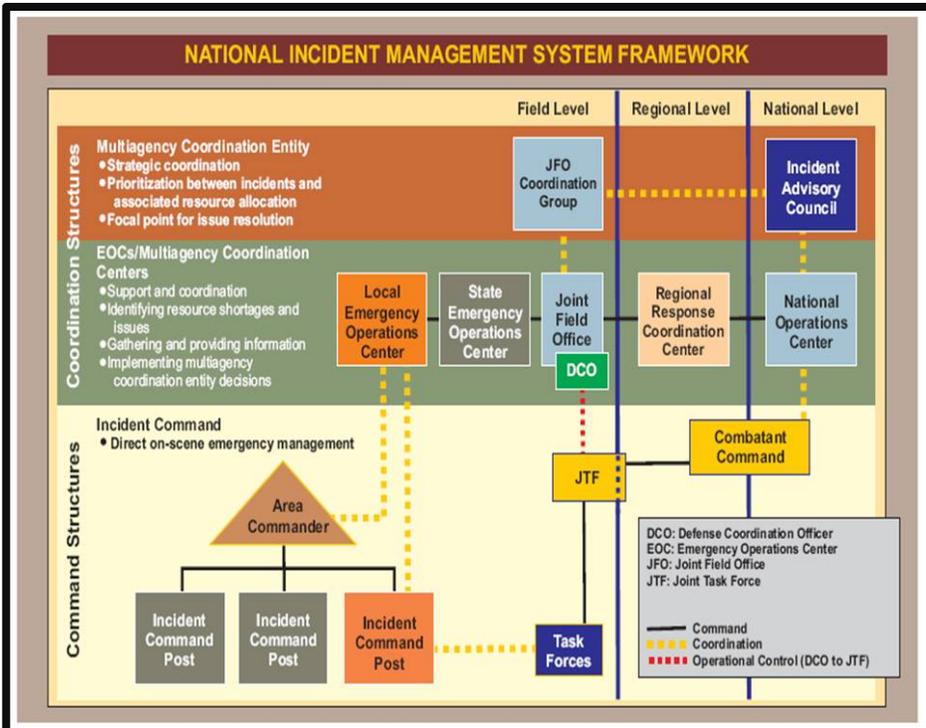


Figure 6. National Incident Management System Framework (This figure taken from CJCS, Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives Consequence Management, Joint Publication 3-41, (Washington, DC: CJCS): II-15)