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HURRICANE



LESSONS LEARNED

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Message From the Director

BG James O. Barclay, III, USA
Director, JCOA

I am excited to be on board as the new Director, Joint Center for Operational Analysis (JCOA) and I look forward to getting involved in the myriad of tasks being performed by this organization. Having come to JCOA from the 1st Infantry Division in Europe, I am very familiar with the excellent reputation JCOA has garnered among the war fighters, and how well they support the needs of the folks in the field – regardless of Service affiliation. JCOA currently has teams deployed to several critical regions of the world to continue gathering the lessons learned and analyzing that data to improve the way we, as a military, do our business.

It is indeed a pleasure for me to be part of this organization. I also want to wish BG Tony Cucolo the very best in his new assignment as the Director of Public Affairs for the US Army. His leadership and direction of JCOA during the past two years has set the mark for future generations.

This issue of the JCOA Bulletin focuses on Hurricane Katrina and the lessons learned in dealing with this monumental disaster. We begin this issue with four articles written by JCOA analysts, based upon their research and analysis of the events surrounding Katrina. The last two articles were provided from other sources.

The first article, authored by Mr. Jim Henry, looks at the evacuation operations and Department of Defense (DOD) support to those operations. Mr. Henry discusses the relationship between DOD support and the National Response Plan (NRP).

Dr. Ted Cavin, PhD, assigned to JCOA from the Center for Naval Analyses, investigates the triggers that activate the DOD support to a disaster response. He makes recommendations on improving the sequence of events in the NRP used to trigger federal response to a catastrophic event such as Hurricane Katrina.



In the third article, Lt Col Greg Gecowets, addresses the areas of coordination, command, control, and communications and examines the problems associated with responding to a disaster in a multi-state, multi-command structure. He makes recommendations for a review of current policy for National Guard (NG), DOD, and state response criteria.

Resource and Structure of States' National Guard, by Mr. Emery Midyette, Jr., military analyst, is the final article from JCOA. This paper dissects and discusses the issues associated with the largest deployment of NG forces in the history of the United States in response to Katrina. Mr. Midyette closely examines the multi-state command structure; request for resources process; and federal versus non-federal status of forces.

The next article, *Learning from Disaster; The Role of Federalism and the Importance of Grassroots Response*, written by Dr. James Jay Carafano, PhD, of the Heritage Foundation, and Dr. Richard Weitz, PhD, of the Hudson Institute, recommends a national versus a federal response to major disasters, relying more on local, state, and non-governmental agencies for disaster relief.

This Bulletin is closed out with an article by Lt Col John Fawcett, Jr., USAF Ret., written while working as a contractor for the US Northern Command J5. His paper, *Proposals to Improve Federal Response to Natural and Man Made Disasters*, provides recommendations to improve the response interface between federal, state, local, and tribal first responder organizations.

JAMES O. BARCLAY, III
Brigadier General, US Army
Director, Joint Center for Operational Analysis



JCOA UPDATE

Mr. Bruce Beville, GS-15
Deputy Director JCOA

The spring period for the Joint Center for Operational Analysis (JCOA) has been characterized as fast paced, dynamic, and rapidly changing...a mirror image of the world we live in. BG Barclay assumed duties as our new Director on 13 June 2006. He brings with him a vast amount of recent operational experience that has been immeasurable in terms of directing our focus areas in support of the warfighter requirements. He has hit the ground running getting immersed in the many projects and studies that we have on-going, and he is gradually adding his own insights and direction. One of the new shifts in focus will be the increased integration with other organizations within the Joint Forces Command (JFCOM). We already integrate our findings into some J7 training, primarily Mission Rehearsal Exercises, and J9 experiments, primarily Joint Urban Operations, thus adding relevant and current insights from the Iraqi theater to make the events more realistic. This increased focus for JCOA will get us involved in more exercises, experiments, and other venues in which our findings will be of value. We have just begun to move in that direction.

Our theater presence continues in Iraq and Afghanistan. In Iraq, collection efforts primarily focus on command innovation, the use of task forces as an organizational approach to counterinsurgency warfare, and improvised explosive devices (IED) in an operational context—a look at the problem from a systems perspective. In Afghanistan, we continue to collect on the International Security Assistance Force (ISAF) expansion. This study examines the operational-level challenges associated with the transition from a United States (US)-led coalition to a North Atlantic Treaty Organization (NATO)-led coalition.

Additional study areas include Hurricane Katrina follow-on work, a humanitarian aid-disaster relief (HADR) study, and the newest effort—a pandemic influenza (PI) planning study. Looking at Katrina, for the first time we examined the effectiveness of how well solutions to what we had identified as problem areas were exercised. We integrated with US Northern Command's ARDENT CENTURY exercise and witnessed first hand the impact of our work.

The HADR study is a roll-up of collection efforts and follow-on analysis by three deployment teams—Pakistan, Guatemala, and Indonesia (Tsunami). Findings and issues are cross-walked from each event as analysis shows recurring problem areas or areas that have gone well. The JCOA PI study will examine the nation's preparations for a potential influenza pandemic.

Our Knowledge and Information Fusion Exchange (KnIFE) Division reached initial operational capability in June, establishing a 24-hours per day/7-days per week requests for information (RFI) center response cell that reaches out across the Department of Defense to handle all IED related inquiries. As the capability continues to mature and improve, the long term vision involves the transformation into an analytical capability that can add an element of rigor to the data provided. Through the SECRET Internet Protocol Rounting Network web site (<https://hqerm01.ad.jfcom.smil.mil/knife/>) visitors can search a variety of IED databases as well as submit RFIs for processing. RFIs can also be submitted over the phone. The future of KnIFE is growth—applying the same framework to other areas of interest; for example, additional types of asymmetric threats.

JCOA's motto is “always support the warfighter.” We must continue to rapidly integrate and distribute the information and data we collect to those who can impact change. We are constantly looking at ways to improve that process, as we know more than anyone else—“lessons collected” is entirely different from “lessons learned.” Our direct feed into joint training, concept development, and the requirements process are avenues for learning; not to mention the high-level audience we brief on a continuing basis.

“In almost everything, experience is more valuable than precept.”

Quintilian. *DeInstitutione Oratoria*

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Incomplete Evacuation

Mr. James Henry
Senior Operations Research Analyst

Introduction: This paper was written to support the Joint Center for Operational Analysis (JCOA) executive command report on military support to Hurricane Katrina relief operations. It focuses on the intergovernmental relationships described in the National Response Plan (NRP), decision factors for evacuation, and the means by which Department of Defense (DOD) support may be provided to civil authorities in cases of emergency. The experience gained in Hurricane Katrina suggests that some modifications in the basic “pull-driven” NRP concept may be necessary to deal more effectively with events in which local first responders are overwhelmed and unable to conduct initial damage assessments.

Incomplete Evacuation

Issue: Incomplete evacuation led to significant first response challenges

Why it happened:

- Louisiana and New Orleans had evacuation plans that addressed this type of disaster
- Evacuation of 80 percent of the populace met planning assumptions, but provisions to handle the non-evacuated population were inadequate
- Post-levee break evacuation and extraction of the remaining 20 percent were hindered by:
 - Slow decision making
 - Lack of situational awareness
 - Lack of transportation
 - Sensitivity to forced evacuations
- Operational challenges included medical care, search and rescue, mass care

Issue: Incomplete evacuation led to significant first response challenges.

Context: All levels of government had plans and policies in place for evacuation operations before Hurricane Katrina.¹ At the federal level, the 2004 National Response Plan defined evacuation as **organized, phased, and supervised withdrawal, dispersal, or removal of civilians from dangerous**

or potentially dangerous areas, and their reception and care in safe areas. It stated that a local jurisdiction’s chief executive (mayor or city or county manager), responsible for public safety and welfare, had extraordinary powers to suspend local laws and ordinances, which included the authority to direct evacuations.

The NRP grouped the capabilities of federal departments and agencies and the American Red Cross into Emergency Support Functions (ESF) intended to provide planning, support, resources, program implementation, and emergency services to state, local, and tribal governments. Aspects of evacuation fell under a number of ESFs, including: ESF number 1—Transportation; ESF number 6—Mass Care, Housing, and Human Services; ESF number 8—Public Health and Medical Services; and ESF number 9—Urban Search and Rescue. Execution of federal support under these

ESFs normally required a request from the affected state. As the lead agency for ESF number 1, the Department of Transportation (DOT) was primarily responsible for the prioritization and/or allocation of civil transportation capacity; emergency highway funding for federally owned highways and highways on the Federal Aid System; hazardous material containment response and movement; damage assessment, to include safety; and security related actions concerning movement restrictions, closures, quarantines, and evacuations. The DOD primarily performed a medical evacuation role in support of ESF number 8. DOD support to ESF number 9, which included transportation, food, and shelter for Urban Search and Rescue task

forces and joint management teams, when approved by the Secretary of Defense.²

In addition to the responsibilities assigned by the NRP, House Resolution 3 of the 109th Congress tasked the Secretaries of Transportation and Homeland Security, in coordination with the Gulf Coast states and contiguous states, to review and assess federal and state evacuation plans for catastrophic hurricanes impacting

the Gulf Coast region. The findings and recommendations from this review, however, were not due before Congress until 1 October 2006.

At the state level, Louisiana published the Hurricane Evacuation and Sheltering Plan as Supplement 1 to the state Emergency Operations Plan (EOP) in 2000. Supplement 1A covered Southeast Louisiana; Supplement 1B, Southwest Louisiana, and Supplement 1C, shelter operations. The strategy behind these state plans was to evacuate the “at risk” population from the path of a storm and relocate them to a place of relative safety outside the area of projected surge flooding and hurricane force winds. To protect life and property, these plans also provided guidelines for the direction, control, and coordination of evacuation. It was assumed that the tidal surge associated with category 3, 4, or 5 hurricanes could cause levee overtopping or failures. The plans also outlined the minimum actions which state, parish, and municipal authorities should take in a hurricane emergency, to move as many people as possible from areas threatened by a hurricane storm surge. The bottom line was that the parishes and municipalities would conduct and control local evacuation in their risk areas.

Louisiana plans defined **three evacuation phases**:

- **Precautionary/voluntary:** Directed at people who were most vulnerable to hurricane flooding and wind. These included offshore workers, persons on coastal islands or in wetlands areas, and persons aboard boats. No special traffic control, transportation, or sheltering measures taken.
- **Recommended evacuation:** Enacted when a storm posed a significant threat to people living in vulnerable areas. Parishes designated staging areas for persons needing transportation, if necessary.
- **Mandatory:** Final, most serious phase of evacuation. Authorities put maximum emphasis on encouraging evacuation and limiting ingress. Designated state evacuation routes potentially augmented by opening all lanes to one-way outbound traffic. State police, with local law enforcement assistance, responsible for traffic control on these routes. As the storm moved closer to the Southeast Region, evacuation routes would be closed and the people remaining directed to last resort refuges.

A Louisiana emergency evacuation map (Figure 1) accessed through the Louisiana State Police Web site outlined a **timeline for three phases of evacuation** that was *different* from those described in the State EOP.

- **Phase I:** Fifty hours before onset of tropical storm winds. Included areas south of the Intracoastal Waterway. These areas were outside any levee protection system and were vulnerable to Category 1 and 2 storms. These areas were depicted in red [dark shading] on the evacuation map. During Phase I there were no route restrictions.
- **Phase II:** Forty hours before onset of tropical storm winds. Included areas south of the Mississippi River which were levee protected but remained vulnerable to Category 2 or higher storms. These areas were depicted in orange [lighter shading] on the evacuation map. During Phase II there were no route restrictions.
- **Phase III:** Thirty hours before onset of tropical storm winds. Included areas on the east bank of the Mississippi River in the New Orleans Metropolitan Area which were within the levee protection system but remained vulnerable to a slow-moving Category 3 or any Category 4 or 5 storm. These areas were depicted in yellow on the evacuation map. During Phase III, certain routes would be directed and the contraflow plan implemented.

Like the Louisiana state plans, the city of New Orleans Comprehensive Emergency Management Plan stated that the conduct of an actual evacuation was the responsibility of the mayor. Although the New Orleans plan did not use the same terminology for phases of evacuation as either of the state plans, it included timelines for ordering evacuation prior to the landfall of gale force winds:

- Precautionary evacuation notice: 72 hours or less;
- Special needs evacuation order: 8-12 hours after precautionary evacuation notice issued; and,
- General evacuation notice: 48 hours or less.

These evacuation notices were based on the concept of clearance—the amount of time required to clear all

LOUISIANA EMERGENCY EVACUATION MAP



Phased Evacuation

During a threat of a hurricane, a phased evacuation will be based on geographic location and time in which tropical storm winds are forecasted to reach the affected areas.

Phase I - 72 Hours before onset of tropical storm winds. Includes areas south of the Intracoastal Waterway. These areas are outside any levee protection system and are vulnerable to Category 1 and 2 storms. These areas are depicted in **RED** on the Evacuation Map. During Phase I there are no route restrictions.

Phase II - 48 Hours before onset of tropical storm winds. Includes areas south of the Mississippi River which are levee protected but remain vulnerable to Category 2 or higher storms. These areas are depicted in **ORANGE** on the Evacuation Map. During Phase II there are no route restrictions.

Phase III - 36 Hours before onset of tropical storm winds. Includes areas on the East Bank of the Mississippi River in the New Orleans Metropolitan Area which are within the levee protection system but remain vulnerable to a slow-moving Category 3 or 4 storm. These areas are depicted in **YELLOW** on the Evacuation Map. During Phase III, certain routes will be directed and the Contraflow Plan implemented.

Phased evacuation procedures are for traffic management purposes only. Consult your local Office of Emergency Preparedness Director for further evacuation information.



Louisiana is blessed with some of the Nation's greatest resources. When a crisis threatens, we must take steps to protect the most precious of those resources -- our people. State and local agencies have worked together on a plan to evacuate Louisiana citizens from harm's way. Regardless of the location or nature of the threat, this evacuation plan is your guide to a safe and efficient evacuation. Please take the time to familiarize yourself with the contents of this guide, and discuss evacuation preparedness with your family. Working together, we can assure the safety of all our citizens during times of crisis. For more information, please visit my web site at: www.gov.la.gov

Sincerely,
Kathleen Babineaux Blanco
Governor

Figure 1—Louisiana Emergency Evacuation Map.

vehicles evacuating in response to a hurricane from area roadways. The clearance period began when the first evacuating vehicle entered the road network and ended when the last evacuating vehicle reached its destination. Clearance included the time required by evacuees to secure their homes and prepare to leave (mobilization time); the time spent by evacuees traveling along the road network (travel time); and the time spent by evacuees waiting along the road network because of traffic congestion (delay time).

What Happened: In anticipation of landfall, the states of Louisiana and Mississippi declared state emergencies on 26 August 2005. These declarations were followed by Presidential emergency declarations on 28 August 2005 and major disaster declarations on 29 August 2005. In letters to the President, the governor of Louisiana did not ask for direct federal assistance beyond “debris removal, which poses an immediate threat to lives, public health, and safety.”

Early on 27 August 2005, New Orleans Mayor C. Ray Nagin announced, “We may call for a voluntary evacuation later this afternoon or tomorrow morning to coincide with the instatement of contraflow. This will give people more options to leave the area. However, citizens need to begin preparing now so they will be ready to leave when necessary. Do everything to prepare for a regular hurricane, but treat this one differently because it is headed our way. This is not a test.” At 1700 Central Daylight Time (CDT) on 27 August, the mayor issued the voluntary evacuation order.

Following a phone conversation between the President and the Louisiana governor, the mayor ordered a mandatory evacuation at 0930 CDT on 28 August 2005. The city of New Orleans provided busing from various locations in the city to the New Orleans Superdome, which was designated as a “refuge of last resort.”³ Although it was estimated that approximately 112,000 residents lacked the transportation means to leave New Orleans on their own, the declarations for evacuation did not contain specific provisions for low income persons, households without vehicles, or the elderly and infirm. Tourists, prison inmates, and hospitalized patients were specifically exempted from the evacuation orders.

New Orleans residents temporarily relocating to the Superdome were advised to bring three to four days worth of food, sleeping gear, and medical supplies

including oxygen, medicine, and batteries for any necessary devices. Both the Mayor of New Orleans and the Governor of Louisiana warned that conditions at shelters would not be “very comfortable” following the storm. “The shelters,” they noted, “will end up probably without electricity or with minimum electricity from generators in the end, there may be intense flooding that will be not in our control which would be ultimately the most dangerous situation that many of our people could face.”

Prior to the storm, the Louisiana National Guard staged enough water and meals-ready-to-eat (MRE) at the Superdome to supply 15,000 people for three days. The Louisiana Department of Health and Hospitals (DHH) assisted New Orleans city officials in opening a section of the Superdome for as many as 400 special needs evacuees. In addition, DHH coordinated the evacuation of 150 special needs individuals from the Superdome to Baton Rouge.

After hurricane landfall on 29 August, early response efforts focused on searching for and rescuing people stranded by the flood waters. Responders included US Coast Guard (USCG), US Navy, National Guard; local and state police, Fish and Wildlife services; and numerous volunteers. Over the following days, between 60,000 and 100,000 people were rescued from rooftops and flooded buildings. The USCG alone reported rescuing over 19,000 people by 7 September 2005.⁴ Officials also evacuated people from the Superdome and other areas. Actual and rumored breakdowns in security delayed search and rescue and evacuation efforts for up to two days, while emergency responders waited for security assistance and the New Orleans police focused on stopping looters.

On 31 August, Governor Blanco ordered that school buses be made available for the mass transportation of Hurricane Katrina evacuees, accompanying law enforcement personnel, and necessary supplies. Some of these buses were used when the ground evacuation of the Superdome commenced.

At 1700 CDT on 31 August, the military was given coordination authority to evacuate Greater New Orleans, primarily from four ground sites: the Superdome, Morial Convention Center, Interstate 10 Causeway, and Algiers Point (see Figure 2). From 1-3 September 2005, approximately 65,000 people were evacuated from these sites. On 4 September 2005,

another 650 people, who had arrived the previous night, were evacuated from the Superdome.⁵

To carry out these evacuations, the Department of Transportation contracted over 1,100 buses and drivers—equivalent to the largest US commercial bus fleet. In addition, DOT coordinated the largest civilian air evacuation ever conducted in the United States. With the assistance of the Air Transport Association, the Transportation Security Administration, Federal Emergency Management Agency (FEMA), and state and local officials over 25,000 people were evacuated on 132 flights to destinations as far away as Battle Creek, Michigan.

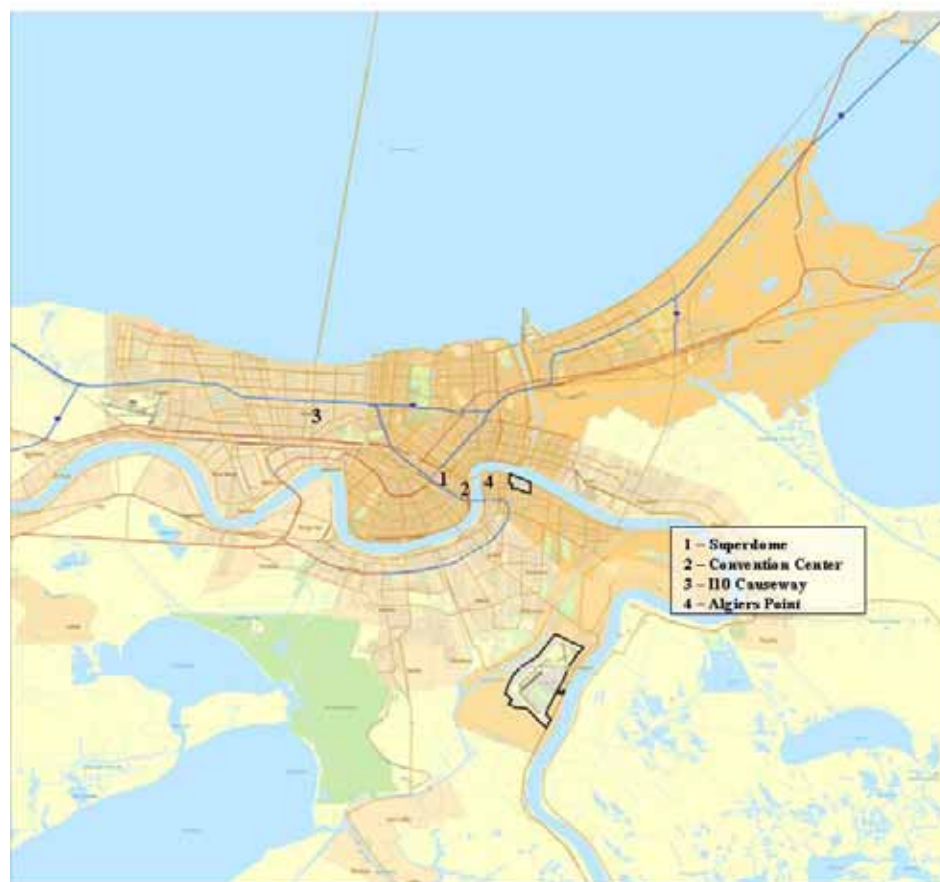


Figure 2—New Orleans evacuation points.

On 6 September, with search and rescue and evacuation operations largely completed, the Mayor of New Orleans instructed all public safety officers “to compel the evacuation of all persons ... regardless of whether such persons are on private property or do not desire to leave.” Joint Task Force (JTF) Katrina quickly quelled concerns over the role of the Department of Defense in such forced evacuations through a fragmentary order (FRAGO) that stated: “No JTF Katrina task force service member will perform or assist with any type of

forced evacuation of any citizen in the AO [area of operations].”

Why it happened:

Louisiana and New Orleans Evacuation Plans

As previously mentioned, Louisiana and New Orleans disaster plans discussed procedures and timelines for evacuation when faced with a significant hurricane; however, state EOP supplements, emergency evacuation map, and the New Orleans emergency management plan used different terminology and timelines for evacuation phases. Furthermore, Louisiana and New Orleans plans relied on the city to order and conduct evacuation operations, with support from the state as needed. Similarly, the NRP assumed that incidents would typically be managed at the lowest possible level and required that states make specific requests for federal disaster support. These assumptions and requirements were problematic in the case of Katrina, given the devastating impact of the hurricane on local and state capabilities.

Evacuation Results

Louisiana and New Orleans met, and may have exceeded, their planning objective of evacuating 80 percent of the population at risk from Hurricane Katrina prior to the storm’s landfall. In her congressional testimony in January 2006, FEMA consultant Madhu Beriwal stated that indications were that 80 to 90 percent of residents in the 13 parishes within the New Orleans region heeded official storm warnings and departed for safer locales. According to Beriwal, “That is the equivalent to ringing the bell in emergency management... It has not occurred before.” The previous record of evacuating people in the face of a storm was 81 percent during Hurricane Hugo in 1989.

One reason for the relatively successful evacuation effort prior to Hurricane Katrina was the traffic control plan conceived by Louisiana's Department of Transportation and Development (DOTD) as a result of lessons learned from previous storms. The intolerable traffic conditions provoked by the threat of Hurricane Georges in 1998 caused the state to introduce contraflow, the practice of doubling traffic capacity by directing vehicles to travel on both sides of the road. After Hurricane Ivan in 2004, DOTD implemented a phased approach to evacuations to help manage the flow of traffic and give citizens living in the most vulnerable areas of the state an opportunity to evacuate early, without encountering delays from other evacuees. Also, in partnership with the American Red Cross and the state police, DOTD conducted an aggressive campaign to inform the public about the plan and to solicit ideas regarding possible changes. The final regional evacuation plan was finalized in April 2005. In its first test four months later, the plan contributed to the safe evacuation of more than 1.2 million people within 36 hours and with no significant delays for drivers.

Despite Louisiana's evacuation achievements, state and local provisions were inadequate for the population that was not expected to evacuate. A review of hurricane evacuation plans and policies conducted by researchers at the Louisiana State University Hurricane Center in 2001 estimated that as many as 25-30 percent of the population of New Orleans did not have access to transportation. A significant share of these residents fell into the special needs category—they were indigent and elderly persons, prisoners, and patients.⁶ The Louisiana Hurricane Evacuation Plan estimated that between 72 and 88 percent of the population in Orleans Parish would evacuate on their own. Thus between 54,236 and 128,569 people would require assistance to evacuate from New Orleans proper. Various sources estimated that 100,000 to 150,000 people were unable, or chose not, to heed Mayor Nagin's mandatory evacuation order prior to Katrina's landfall, close to the estimates discussed above.

Although the New Orleans evacuation order instructed people to bring three to five days worth of food and supplies to shelter locations, many people did not follow these instructions. In addition to pre-staged supplies, FEMA reports indicate that 10 water trailers were at the Superdome on 30 August, and two trailers of MREs were delivered by 31 August; however, these supplies were considered insufficient for the numbers of people at the Superdome in the days after landfall.

The Louisiana Hurricane Evacuation Plan stated that, in a mandatory evacuation, the state would "[d]irect the evacuation and shelter of persons having mobility limitations, including persons in nursing homes, hospitals, group homes, and non-institutionalized persons." But it should be noted that the New Orleans mandatory evacuation order specifically exempted hospitals and did not mention nursing homes. The hospitals alone contained 1,749 high-maintenance patients and another 7,645 staff and guests who required evacuation after the flooding of the city.

Impediments to Evacuation

Post-levee break evacuation and extraction of the 20 percent of the New Orleans population remaining in the city were hindered by slow decision making, lack of situational awareness, lack of transportation, and sensitivity to forced evacuations.

Slow Decision Making

In the case of Hurricane Katrina, New Orleans issued voluntary and mandatory evacuation notices 27 and 10 hours before the onset of gale force winds. According to the city's phased evacuation plan, however, these orders should have been given 72 and 48 hours before gale force winds.⁷ Furthermore, studies conducted by the state of Louisiana and the US Army Corps of Engineers (USACE), beginning in 1994, indicated that it would take a minimum of 60 hours to have a real opportunity to evacuate all the people who lacked their own means of transportation. Generally, health care facilities required at least 72 hours notice of an impending storm to conduct a safe evacuation.

As stated previously, the first official indication that the hurricane would make landfall in the vicinity of New Orleans came late on 26 August. Thus, to meet the timeline in the city's hurricane plan, the mayor would have had to make a voluntary evacuation decision immediately upon receipt of that warning. Politically, this would have been a tough call. Hurricane evacuations can be extremely disruptive; interrupting millions of peoples' lives and shutting down economic activity in a potentially large region. Plus, it is not uncommon for hurricanes to change their track and/or intensity significantly before making landfall.

The fact that Mayor Nagin did not request any pre-storm assistance hindered evacuation and extraction

efforts. Absent such a request, the head of the Louisiana DOTD decided not to provide pre-storm evacuation transportation, even though the governor had given him that responsibility. For its part, FEMA indicated it did not receive a request for assistance from the mayor, through the governor, prior to Katrina's landfall.

Lack of Situational Awareness

The lack of situational awareness complicated post-Katrina evacuation operations. Between 15,000 to 20,000 people, forced out of their homes by the flooding, made their way to the Morial Convention Center, which was not a designated shelter. The press did not report that people were in the center until 31 August, two days after the hurricane's landfall. Furthermore, FEMA, Department of Homeland Security (DHS), and Louisiana National Guard officials said they did not learn of the situation at the convention center until 1 September.

Numerous media reports described incidents of crime and murders at the refuges of last resort, snipers shooting at rescuers, and other significant degradation in civil order. Although re-examination of events has shown that many of these reports were in error or exaggerated, they had an impact on the allocation of resources and actions of responders because government officials lacked a realistic understanding of the situation in New Orleans, as well as the capability to convey an accurate picture of what was going on to the public.

Lack of Transportation

A shortage of buses posed a problem for New Orleans evacuation planners. According to Louisiana State University professor Brian Wolshon, as many as 2,000 buses were needed to evacuate the estimated 100,000 elderly and disabled residents of New Orleans. Other sources indicated there were just 364 Regional Transit Authority (RTA) fixed route buses—and 324 school district buses—in Orleans Parish prior to Hurricane Katrina.

limited transportation resources available to them for evacuation purposes. They declined, as one example, Amtrak's offer to transport several hundred passengers from New Orleans by train on the evening of 27 August. Referring to tourists stranded in town immediately before the storm hit, Mayor Nagin remarked: "The only thing I can say to them is I hope they have a hotel room, and it's at least on the third floor and up. Unfortunately, unless they can rent a car to get out of town, which I doubt they can at this point, they're probably in the position of riding the storm out."

Several explanations have been given as to why municipal buses were not used to move people out of New Orleans as called for in state and local hurricane evacuation plans. First, many bus drivers had evacuated, making them unavailable to transport those still remaining in the city. Second, New Orleans buses belonged to a contractor, thus the city could not order them into operation. Third, FEMA reportedly told Louisiana officials not to use the school buses for evacuation because they did not have air conditioning and could cause health problems. As a result of the storm, the parking lot containing hundreds of city buses was flooded, effectively closing off this transportation option (see Figure 3 below). Following the hurricane, FEMA initially contracted for 455 buses to assist with the evacuation, but the first of these buses did not arrive until 31 August, two days after Katrina's landfall.⁸

Physical barriers delayed post-storm evacuation efforts. With as much as 80 percent of New Orleans under up to 15 feet of water, many roads were impassable, and



Figure 3—New Orleans school buses after Hurricane Katrina.

New Orleans officials did not use

initial search and rescue operations had to be conducted primarily via helicopter and small boat. Other roads, while not impassable, suffered damage and had to be repaired or cleared of debris before they could be used by relief/evacuation vehicles. Louis Armstrong International Airport in New Orleans did not have a runway available for relief operations until 30 August.

Sensitivity to Forced Evacuations

In Louisiana, a “mandatory” evacuation order permitted officials to encourage evacuation, limit ingress into the affected area, and make shelters available for those who could not evacuate. State and local plans, however, did not provide for evacuation enforcement.⁹ When the mayor of New Orleans on 6 September told the police and military to remove all residents from the city, it was unclear how they would accomplish a forced evacuation. Under what legal authorities could they act? What was the role of military forces? What means could be used to enforce such an order? Could those who refused to leave be arrested?

The use of active component military forces (Title 10 United States Code) to perform law enforcement functions was restricted by the Posse Comitatus Act. Although the Insurrection Act permitted the President to use the armed forces to suppress any “insurrection, domestic violence, unlawful combination, or conspiracy,” the situation in New Orleans did not seem to rise to this level of unrest, and it was not invoked. As a result, active-duty military forces were specifically prohibited from taking part in forced evacuations during the Katrina operation. Lieutenant General Joseph Inge, Deputy Commander of US Northern Command stated: “If the authorities in the State of Louisiana chose to use their National Guard in a state status, that would certainly be permissible and their call. When this turns into a law enforcement issue, which we perceive forced evacuation is, regular troops would not be used.” Even before FRAGO 17 prohibited JTF Katrina personnel from performing or assisting with forced evacuations, the task force rules on the use of force contained the following guidance:

- You will not engage in any civilian law enforcement matters, unless specifically authorized by your commander and only when certain exceptions apply.
- You may not apprehend or detain civilians unless you are in immediate danger of death or serious

bodily injury. Any detained civilians must be turned over to civilian law enforcement personnel as soon as possible.

National Guard forces under the command of state authorities could have assisted with forced evacuations if so ordered by the governor; however, a day after the mayor’s order, state officials “stopped short of a commitment to do so.”

News reports indicated that few forced evacuations actually took place. Police, National Guard, and active-duty military forces assisted those who desired to leave, but as the commander of a military police company from Georgia stated, “We’re not doing forced evacuations. We’re helping those who want help.” When the Mayor of New Orleans announced that some residents could begin returning to their homes on 14 September 2005, concern over the inability to carry out forced evacuations became moot.

Operational Challenges

The conditions in New Orleans presented a number of problems to responders attempting to provide assistance to those remaining in the city. Operational challenges included medical care, search and rescue, and mass care.

Medical Care

Hospitals in the New Orleans area were significantly affected by the flooding that followed the city’s levee breaks. According to Joe Cappiello, Vice President of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), “The hospitals seem to have been well prepared for Katrina’s howling winds, but not for the disastrous flooding that followed. That foiled plans to evacuate critically ill patients and knocked out backup generators that would keep air conditioning and life-saving equipment on.” In some cases, emergency generators located in basements were disabled by floodwaters. In other instances generators ran out of fuel or were rendered useless because of damaged hospital electrical systems. Several hospitals also ran out of food, potable water, pharmaceuticals, and other medical supplies. At least two of New Orleans’ hospitals were likely damaged beyond repair.

Due to massive flooding, airlift—vertical evacuation—was the only means of evacuating many hospital

patients and staff (see Figure 4). Some hospitals were unprepared for this contingency. The helipad at Memorial Hospital had not been used in years. Approximately 889 hospital patients were air evacuated by DOD assets,¹⁰ and another 1,749 patients were evacuated by the military via ground and boat.¹¹ According to the Louisiana Department of Health and Hospitals, responders evacuated a total of 12,000 hospital patients, caregivers, and guests from 25 hospitals in the New Orleans area.

Many nursing homes in the affected area faced similar difficulties. Nursing home administrators were purportedly reluctant to evacuate their facilities with only a couple of day's notice of the impending storm. Many remembered the traffic nightmare caused by Hurricane Ivan in 2004, and did not wish to repeat the ordeal of transporting elderly, fragile patients on buses for the 9 to 12 hours it took to reach Baton Rouge. Twenty-one nursing homes were evacuated before Hurricane Katrina struck Louisiana, and 36 nursing homes were evacuated after the storm. (Approximately 5,500 nursing home patients were evacuated pre- and post-storm.) For the first two days after landfall, Louisiana Nursing Home Association (LNHA)

emergency teams were unable to communicate with government officials, which led LNHA staff to launch their own rescue missions. According to LNHA documents, marauding criminals increased the danger of rescue missions, and some attempts to rescue nursing home residents were aborted because of gunfire.

Search and Rescue

As previously discussed, search and rescue was the primary focus of emergency responders in the days following Hurricane Katrina landfall. Urban search and rescue teams were provided by the US military, the USCG, and the Fish and Wildlife Service; in addition, hundreds of volunteers participated in the response effort. While numerous assets were available, coordination of the various organizations and individuals was lacking in the earliest stages. Furthermore, search and rescue operations were hindered by widespread reports of security problems, many of which have since been proven incorrect.

Mass Care

Shelters throughout Louisiana and other states were overwhelmed by the influx of evacuees from the Gulf Coast region. From 4 to 9 September, a quarter of a million Katrina victims poured into shelters in over 25 states. On 8 September, Texas alone was sheltering nearly 140,000 people. By 15 October, it was estimated that 95 percent of Hurricane Katrina evacuees had left shelters. Many of these people moved into hotels at government expense.¹² Long term housing demands strained the resources of FEMA, as well as those of states and communities throughout the country. As of 7 December, FEMA had spent \$325 million on hotel costs alone, while the Red Cross estimated on 13 October that it would spend \$513 million on food and shelter for Hurricanes Katrina and Rita.

What Should Be Done:

The Department of Homeland Security should develop catastrophe provisions of the National Response Plan to strengthen the follow-on response when first responders are overwhelmed. House Resolution 3 (HR3), 109th Congress, required the secretaries of Transportation and Homeland Security to coordinate with the Gulf Coast states on review of federal and state evacuation plans for hurricanes. As an added measure, the Departments of Homeland

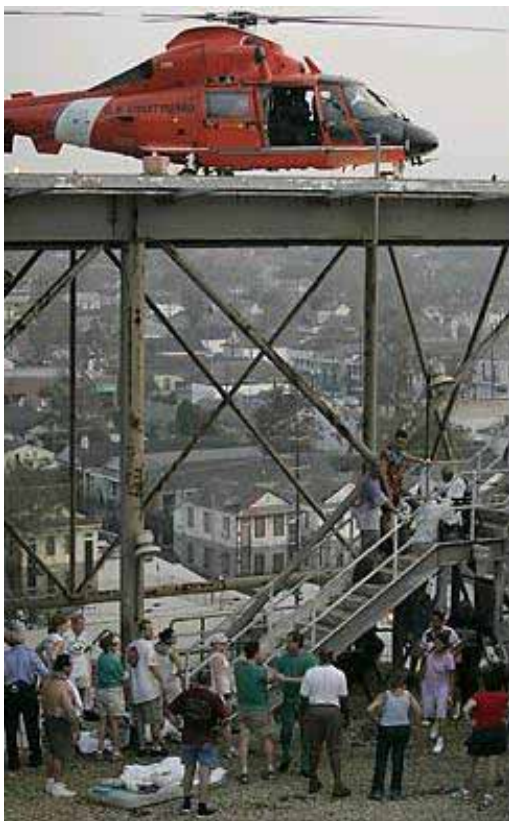


Figure 4—Memorial Hospital rescue.

Incomplete Evacuation

What Should Be Done:

- Department of Homeland Security develop catastrophe provisions of the National Response Plan to strengthen the follow-on response when first responders are overwhelmed
- Department of Homeland Security evaluate and validate state and local evacuation plans and associated decision-support processes

Security and Transportation should review evacuation plans applicable to other types of emergencies. If these reviews recommend additional federal support for evacuation planning and execution, these recommendations should be incorporated into the National Response Plan.

The Department of Homeland Security should evaluate and validate state local evacuation plans and associated decision-support processes. Future exercises should thoroughly examine existing evacuation plans and enhance responders' ability to evacuate a major city in a range of emergency scenarios.

Endnotes:

¹ While evacuation operations took place all along the Gulf Coast, this study focuses on events in Louisiana and New Orleans because of the catastrophic nature of the event in that location.

² From a military perspective, Joint doctrine and DOD policy briefly discuss military support to evacuation operations. This role generally takes place after an event has occurred, generally under the aegis of immediate response authority, search and rescue operations, and medical evacuation. Immediate response authority actions are those taken by military commanders, or other DOD agencies, to save lives, prevent human suffering, or mitigate great property damage.

³ Louisiana officials opened up and stocked seven special needs shelters prior to the storm.

⁴ There were over 32,000 rescues reported by the Coast Guard for the entire Gulf Coast area.

⁵ In congressional testimony, a FEMA official alleged that FEMA had a plan to evacuate the Superdome in 30 hours beginning on 31 August 2005, a plan the military did not employ, thereby delaying complete evacuation of the

superdome by over a day.

⁶ While there is certainly overlap among categories, US Census Bureau information shows over 128,000 below poverty, 102,000 with a disability, and 54,000 over age 65. A 19 November 2005 Times-Picayune article put the New Orleans prison population at 7,000.

⁷ At 2200 on 26 August 2005, the eye of Hurricane Katrina was 460 miles from the coast with tropical storm winds at 85 miles and a speed of 8 miles per hour. This would mean tropical storm winds would reach land in 46 hours, at 2000 on 28 August. Therefore Phase I per the Louisiana emergency evacuation map should have started at 1800. Similarly, the New Orleans precautionary

evacuation notice should have been issued at 2000 on 26 August, vice 1700 on 27 August 2005, and the general evacuation notice at 2000 on 27 August 2005, vice 0930 on 28 August 2005. Note that the terms gale force and tropical storm force are interchangeable.

⁸ As of 31 August 2005, 250 buses had arrived. FEMA later increased their support to over 1100 buses.

⁹ The lack of a mechanism to enforce a mandatory evacuation is not unique to New Orleans and Louisiana. A publication put out, titled "Civil preparedness information for residents and visitors of Wrightsville Beach, North Carolina," states that "People cannot be forced to leave their property during an evacuation."

¹⁰ Air medical evacuations were also conducted by the National Guard, USCG, and others; however, numbers of patients evacuated were not available.

¹¹ These numbers likely do not include the total hospital population, as patients also left hospitals via a variety of other means, including volunteers and self-evacuation.

¹² FEMA was paying for 42,000 hotel rooms for Katrina and Rita victims as of 28 November 2005.

About the Author:

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Triggers for National Response

*Dr. Edward Cavin, PhD.
Center for Naval Analyses*

Introduction: This paper was written to support the Joint Center for Operational Analysis (JCOA) executive command briefing on military support to Hurricane Katrina relief operations. It focuses specifically on the intergovernmental and federal interagency relationships described in the National Response Plan (NRP), and the means by which Department of Defense (DOD) support may be provided to civil authorities in cases of emergency. The experience gained in Hurricane Katrina suggests that some modifications in the basic “pull-driven” NRP concept may be necessary to deal more effectively with events in which local first responders are overwhelmed and unable to conduct initial damage assessments.

Issue: Policy and law placed the federal government largely in a supplemental (“pull system”) role for natural disasters.

Context: The National Response Plan, an interagency document signed in December 2004, delineated the interagency structure for the national response to

disaster relief. In general, domestic disaster relief was the responsibility of state and local governments, with federal agencies becoming involved at the request of state governors. According to the NRP, incidents were generally handled at the lowest jurisdictional level possible. Response to an event was expected to be sequential – first local, then state,¹ then federal. Much of the NRP was based on the Stafford Act, which specified the means by which federal resources could be provided to the states. The act allowed state governors to formally request federal assistance only after conducting an appropriate state disaster response.²

What Happened: The following timeline captures some of the key events leading to the delivery of federal assistance to Louisiana:

- 26 August: Governor of Louisiana formally declared a state of emergency with reference to Hurricane Katrina (then in central Gulf of Mexico);
- 27 August: Governor of Louisiana formally requested federal emergency declaration (to enable federal assistance under Stafford Act);
- 27 August: President declared federal emergency in Louisiana;
- 28 August: Governor of Louisiana requested “expedited” federal disaster declaration (requesting broader scope for federal disaster response);
- 29 August: Hurricane Katrina devastated coastal Louisiana, Mississippi, and Alabama (levees broke and flooding occurred in New Orleans);
- 29 August: President declared a major federal disaster in Louisiana;
- 2 September: Governor of Louisiana requested specific additional federal resources in response to the Katrina disaster; and
- 3 September: Joint Field Office established in Baton Rouge.

As the above timeline makes clear, there was a 3-4 day delay between the federal

Triggers for National Response

Issue: Policy and law placed the federal government largely in a supplemental (“pull system”) role for natural disasters

Why It Happened:

- The National Response Plan was based on a sequential process—local, then state, then federal—that assumed the federal response was the last resort for major natural disasters
- Federal assistance was keyed to a governor’s specific request
- The sequential process led to a culture of “wait until asked”
- The levee breaks overwhelmed first responders and delayed assessment of damaged infrastructure
- Coordinated immediate response was delayed

disaster declaration and specific formal requests for federal assistance and activation of the Joint Field Office in Louisiana. In large measure, this reflected the fact that the magnitude of the disaster in New Orleans overwhelmed the local first responders and state resources on which the State Emergency Plan relied. Furthermore, many first responder facilities and equipment were lost to the flooding. Figure 1 depicts police and fire stations, hospitals, and other key facilities affected by the flooding in New Orleans. At least eight hospitals—and eighteen police and fire stations—were located directly in the flooded downtown areas. As a result, local and state responders were delayed in gaining access to the affected areas and making a coherent damage assessment, thus they could not immediately communicate their needs for federal assistance to the Joint Field Office.

Furthermore, loss of communications infrastructure severely limited information sharing among local, state, and federal disaster responders in Louisiana. As of 1 September:

- Loss of connectivity on the wired landline networks quickly spilled over to the wireless networks and internet servers.
- Telecommunications infrastructure was considered “nearly a total loss” in New Orleans and coastal areas.
- Widespread power outages (in part, the result of limited generators and fuel) occurred across the whole area, further disrupting telecommunications.
- Over 1,700 cell towers (roughly 80 percent of capacity in New Orleans) were out of service.
- Nearly a million subscribers were left without power throughout the state.

Why It Happened: Delays in the introduction of federal disaster relief occurred primarily because the sequential structure of domestic disaster relief embodied in the National Response Plan limited the amount of federal resources (including United States Code (USC)

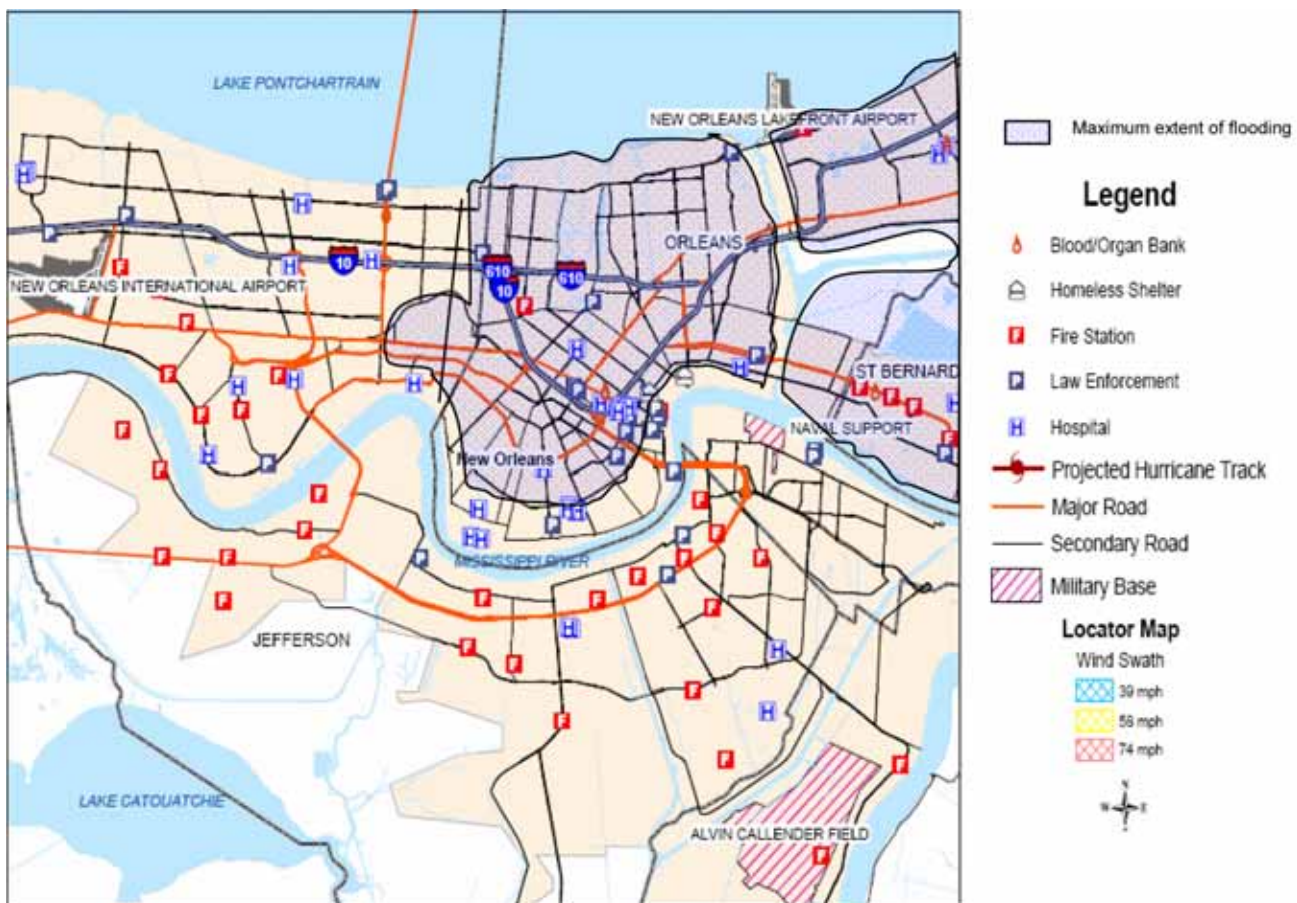


Figure 1—Flooding of first responder facilities.

Title 10 DOD assets) that could be provided in advance of local and state damage assessments and specific requests for assistance. The following elements of the domestic disaster relief system in place prior to Hurricane Katrina illustrate this point:

- National Response Plan:
 - Local Chief Executive Officer: “Requests state and, if necessary, federal assistance through the governor of the state when the jurisdiction’s capabilities have been exceeded or exhausted.”
 - Governor: “Requests federal assistance when it becomes clear that state or tribal capabilities will be insufficient or have been exceeded or exhausted.”
- State of Louisiana Emergency Operations Plan:
 - “The initial actions . . . are conducted by local government. Local authorities will exhaust their resources, and then use mutual aid agreements with volunteer groups, the private sector and/or neighboring parishes.”
 - “State assistance will supplement local efforts and federal assistance will supplement State and local efforts when it is clearly demonstrated that it is beyond local and State capability to cope with the emergency/disaster.”
- US Northern Command:
 - US Northern Command is the “heavy lifter of last resort.”
 - Generally, an emergency must exceed the management capabilities of local, state, and federal agencies before US Northern Command becomes involved.

It is true that in extraordinary circumstances, the President had the authority to deploy federal resources without a request from the state:

- To protect the integrity of the United States against invasion or the breakdown of law and order (Articles II and IV of the US Constitution);

- To suppress civil insurrection (10 USC §§331-333); and
- To execute other specific federal responsibilities identified in the Stafford Act. In general, these responsibilities related to the protection of federal property or other areas over which “the United States exercises exclusive or preeminent authority.”

As bad as it proved, however, the Katrina disaster did not meet any of these thresholds for the President to exercise extraordinary federal powers, and so he did not.

As a consequence, although the Federal Emergency Management Agency (FEMA) and other federal interagency resources were poised to deploy on 28 August, in all but a few cases, they did not reach areas of worst devastation until several days after hurricane landfall and the breaching of New Orleans’ levees. For instance, although FEMA began moving prepositioned food, water, and ice into the affected areas on 30 August, additional federal resources were not requested by the Governor until 2 September, and the Joint Field Office to coordinate the state and federal disaster response, did not stand up in Baton Rouge until 3 September. Large numbers of Title 10 DOD forces did not arrive in the Gulf until 4-5 September.³

Triggers for National Response

What Should Be Done:

- For catastrophic incidents use a concept other than sequential response – local to state to federal – embodied in the Incident Command System
- Department of Homeland Security ensure Catastrophic Incident Supplement to the National Response Plan allows immediate federal, state and local response
- Expand definitions of circumstances that trigger immediate federal response to incident
- Better define the requirement for a federal first response and specify the role of the military in the response
- Department of Defense develop integrated immediate response capability linked by interoperable national communications

What Should Be Done: In the case of Hurricane Katrina, local and state responders were overwhelmed and isolated, and thus unable to assess the damage, much less offer effective assistance.⁴ Thus, one of the keys to an effective response to this kind of disaster is the early introduction of federal resources, including those of the Department of Defense.

With respect to catastrophic incidents, the government should **use a concept other than sequential response—local to state to federal—embodied in the Incident Command System.**

The National Response Plan already recognizes a category of disaster whose severity makes it “catastrophic” in nature. According to the NRP, any natural or manmade incident, including terrorism, which results in extraordinary levels of mass casualties, damage, or disruption severely affecting the population, infrastructure, environment, economy, national morale, and/or government functions is a catastrophic incident. A catastrophic incident could result in negative national effects over a prolonged period of time; almost immediately exceeds the resources normally available to state, local, tribal, and private-sector authorities in the impacted area; and, significantly interrupts governmental operations and emergency services to such an extent that national security could be threatened.

The Catastrophic Incident Supplement to the National Response Plan recognizes:

- Federal support must be provided in a timely manner to save lives, prevent human suffering, and mitigate severe damage. This may require mobilizing and deploying assets before they are requested via normal NRP protocols. However, pre-positioned federal assets may not be actually employed locally until they are requested by local and state authorities.
- Notification and full coordination with states occur, but the coordination process should not delay or impede the rapid mobilization and deployment of critical federal resources.

One immediate policy response to the current limitations on federal participation in disaster relief would be for the **Department of Homeland Security (DHS) to ensure the Catastrophic Incident Supplement to the National Response Plan allows immediate**

federal, state, and local response in declared catastrophic incidents. In addition, DHS should expand the definitions of circumstances that trigger an immediate federal response to a catastrophic incident to include all hazards, including hurricanes, earthquakes, environmental contamination from hazardous materials, and deliberate employment of weapons of mass destruction.

Revising the Catastrophic Incident Supplement will not necessarily ensure early introduction of federal disaster relief in catastrophic disasters like Katrina. More sweeping changes in the law may be required to **better define the requirement for a federal first response**, possibly by amending the Stafford Act or the Homeland Security Act. It may be that changing existing federal/state cost-sharing arrangements or permitting regional federal response in a multi-state disaster, instead of providing state-by-state assistance, would help expedite federal disaster assistance—this is just one example. Other specific suggestions for legislative and policy change are likely to emerge from interagency review of Katrina lessons learned.

Additionally, the National Response Plan should **specify the role of the military in the response** to a domestic disaster. The current role for DOD is basically the following:

- Except for DOD elements that have statutory responsibility for functions outside Title 10, such as US Army Corps of Engineers, DOD forces are considered federal responders of last resort. Title 10 DOD forces in general will be used only when available local, state, and other federal resources are exhausted or inadequate for specific tasks.
- Requests for DOD forces (Requests for Military Assistance or RMA) are made by the Defense Coordinating Officer (DCO) in the Joint Field Office. RMAs are coordinated internally among the members of the Joint Field Office, and passed via the DCO to the Department of Defense when there are no other appropriate local, state, or federal resources available.

Based on the Katrina experience, possible extensions of DOD’s role might be considered, to include identifying specific first response functions and forces for DOD participation in national disasters. Following the lead of the US Army Corps of Engineers, which

has specifically designated responsibilities for civil support under Title 33 US Code, additional disaster response functions for DOD elements could be designated by law. Force provision would remain the responsibility of US Joint Forces Command and the Joint Staff. Designating DOD elements as first responders with the authority to act in advance of specific state requests would likely require legislative as well as policy changes. And to be truly effective, such an immediate response capability would need to be linked with interoperable national communications, which would require additional resources for the Department of Defense, and possibly other agencies.

Endnotes:

¹This included collaboration among state governments using formal and informal mutual aid agreements.

²"As a *prerequisite* to major [federal] disaster assistance under this chapter, the governor shall take appropriate response action under State law and direct execution of the State's emergency plan."

³ Most of the Title 10 DOD presence prior to 4 September was comprised of maritime forces of the USS *Bataan* and

USS *Iwo Jima*, and US Air Force search and rescue and airlift forces.

⁴ This is not meant as a criticism of New Orleans and Louisiana emergency officials, many of whom demonstrated great dedication and even heroism in response to Hurricane Katrina. Rather, it acknowledges that as members of the affected community, these forces were often isolated and overwhelmed, and thus required immediate external assistance.

About the Author:

Dr. Edward Cavin is the designated Center for Naval Analyses representative to US Joint Forces Command, currently assigned to the Joint Center for Operational Analysis. He earned his PhD in Economics at the University of Michigan, and has worked in operations analysis for naval and joint commands for nearly twenty years. During his career, Dr. Cavin has been especially interested in issues of interagency coordination, military support to civil authorities, and defense research and development.

Coordination, Command, Control, and Communications

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Introduction: This paper was written to support the Joint Center for Operational Analysis (JCOA) executive command briefing on military support to Hurricane Katrina relief operations. It focuses on issues of coordination, command, control, and communications which hindered effective unity of effort within the national response. Building on the structures and relationships called out in Federal law and the National Response Plan (NRP), it examines the challenges of coordination (vice command) in a multi-state incident, as well as highlighting the difficulties in developing shared situational awareness among incident managers. It concludes with recommended actions and capabilities geared toward enhancing unity of effort, and ultimately toward leading a timely, effective response to catastrophe.

Coordination, Command, Control, and Communications

Issue: Unity of effort was not achieved in responding to this multi-state disaster

Why It Happened:

- Each governor independently directed federal, state and local response per their own priorities
- National plans relied on coordination to align efforts without directive authority
- Time critical decision making was hindered by destruction of communications infrastructure and a lack of interoperability and situational awareness
- Military forces were employed in the same Joint Operational Area without unity of command

Issue: In this multi-state catastrophe, coordination required for unity of effort and execution of a national response proved difficult; during the initial response, unity of effort was not achieved.

Context: Federal law, policy, and precedent call for the use of state and local resources for the initial

response to a disaster.¹ Federal resources, to include Department of Defense (DOD), are applied to disaster response when a state governor requests a Presidential Disaster Declaration in accordance with the Stafford Act.² Traditionally, these resources, including Federal Coordinating Officers (FCO), Joint Field Offices (JFO), and Defense Coordinating Officers (DCO), are organized by state. For several reasons,³ Department of Defense resources are intended as the last resort for disaster assistance.

What Happened: Prior to landfall in Louisiana on 29 August, it was clear Hurricane Katrina would affect multiple states. Although many local, state, and federal elements took action to prepare for the storm, the actual impact exceeded preparatory actions and made it difficult for diverse response efforts to achieve unity of effort.

Landfall on the morning of 29 August brought significant damage to the Gulf region as a result of the direct effect of the storm's wind and rain and the massive storm surge. A wall of water swamped coastal areas of Louisiana and Mississippi, and the combination of wind and heavy rains overwhelmed the levee system in New Orleans. Electrical power was lost throughout the region, and communications capabilities were cut by the loss of landline circuits, cellular towers, and radio repeaters. Federal, state, and local emergency operations centers were, at best, isolated from information sources and were, in some cases, completely disabled. First and second responders were unexpectedly overwhelmed, and in many cases, became victims themselves. This left surviving responders unable to effectively communicate with each other, and left coordinating organizations with neither a common picture of the situation (shared situational awareness) nor the ability to direct resources for a timely response.

In the days following Katrina's landfall, resources from across the nation flowed into the region, yet there was no single authority directing the response. With some exceptions, National Guard troops from 54 states and territories were placed under the operational control of

the adjutant generals of Louisiana and Mississippi.⁴ Federal military assets fell under US Northern Command's (USNORTHCOM) Joint Task Force (JTF) Katrina. Helicopter search and rescue crews from numerous sources were initially employed in an uncoordinated manner and without formal airspace control measures. Presidential Disaster Declarations were issued for Alabama, Florida, Louisiana, and Mississippi; Federal Coordinating Officers (FCO) were assigned to each of these states; and Federal Emergency Management Agency (FEMA) Director Michael Brown was designated as the Principal Federal Official (PFO).

The rapid destruction of infrastructure, the loss of first-response capability, and the lack of situational awareness on the scope of the disaster across all levels of government, posed severe challenges to incident management. These problems multiplied delays inherent in the request-based National Incident Management System (NIMS) and hindered the ability to execute a rapid, effective national response. Although some local leaders believed federal assistance through FEMA would begin arriving within 48-60 hours, e-mails through the Mississippi FCO on 1 September (three days after landfall) indicated deliveries of water and ice were much less than 15 percent of the stated requirements. Major relief efforts for the thousands of people stranded at the Morial Convention Center did not even begin until midday on 2 September, four days after landfall. As images of catastrophic damage and human suffering rapidly spread through news coverage, public leaders and the media expressed much dissatisfaction with initial response efforts. New Orleans Mayor C. Ray Nagin expressed his frustration during a 1 September 2005 interview on KWWL-AM radio; and, President Bush acknowledged results did not meet expectations, that "Americans have every right to expect a more effective response."

Why it happened:

Each Governor Independently Directed Response

In a natural disaster, the state governor is the authority responsible for directing the federal, state, and local response. A state's authority to control activities within its borders is fundamental, based on the states' rights provisions under the US Constitution.⁵ As described in the previous section, the 1984 Stafford Act contains several references defining the states' role in the

process. Section 5170 of the act specifies that "the Governor shall...direct execution of the State's emergency plan" and that the request for a Presidential Disaster Declaration originate from "the Governor of the affected State."⁶ This declaration, in turn, triggers federal assistance to the state.

The Stafford Act also directs the President to appoint a Federal Coordinating Officer to assist with the federal response to the emergency. The FCO was assigned to work within the affected area to appraise the situation and relief needs, to coordinate relief, and to "take such other action...to assist local citizens and public officials in promptly obtaining assistance to which they are entitled..." In the case of a multi-state catastrophe, such as Hurricane Katrina, the traditional state-by-state response results in the appointment of FCOs in each affected state. For Katrina this was Ron Sherman (Alabama), Justin DeMello (Florida), Bill Lokey (Louisiana), and Bill Carwile, III (Mississippi), with each operating independently of one another.⁷

As provided for in the National Response Plan, Secretary of Homeland Security Michael Chertoff initially appointed FEMA Director Michael Brown as the PFO to "coordinate overall Federal incident management and assistance activities" for the hurricane response. Under the NRP, however, the incident management responsibilities and authorities of the PFO are limited:

The PFO does not direct or replace the incident command structure at the incident, nor does the PFO have directive authority over the SFLEO [Senior Federal Law Enforcement Official], FCO, or other Federal and State officials. Other Federal incident management officials retain their authorities as defined in existing statutes and directives.... Once formally designated, PFOs relinquish the conduct of all normal duties and functions. PFOs may not be "dual-hatted" with any other roles or responsibilities that could detract from their overall incident management responsibilities.

This had the effect of not only creating a position with limited authority, but also of temporarily relieving Brown of his FEMA authorities and responsibilities. Technically, this meant that Brown could not direct his FEMA subordinates to respond to a requirement within FEMA's purview, such as ice distribution.

Reliance on Coordination without Directive Authority

The National Incident Management System (NIMS) framework (see Figure 1) is the structure specified within the National Response Plan for managing disaster response. Based on the Incident Command System, this structure relies on consensus-based coordination at the federal, regional, and state level, with incident command authority existing only at the lowest operating levels.

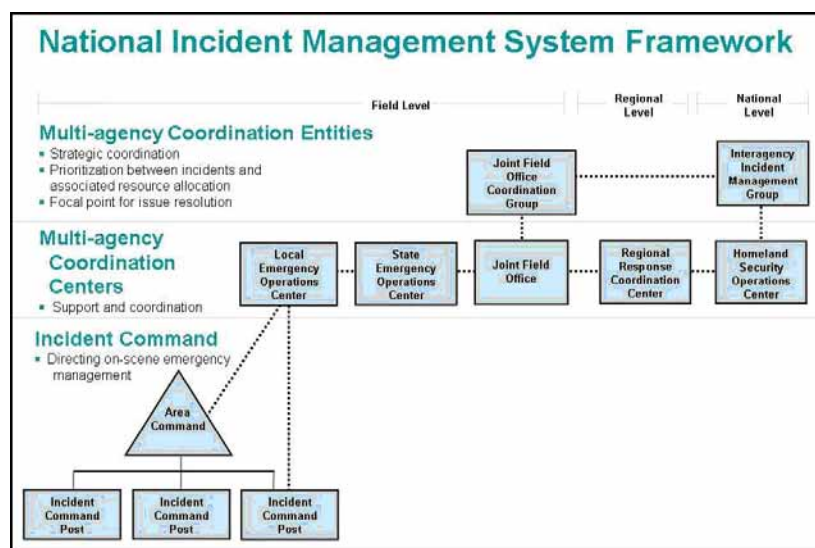


Figure 1—National Incident Management System framework.

For NIMS to function properly, the local “incident command” organization must remain intact and the higher-level agencies coordinating support must have both an accurate operational picture of affected areas and the ability to communicate with officials in the field. Neither condition was met with respect to the Hurricane Katrina disaster in New Orleans. The devastating levee breaks disabled the front-line response elements and inhibited the flow of accurate information from New Orleans to federal incident managers.

The PFO’s operating environment in Katrina was complicated by the scope of the incident, the high-level of political attention, and the sometimes conflicting lines of command, coordination, and influence. In addition to coordinating with various federal, state, and local officials

as mandated by the NRP, the PFO had to deal with senior involvement from the President, cabinet secretaries, and Congressional representatives (see Figure 2). When combined with the considerable media coverage, the PFO confronted a constant swirl of information, which may or may not have been correct, with only limited authority to act.

Lack of Communications, Interoperability, and Situational Awareness

Although communications and power failures are expected during hurricanes, the extent of infrastructure disabled by the levee breaks and subsequent flooding went beyond the expectations of many responders and managers.⁸ As noted above, this isolated operations centers and decision makers, and hindered the ability to create and manage a common operational picture (COP). This, in turn, hindered time-critical decision making and slowed the national response. A prime example was the 30 August decision by local authorities to open the Morial Convention Center as an additional shelter within New Orleans. The facility was not mentioned in any of the pre-disaster plans, and was not stocked for

use as a shelter. Further, its activation as a shelter was not included in State of Louisiana Office of Emergency Preparedness Situation Reports (SITREP) on 31

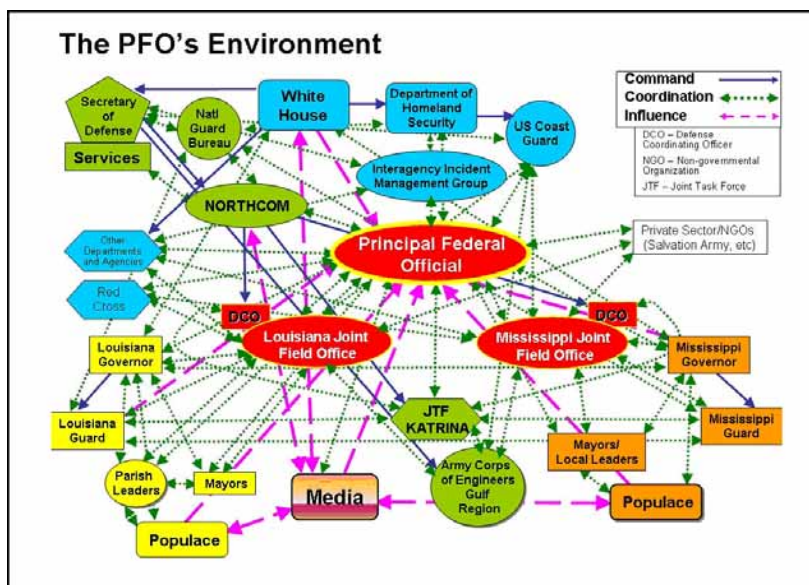


Figure 2—Coordination challenges.

August and 1 September. Concerns about this location were not highlighted to the PFO until late 31 August, and had still not been formally reported to the Secretary of Homeland Security on 1 September.

Communications and power systems began to fail as the storm's eye wall approached land on 29 August. In addition to interruptions to wireline and wireless service, in many areas the underlying infrastructure was effectively destroyed. Three million people lost their phone service in 3 states, more than a thousand wireless towers were knocked out; 11,000 utility poles were



Figure 3—Regional power failures (red=outage).

down; and 26,000 spans of cable, along with 22,000 line drops, were disabled. The public's means of requesting help was cut in two significant ways: first, responders could not easily communicate with each other; and second, emergency requests to forty-three 9-1-1 emergency call centers had to be rerouted during the storm because of damage and loss of facilities.

Massive power failures were a significant factor in disrupting coordination, as well as interrupting the flow of public information. Two to three million electrical power customers lost service in the multi-state region (see Figure 3), and over 100 broadcast stations (television and radio) were knocked off the air by power loss. Losses were not confined to primary systems; in many cases, backup emergency generators, located at ground level, were flooded after the levee breaks. Broadcasters pooled resources to keep

information flowing—at one point, only three radio stations (two AM and one FM) were active in Southeast Louisiana, simulcasting their program content to reach as many people as possible with news (see Figure 4).

Widespread power outages compounded communications disruptions. Telecommunications network providers and their customers depended on the existing electrical infrastructure to maintain network connections, provide radio repeaters, and power terminal equipment, in this case cordless telephones and cell phone handsets. Without power for handsets and the ability to recharge batteries, victims and many first responders remained without communications even when network connections were restored. Apparently, third and fourth responders did not face the same difficulties, presumably because they brought additional power sources with them in the form of generators and vehicle-based charging capabilities for phones and computers. Cell phone coverage became sporadic across the region; in many cases, satellite phones provided the only dial tone and data services across the area.

The Department of Homeland Security's National Communications System (NCS) established and continuously operated several priority service communications programs for Hurricane Katrina responders. One was the government emergency telecommunications service (GETS), which ensured authorized users, such as a state employees or hospital

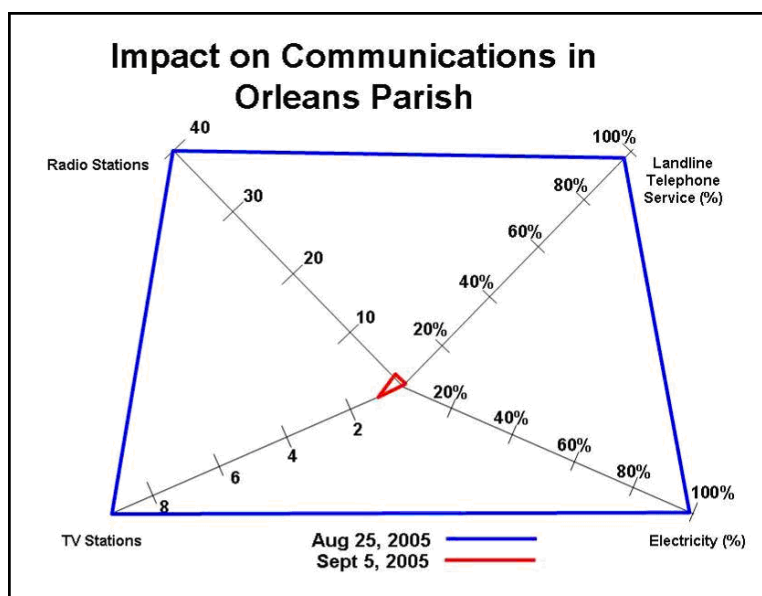


Figure 4—Infrastructure failures within Greater New Orleans

workers, a higher rate of phone call completion during periods of outages or congestion. The wireless priority service (WPS) provided priority treatment for calls made during periods of wireless network congestion. The shared resources high frequency radio program (SHARES) offered a single emergency message handling system for all federal agencies and designated affiliates when other communications methods were unavailable. The latter helped local and federal entities manage search and rescue missions; provided frequency coordination with numerous federal, state, local, and nongovernmental organizations (NGO); and established contact with US Navy ships that had been deployed to New Orleans to assist with the Katrina disaster.

The loss of communications infrastructure in the Gulf had minimal impact on DOD operations because the military did not have to rely on the area's organic cable network and radio repeater systems. The military had the capability to operate independently in a degraded environment, partly through the employment of commercial contract satellite phones—primarily Iridium and Global Star—and long-haul satellite communications (SATCOM) nodes (both commercial leased circuits, and military satellites like the Defense Satellite Communications System constellation); however, DOD-unique assets were not generally interoperable with civilian response teams due to differing communications equipment. This limitation inhibited bottom level responders from directly sharing information. To circumvent this problem in the short term, the Department of Defense brought numerous Motorola two-way radios into the disaster area for use by civil responders.

The diverse response elements pouring into the Gulf region lacked interoperable communications systems and information standards, among them:

- Police units responding under the Emergency Management Assistance Compact (EMAC) arrived with two-way radios that operated on different bands from that of the local Gulf Coast jurisdictions;
- While FEMA relied on the Area Security Operations Command and Control System (ASOCC) to share data among command centers, DOD used a Global Command and Control System (GCCS)-based Common Operational Picture;
- Much of the disaster-area imagery was posted on SECRET Internet Protocol Router Network

(SIPRNET) web sites even when the information had been declassified; this blocked direct access from command centers using commercial/civil internet systems; and

- No knowledge management plan existed for incident response. There was no central list of information needs, or listing of potential information sources, to help prioritize reconstitution efforts. Joint task force phone numbers were not preassigned, and several numbers changed while the response was underway. In many cases, key messages were printed and hand-carried around command centers to make sure incident managers had the right information.

Even as power and communications were being restored, several other factors combined to hinder the establishment of a common operational picture. Problems were both procedural and materiel-based. No one item by itself was insurmountable, but together they prevented incident managers from developing an effective, informed collaborative environment.

- JTF Katrina stood up without a director of communications (J6), making it difficult to establish and maintain good connectivity as Lieutenant General Honoré, Commanding General JTF Katrina, moved his command forward. This meant that the initial resolution of civil-military communications issues occurred without the involvement of the senior military (Title 10 United States Code (USC)) commander's immediate staff.
- Responding DOD elements did not have the ability to create and manage an unclassified COP; in some cases, command nodes could not even access a classified Global Command Control System (GCCS) COP. In lieu of this, key operational centers independently managed their situational awareness pictures using stand-alone computer systems, whiteboards, and in several cases, paper maps with notes attached. Although this alleviated the immediate local need, it was not an effective or interoperable enterprise solution.⁹
- Establishing an unclassified COP using the Internet was less than successful. USNORTHCOM and US Joint Forces Command (USJFCOM) worked to create an unclassified COP enclave using the Command and Control Personal Computer (C2PC);

however, data guards and firewalls between SIPRNET, Non-Secure Internet Protocol Router Network (NIPRNET), and the open Internet blocked the timely flow of information between emergency operations centers.

The variety and utilization of surveillance and reconnaissance platforms was mixed. Use of imagery, particularly commercial satellite imagery, was unparalleled. By their nature, commercial images are unclassified and can be shared with civil, commercial, and nongovernmental agency responders; however, they do not automatically come with unlimited distribution rights. Copyright restrictions can limit distribution to a specified number of copies. Additionally, the Department of Defense produced and declassified a large amount of airborne imagery for use, to include F-16 tactical reconnaissance feeds, C-130 Scathe View, and U-2 imagery, but it is not clear how much of the information was rapidly pushed to state and local responders. On the negative side, unmanned aerospace vehicle use was prohibited in and around the crowded airspace, and non-imagery sensors, including air-to-ground radar, measurement and signals information, were not used to establish a common operational picture.

Additionally, the US Navy identified frequency spectrum management issues that impacted operations. Frequency allocation documentation had not kept pace with capability upgrades to communication and radar systems. This resulted in an equipment database that did not match what was actually installed aboard ships, and caused requests for frequencies to be denied. In essence, the ships were told that they could not use their radars and communications equipment, which obviously was not a feasible solution. Waivers and approval for use were granted fairly quickly, but still took manpower and time that could have been used for relief and reconstitution efforts.

Finally, information collection and dissemination was mostly accomplished in an ad hoc manner rather than planned and prioritized in advance. This led to delays and inefficiencies in establishing situational awareness. Many local, state, and federal incident managers seemed unfamiliar with national reconnaissance and surveillance capabilities, support procedures, and agreements. This included confusion about statutory and procedural agreements between FEMA and the National Geospatial Intelligence Agency, which led to debate about the use of national systems imagery.

Incomplete collection planning and prioritization slowed the collection and distribution of imagery, again hindering the development of shared situational awareness and rapid response.

Military Forces Lacked Unity of Command

National Guard forces in Louisiana and Mississippi were augmented through the use of the EMAC. In coordination with the National Guard Bureau, National Guard forces from 54 states and territories deployed to the Gulf region. Using the Reception, Staging, Onward-movement, and Integration (RSOI) process, they organized into two state-led task forces: JTF Pelican (Louisiana) and JTF Magnolia (Mississippi). On 7 September 2005, the status of these forces changed from State Active Duty to Title 32 USC, which provided uniform federal funding to all responding forces while allowing those forces to remain under state control. By 8 September, nearly 50,000 National Guardsmen were operating in Louisiana and Mississippi.¹⁰

Independent of the EMAC effort, FEMA mission assignments were processed through USNORTHCOM and the Joint Staff, resulting in Title 10 USC (federal) military forces flowing into the joint operations area (JOA). These forces were assigned to JTF Katrina, with First Army providing the JTF headquarters organization. The task force was organized using functional components such as Maritime Component, Air and Space Component, with designated component commanders managing planning and execution of assigned missions. The commanding general of JTF Katrina had operational control of approximately 20,000 federal troops in Title 10 USC status.

Despite the creation of a JOA and a JTF, the Commanding General of JTF Katrina, LTG Honoré, had only a coordinating relationship with The Adjutant Generals (TAG) of Louisiana and Mississippi; no formal command relationship existed (see Figure 5). At the tactical level, this led to confusion over the roles, responsibilities, and activities of National Guard and federal forces. For example, Air National Guard, US Air Force, and contract aircraft competed for airfield ramp space (with inbound aircraft being turned away). Uncertain who was in charge, state and federal troops shaped and reshaped their command structure. Finally, DCOs and Defense Coordinating Element (DCE) personnel had trouble tracking who was operating in “their” state.

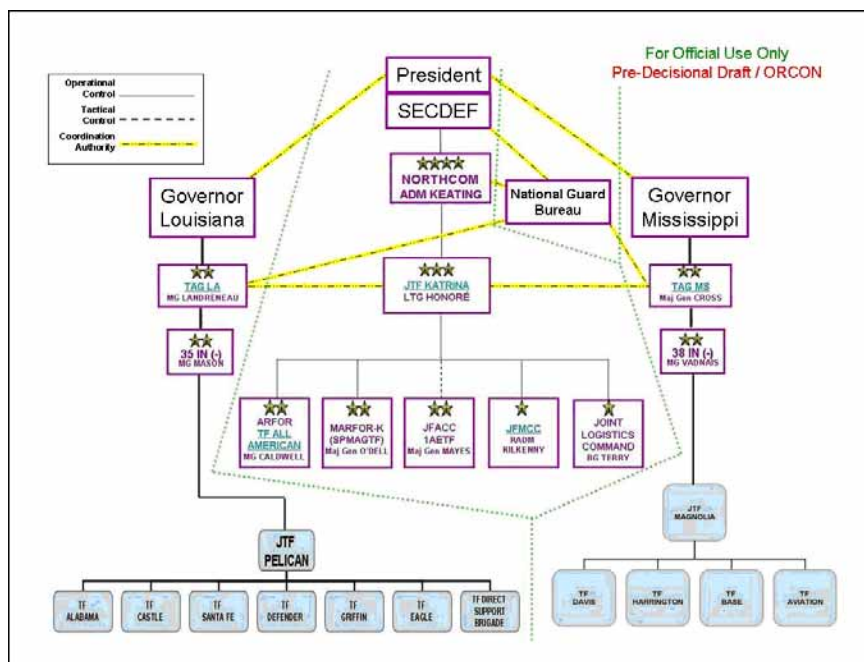


Figure 5—Military task organization.

Several attempts were made to secure unity of command for military forces. President Bush and Governor Blanco discussed the possibility of federalizing the Louisiana National Guard forces, but this was rejected by the State of Louisiana. Reportedly, one factor in this decision was concern over the Posse Comitatus Act of 1878.¹¹ Louisiana needed additional law enforcement capability for New Orleans, and moving the National Guard forces to Title 10 USC status would have prohibited their use for that purpose. A “dual hat” command option was proposed in which JTF Katrina leadership would have received a commission in the Louisiana or Mississippi National Guard gaining Title 32 USC status, but that proposal was rejected by Governor Blanco. In the end, a working relationship was formed between the forces in the streets and by personal relationships established at senior levels. The Louisiana adjutant general and the JTF

Katrina commander, for example, arranged for National Guard troops to be embedded in active component formations to maintain a liaison between the two groups of forces and provide the active component units with a law enforcement capability. Still, the issue of unity of command for Title 10 and Title 32 USC forces was not resolved.

What Should Be Done: An in-depth review of current US policies and authorities is needed to foster unity of effort during catastrophic incident response. This includes reviewing how DOD and non-federalized National Guard military forces can be used together more effectively. In addition,

communications interoperability must be resolved and a knowledge management construct must be defined and implemented. The resulting changes must be coordinated, incorporated into training, and exercised before another catastrophic incident occurs.

Coordination, Command, Control, and Communications

What Should Be Done:

- Department of Homeland Security review response structure and authorities for catastrophic events
- Provide directive authority to the PFO and make him/her the President’s designated representative for incident response
- Department of Defense develop improved solutions for integrated headquarters (joint, interagency as well as Title 10/32) for best unity of effort and unity of command
- Aggressively pursue information interoperability (Military/Civil, Operational to Tactical)
- US Strategic Command should review traditional and alternative methods of disaster reconnaissance and surveillance support to give leadership a rapid, comprehensive view of a disaster area
- Department of Homeland Security develop a knowledgemanagement plan for decision support at the operational level

The Department of Homeland Security should lead a review of the response structure and authorities for a catastrophic incident response contained in the Stafford Act, the NRP, NIMS, and related plans. The review should focus on policy, procedural, and legal changes needed to implement a rapid, effective national response in a full range of scenarios, including those involving the incapacitation of local-level incident command and first responders. At a minimum, the role of **the Principal Federal Official (as defined in the NRP) should be expanded to provide directive authority** and the ability to balance resources and assets across multiple jurisdictions. Furthermore, **he or she should be made the President's designated representative for incident response**. Additionally, the supporting and supported relationships between federal, state, and local response elements should be explicitly defined in advance to minimize organizational confusion.

It is clear that a combination of forces operating under the provisions of Title 10 (federal military), Title 14 (US Coast Guard), Title 32 (National Guard under state control but federal funding), and Title 33 (US Army Corps of Engineers) of the US Code, will be required for future national response to catastrophic incidents. To increase the effectiveness of military resources in a multi-state catastrophe, **the Department of Defense should develop improved solutions for integrated headquarters (Joint, interagency as well as Title 10/32) for best unity of effort and unity of command**. This structure must preserve state sovereignty where appropriate, while providing key military leadership the legal authority to command all forces assigned regardless of status under US Code, such as dual hat commanders serving simultaneously under Titles 10 and 32 USC.

Communications interoperability has been consistently identified as a shortfall in federal disaster responses and exercises. It is imperative that **the government aggressively pursue interoperable communication systems** to support the seamless exchange of voice, text, and data at all levels of effort. Solutions must allow seamless exchange of data between military and civil communications and information systems. Additionally, **these communication systems must support exchange from incident (tactical) through policy (strategic) levels**. Contingency systems and processes must be reliable, expandable, and able to be rapidly reconstituted. They must also operate from a variety of power sources and support connectivity

through a wide range of communications systems (to include digital and analog land-line connectivity, wireless, and SATCOM circuits).

Newly devised communication systems and processes must be capable of operating in unclassified modes. Most civil first responders and government leaders do not have federal security clearances, but they must have direct access to relevant information to make effective decisions. This means critical information from classified sources must be able to be quickly downgraded and disseminated to state and local incident management personnel. At the same time, these systems must continue to protect the contents of potentially sensitive communications (information protection), and provide assured connectivity and integrity in potentially hostile environments (information assurance).

Improvements in communication interoperability should be incremental and follow a building block approach. Recent examples show complex information technology acquisition running behind schedule and over budget.¹² Delivering interoperable communications must begin with review, refinement, and dissemination of *system standards* that permit individual component upgrades to share common information architecture. Existing acquisition programs, among them Joint Tactical Radio System, Deployable Joint Command and Control, and Joint Command and Control, must be able to support the capability needs listed above using a *family of systems* approach.

Improving connectivity will require changes in contingency plans, procedures, and datasets, to include developing more flexible options for reconstitution. Plans must also be in place to acquire and distribute key near-real-time situational awareness information via an unclassified common operational picture, such as the new Homeland Security Information Network (HSIN), that is integrated with other federal (including DOD) and state government information systems. For maximum flexibility, plans should account for the full range of commercial, Department of Defense, and national surveillance and reconnaissance platforms. **US Strategic Command (USSTRATCOM) should review both traditional methods of disaster reconnaissance and surveillance support (imagery) as well as alternative methods (synthetic aperture radar, electromagnetic spectrum analysis, and moving target indicator radar processing) to give leadership a rapid,**

comprehensive view of a disaster area. Services, in close coordination with the Federal Aviation Administration, should continue development of procedures and policies for Continental United States (CONUS) use of unmanned aerial vehicles (UAV) in times of crisis.

In addition to new/enhanced materiel solutions, **the Department of Homeland Security must develop and disseminate knowledge management plans and processes to support time-critical decision making at the operational level.** These rule sets, business processes, and data management plans are necessary to ensure information systems support decision makers with timely and accurate information to save lives, maintain order, and protect public and private resources.

Endnotes:

¹ According to the Department of Homeland Security's National Response Plan (NRP), "Incidents are typically managed at the lowest possible geographic, organizational, and jurisdictional level."

² The Economy Act also permits federal agencies to request disaster assistance from one another.

³ Several factors combine to make use of military resources a challenge. Ongoing wartime commitments may limit resources available for response. Additionally, the Posse Comitatus Act precludes the use of United States Army and Air Force personnel for civil law enforcement duties on non-federal property.

⁴ Air Guard assets conducting theater airlift and resupply missions were not placed under the operational control of Louisiana and Mississippi TAGs.

⁵ The 10th Amendment to the US Constitution specifies: "The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people."

⁶ Pub. L. 93-288, title IV, § 401, as added Pub. L. 100-707, title I, § 106(a)(3), Nov. 23, 1988, 102 Stat. 4696: § 5170. PROCEDURE FOR DECLARATION {Sec. 401} "All requests for a declaration by the President that a major disaster exists shall be made by the Governor of the affected State. Such a request shall be based on a finding that the disaster is of such severity and magnitude that effective response is beyond the capabilities of the State and the affected local governments and that Federal assistance is necessary. As part of such

request...the Governor shall take appropriate response action under State law and direct execution of the State's emergency plan. The Governor shall furnish information on the nature and amount of State and local resources which have been or will be committed to alleviating the results of the disaster..."

⁷ The efforts of the four FCOs were supposed to be coordinated by their FEMA regional headquarters (Region IV for Alabama, Florida and Mississippi and Region VI for Louisiana) as well as by FEMA National and the National Response Coordination Center (NRCC).

⁸ Examples include: National Guard use of Jackson Barracks despite below-sea-level elevation, failure of local police and fire departments to elevate emergency power sources for radio repeaters, and failure of several nursing homes to move elderly/infirm patients out of the Greater New Orleans area.

⁹ Examples include incomplete distribution of hazardous materials information (environment paper), and notification of navigation hazards.

¹⁰ According to the National Guard Bureau, the National Guard response peaked at 50,087 personnel (Title 32) on 7 September.

¹¹ Use of Army and Air Force as posse comitatus. Whoever, except in cases and under circumstances expressly authorized by the Constitution or Act of Congress, willfully uses any part of the Army or the Air Force as a posse comitatus or otherwise to execute the laws shall be fined under this title or imprisoned not more than two years, or both.

¹² Examples include Global Command and Control System (GCCS), Theater Battle Management Core Systems (TBMCS), and the Defense Information Infrastructure Common Operational Environment (DII COE).

About the Author:

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Resource and Structure of States' National Guard

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Introduction: This paper was written to support the Joint Center for Operational Analysis (JCOA) executive command briefing on military support to Hurricane Katrina relief operations. It focuses on issues associated with the largest domestic deployment of National Guard forces in our nation's history. The experience gained from the Hurricane Katrina response, and the resulting lessons learned, will dramatically shape future operations within the 54 National Guard organizations and the National Guard Bureau. Recognizing the significant role of a state's National Guard during disaster operations, the paper concludes with recommended actions aimed at enhancing the National Guard's ability to respond to future catastrophic domestic events.

Resource and Structure of States' National Guard

Issue: The National Guard was not resourced or organized to provide an immediate, large-scale, organized response to a catastrophic event.

Resource and Structure of States' National Guard

Why It Happened:

- Each state's National Guard had different capabilities and were structured for combat
- Louisiana lacked organic capabilities to effectively respond to the levee breaks
- The states' "request for resources" process, using the Emergency Management Assistance Compact, was overwhelmed by the enormity of the requirement
- The National Guard Bureau (NGB) coordinated National Guard assistance among states, but lacked authority to deploy specific capabilities
- The transition from State Active Duty status to Title 32 status in response to a major catastrophe was initially confused
- Separate federal and state military command structures in the disaster area impeded unity of effort

Context: The National Guard is statutorily tasked with federal and state missions under two federal authorities, Titles 10 and 32 of the United States Code (USC), and under applicable state statutes. Under either Title 32 or State Active Duty status, the States' National Guard units provide governors with a major resource to employ in response to a disaster.

Following Hurricane Katrina and the subsequent levee breaks in New Orleans, the National Guard conducted the largest domestic disaster response in its history.¹ While numerous states were affected by Katrina, this report examines National Guard relief efforts in Louisiana and Mississippi. The focus is on Louisiana since that was where the incident reached catastrophic levels when the New Orleans levees were breached and much of the city was subsequently flooded.

What Happened:

Prior to Landfall

The National Guard's response at the state and national levels began several days prior to Katrina's landfall. As Tropical Storm Katrina approached the east coast of Florida from the Bahamas on 24 August, the National Guard Bureau (NGB) participated in the initial United States Northern Command (USNORTHCOM) Katrina teleconference.² During the teleconference, NGB coordinated with the Florida National Guard (FLNG) J3 in preparations for sending an NGB liaison officer (LNO) team to the state.

Internally, the NGB issued an Execution Order (EXORD) to prepare for an increased level of operations. This internal EXORD instructed the NGB Joint Staff to begin preparations for augmenting the NGB Joint Operations Center (JOC). It also directed the staff to prepare NGB LNO teams for deployment at the request of the affected states.³ The EXORD placed the entire NGB staff on a four-hour recall. Additionally, it directed the J3 to stand-up a current operations group (COG).

The first NGB teleconference with the affected states was conducted at 1400 hours on 25 August.⁴ During this

teleconference, the Florida National Guard J3 reported that their emergency operations center (EOC) was staffed with 75 Guardsmen on State Active Duty (SAD) orders conducting alert notifications and planning. Because South Florida was expected to receive between ten to fifteen inches of rain, they also prepared high wheeled vehicles for flood operations. Florida authorities indicated they would not request the NGB LNO team unless the storm reached Category 2 strength when it entered the Gulf of Mexico. At the time, the storm was expected to turn north after entering the gulf and make a second landfall near the panhandle of Florida. Florida concluded the teleconference by indicating they did not anticipate requesting out-of-state National Guard assets for support.

By 27 August, Hurricane Katrina had entered the Gulf of Mexico and intensified in strength and size. Louisiana and Mississippi declared states of emergency and began ordering portions of their available National Guard forces to State Active Duty. On this date, NGB reported a total of 2,633 Guardsmen on SAD orders: 1,675 in Louisiana; 777 in Florida; 180 in Mississippi; and one in Alabama. Mississippi requested and received an NGB LNO Team on 27 August. NGB LNO teams arrived in Alabama and Louisiana on 28 August.

Twelve states participated in the NGB teleconference on 27 August. Mississippi indicated they would have 1,200 Guardsmen on State Active Duty by noon the next day. Louisiana stated it had already deployed LNOs to thirteen parishes and to the Louisiana Office of Homeland Security and Emergency Preparedness (LOHSEP). The main focus of the Louisiana National Guard's efforts was assisting with public evacuation activities and cot distribution at pre-established public shelters. Louisiana was already working with nearby states to obtain two UH-60 and four CH-47 helicopters for aviation support missions. Despite the threat to New Orleans, Louisiana, stated it had no definitive plans to relocate the Louisiana National Guard

(LANG) Joint Operations Center (JOC) at Jackson Barracks, situated in New Orleans' Ninth Ward. Authorities from other states participating in the teleconference indicated they were standing by to support any requests for assistance under the Emergency Management Assistance Compact (EMAC).

By 0700 on 28 August, Hurricane Katrina had intensified into a threatening Category 5 hurricane with sustained winds of 160 miles per hour. At noon, the Superdome was redesignated as a "shelter of last resort" and the National Guard was assigned a mission to assist civilians evacuating there. An estimated 12,000 people sought shelter in this facility prior to the storm; however, their numbers would reportedly swell to over 30,000 evacuees over the next several days. LANG deployed a number of Guardsmen to the Superdome; including four physicians, two physician assistants, six nurses, and 59 other medical personnel, to provide medical support during the storm. An additional 220 Guardsmen from the 225th Engineer Group and the LANG Special Reaction Team (SRT) moved into the Superdome to provide security. In the process of searching those entering the facility, National Guard and other security personnel recovered approximately 50 knives and guns. Figure 1 shows Louisiana National Guardsmen providing food and water to evacuees.



Figure 1—Louisiana National Guard providing food and water to Katrina evacuees.

The First Week (29 August – 4 September 2005)

New Orleans lost power around 0400 hours on 29 August. The Louisiana National Guard's Headquarters continued to operate on generator power until natural gas supplies were interrupted and its generators failed. The floodwater in the vicinity of Jackson Barracks reportedly reached 25 feet deep in some areas (see Figure 2). Twenty trucks staged there for immediate hurricane response missions were flooded.

Approximately 663 LANG soldiers rode out the storm at Jackson Barracks. Twenty rescue boats that had been pre-positioned in a parking lot adjacent the headquarters were floating with their trailers still attached. This necessitated guardsmen having to use bolt cutters to free the boats from their trailers before rescue missions could be initiated. By mid afternoon on the 29th, LANG personnel from Jackson Barracks had initiated rescue missions in the nearby community.

At 1800 hours on 29 August, the LANG began moving its JOC to the Superdome. The area around the Superdome was still dry at the time the LANG relocated, but the flood waters eventually surrounded the facility, and it became isolated from dry land. Figure 3 depicts the Superdome later in the week showing the flooding around the facility.⁵

On 30 August, 64 Army National Guard (ARNG) aircraft were positioned in Louisiana and Mississippi to support aviation operations. Available rotary wing aircraft included



Figure 2—Jackson Barracks is still partially flooded in this photograph. The Mississippi River can be seen at the bottom of the picture. This photo is looking northward.

27 UH-60, seven UH-1, 11 CH-47, and 14 OH-58. Fixed-wing aircraft included three C-12 and two C-23. Aviation support operations conducted on this date included: 186 search and rescue missions; 49 food and water



Figure 3—The Superdome is surrounded by floodwaters. Damage to the Superdome's roof is clearly visible.

movement missions; 91 other cargo missions; and 1,017 patients and 1,910 other passengers transported.

Lieutenant General (LTG) Russel L. Honoré, Commanding General of First US Army, contacted Major General (MG) Bennett Landreneau, the Adjutant General (TAG) of Louisiana, on 30 August concerning initial coordination efforts. During that discussion, MG Landreneau relayed Governor Blanco's request for significant numbers of federal troops and resources.

On the morning of 31 August, the Chief of the National Guard Bureau (CNGB), LTG Steven Blum, and the Director of the Army National Guard, LTG Clyde Vaughn, spoke with MG Landreneau. MG Landreneau asked for 5,000 additional soldiers to supplement his National Guard force.

Following the conversation with MG Landreneau, LTG Blum conducted an "all states" teleconference at noon. During this teleconference he requested "maximum support from all states to mitigate the loss of life and limb in support of Louisiana and Mississippi." As a result of LTG Blum's request, 21 states immediately identified approximately 16,530 National Guard soldiers and airmen to support the two affected states. Later in the day, NGB issued its first deployment coordination message. Units supporting Louisiana were to report for reception, staging, onward movement, and integration (RSOI) at England Air Force Base in Alexandria, Louisiana. Those supporting Mississippi were to report to Camp Shelby, Mississippi, near Hattiesburg. The Governors of Alabama, Georgia, Indiana, Missouri, Ohio, and Oklahoma each offered to send over 1,000 Guardsmen into the affected area.

The Louisiana TAG organized his response under Task Force (TF) Pelican while the TAG of Mississippi established TF Magnolia. As greater numbers of National Guard forces arrived in Louisiana and Mississippi from other states, the NGB identified two division headquarters elements to assist with command and control. The 35th Infantry Division Headquarters (the Santa Fe Division) would deploy to Louisiana and the 38th Infantry Division Headquarters would deploy to Mississippi for this purpose. Both division headquarters elements were ordered to achieve initial operating capability no later than 4 September.

During the evening of 31 August, a Louisiana National Guardsman was shot with his own weapon inside the

Superdome. The incident occurred during a confrontation in which an evacuee in a restricted area attacked the soldier with a metal cot pole. This incident was the only reported gunshot injury to a guardsman during the hurricane response.

By 1 September New Orleans was beset by widespread looting and violence. During the evening Governor Blanco announced the arrival in Louisiana of 300 soldiers from the Arkansas National Guard. Her frustration concerning the situation was transparent in the way she warned the lawbreakers by stating the troops were "fresh back from Iraq. These are some of the 40,000 extra troops that I have demanded... They have M-16s, and they're locked and loaded ... I have one message for these hoodlums: these troops know how to shoot and kill, and they are more than willing to do so if necessary, and I expect they will." It must be noted that the National Guard's number one priority in the days immediately following landfall was on search and rescue and saving lives.

That same day, NGB issued the first of 12 modifications to the original Hurricane Katrina relief mission coordination message. In the message, NGB indicated the security situation in New Orleans had deteriorated and additional forces were needed. The message directed that "states should supply their deploying forces with shotguns." In addition, "all efforts should be made to surge forces into the region as soon as possible." Finally, this message recognized the scarcity of potable water in Louisiana and Mississippi and authorized the air deployment of 22 reverse osmosis water purification units (ROWPU) within 24-72 hours. By this time, 32 states planned to send 27,749 Guardsmen into the disaster area by 6 September.

During the days that followed, LTG Blum was fully engaged with leaders at all levels of the response effort. At 1130 hours on 1 September, he met with the Secretary of Defense and President Bush to discuss the National Guard response and force flow timelines. At 1315 hours, he participated in a Department of Homeland Security (DHS) press conference with DHS Secretary Michael Chertoff and the Assistant Secretary of Defense for Homeland Defense (ASD-HD) Paul McHale. Following the press conference, LTG Blum flew to New Orleans and met with MG Landreneau at the Superdome (see figure 4 below). Later that evening he met with Governor Blanco to discuss troops and resource requirements. It has been reported that during



Figure 4—LTG Blum meets with the TAG of Louisiana and staff

that meeting LTG Blum advised the governor not to request federalization under Title 10 USC of her National Guard forces, telling her; “You don’t want to do that. You lose control, and you don’t get one more boot on the ground.” The next day, LTG Blum accompanied President Bush during his first visit to New Orleans.

During a private meeting on Air Force One, President Bush and Governor Blanco discussed the option of federalizing the National Guard currently under the Governor’s control. Following this meeting, Governor Blanco consulted with her executive counsel and MG Landreneau regarding the federalization issue. The governor voiced concern regarding transferring authority from SAD to Title 10, a move that “could confuse the steadily improving situation on the ground.” LTG Blum and White House Chief of Staff Andrew Card telephoned the governor around midnight to once again discuss a “proposed organizational restructuring” of the National Guard response. At the end of the conversation, Governor Blanco maintained that her Adjutant General should lead the National Guard response in Louisiana. The following morning, President Bush authorized federal military forces to

join the disaster response under the organization of Joint Task Force (JTF) Katrina, commanded by US Army LTG Honoré.

Civil disorder within the City of New Orleans grew worse in the days immediately following the storm. Incidents of looting were widely publicized by the media. On 2 September, snipers were reported firing on National Guardsmen. Reports indicate Guardsmen began receiving sniper fire while ferrying patients by truck to a heliport near Tulane University Hospital from Charity Hospital, the largest public hospital

and trauma center in New Orleans. As a result, Guardsmen temporarily stopped evacuating the 250 patients remaining in the 12-story medical center. Evacuation of the facility resumed later in the day. On 4 September, police shot six individuals, killing two, on the Danziger Bridge. Police accused the individuals of firing at them as well as other rescue workers in the area. Additional reports of rescuers being fired upon by snipers were widely reported by the national and world media, although these reports were later determined to be without merit. The US House of



Figure 5—Front page of *The Virginian-Pilot* newspaper, 3 September 2005.

Representatives concluded in its report that “erroneous or exaggerated reporting of conditions in New Orleans created anxiety and fear among those sheltering at the Superdome and Convention Center, delayed some critical elements of the response effort, and discouraged some residents in dry neighborhoods from evacuating the city.”

Modification 3 to the NGB deployment coordination message was issued on 2 September. This message indicated the number of Guardsmen in the disaster area was projected to grow to 36,701 within five days. It also reported that 975 additional Louisiana National Guardsmen had reported for duty after securing their families. This brought the total number of Louisiana National Guard responders to 5,700. As Figure 5 shows, stranded New Orleans residents gave arriving National Guardsmen a mixed reception.

The 2 September NGB message also laid out a concept of operations (CONOPS) for integrating the two supporting division headquarters elements into the states’ operations. This CONOPS (see Figure 6) outlined the formation of JTFs from the supporting states, commanded by a colonel or brigadier general and subordinate to the division headquarters. This development was significant in that it demonstrated NGB’s semi-operational oversight of the National Guard relief efforts in the two most affected states. NGB was not chartered to exercise operational planning over any of the 54 National Guard organizations. The CNGB had no command and control authority over any of the

TAGs as he served primarily as the principal adviser to the Secretaries and Chiefs of Staff of the Army and Air Force on matters relating to the National Guard.

By 3 September, the number of National Guardsmen involved in the relief mission had reached 29,491, an increase of nearly 50 percent from the previous day. By this date, there were 73 Army National Guard (ARNG) aircraft providing support in Mississippi and Louisiana with 24 additional aircraft headed to the area.

In New Orleans, the situation at the Morial Convention Center had become critical.⁶ Once the area around the Superdome flooded, evacuees began to congregate at the convention center, which was never intended to be an evacuation site and had no police presence. Unlike the Superdome, no one was searching the evacuees arriving at the convention center for weapons. On the evening of 1 September, MG Landreneau directed National Guard forces to restore order and begin rescue operations at the convention center. At noon on 2 September, Lieutenant Colonel Jacques Thibodeaux led a force to secure the convention center consisting of approximately 1,000 National Guardsmen from Louisiana, Texas, Oklahoma, Nevada, and Arkansas, along with 250 members of the New Orleans Police Force. The mission was successfully executed with no shots being fired. By 1500 hours the Guardsmen began distributing meals-ready-to-eat (MRE) and bottled water to approximately 19,000 people that had assembled there. Evacuation from the convention center (see Figure 7 below) began early the following

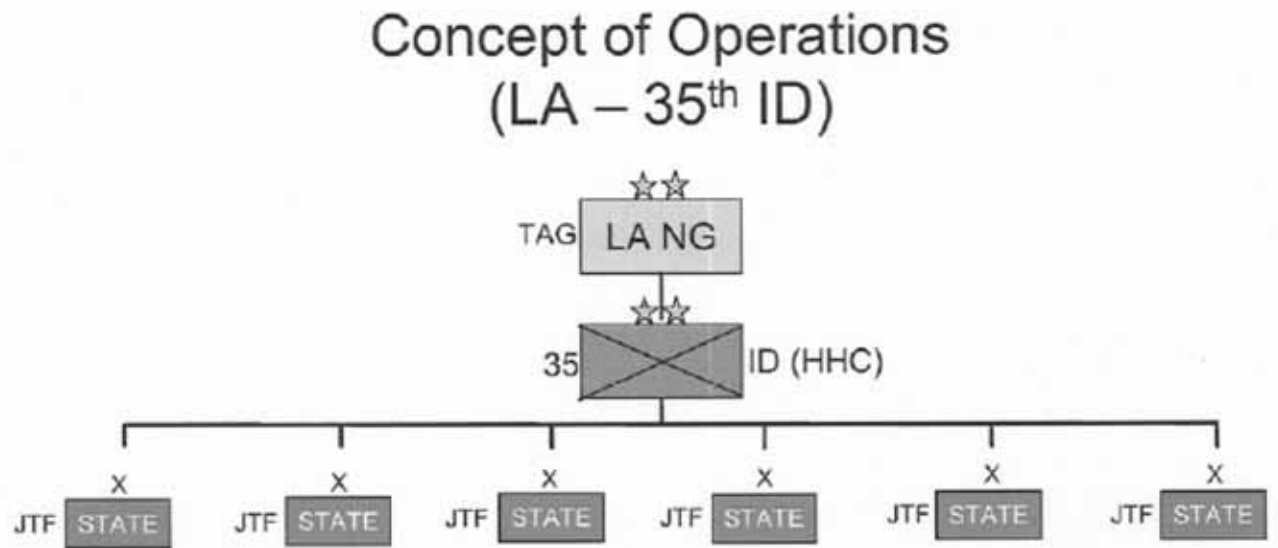


Figure 6—NGB proposed CONOPS for integration of the division headquarters.



Figure 7—Evacuees loading onto buses to depart the city from the Morial Convention Center.

morning, and was completed by 1830 hours on 3 September, a mere 30-hours from the time the National Guard had secured the area. Of those evacuated, 14,000 were moved by bus, 3,000 were moved by helicopter, and 2,000 were moved by ferry. Securing and evacuating the convention center should go down in history as one of the most successful joint missions executed during the Katrina response.

The civil situation in New Orleans was showing improvement daily as National Guard forces flowed into Louisiana in increasingly large numbers. On 3 September, six days following landfall, USNORTHCOM reported:

“The sniper incident at the Tulane University Hospital was resolved yesterday and other incidents of violence (sniping and other gunfire) have largely subsided, although occasional incidents are still occurring as criminal elements go underground and law enforcement is re-established. The arrival of sufficient numbers of National Guard and other service members is altering the ground situation significantly, with a resultant decline in the threat posed to deploying DOD [Department of Defense] members.”

By 4 September, the number of Guardsmen responding to the relief effort had grown to 40,139, twice the number

from two days earlier. In his operations update, the Commander, TF Pelican issued the following priorities: (1) save lives; (2) security, law and order; (3) evacuation of ill and those with special needs first, and then the general population, and (4) support existing critical infrastructure. TF Pelican indicated that it had already distributed 620,000 bottles of water and 320,000 meals to storm victims by the end of the first week.

The Second Week (5-11 September 2005)

Governor Blanco sent a request to the Secretary of Defense on 5 September requesting that he

“approve 180 days⁷ of military duty under Title 32 status⁸ for all National Guard soldiers and airmen serving in support of Hurricane Katrina relief efforts.” In her letter, Governor Blanco justified her request by citing the National Guard’s involvement in the “protection of critical infrastructure to include medical facilities, fuel distribution, water, and power distribution systems which are all vital to the recovery of the entire region.”⁹ The governor’s letter was accompanied by a memorandum from LTG Blum to the Secretary of Defense that outlined additional reasons why the National Guard’s hurricane relief efforts should be federally funded under Title 32.

By 5 September, the Air National Guard (ANG) had conducted 1,449 sorties, transported 15,796 passengers and 6,335 tons of cargo, and rescued 768 people. The Army National Guard (ARNG) also had 115 aircraft operating in the disaster area. By this date, the ARNG had recorded 2,622 flight hours while transferring 6,183 patients, moving 20,920 personnel, conducting 803 equipment and material movements, 685 food and water missions, and performing 1,374 rescues.

National Guard troops supporting TF Pelican were in all 13 Louisiana parishes directly affected by Hurricane Katrina. TF Pelican was divided into four functional task forces: (1) TF Engineer, responsible for engineering work such as debris clearing; (2) TF Santa Fe, responsible for security and miscellaneous support to

the parishes; (3) TF RSOI, located at Belle Chase Naval Air Station and responsible for the reception, staging, onward movement, and integration (RSOI) of supporting National Guard forces; and (4) TF Eagle, responsible for all aviation support.

NGB issued two coordination messages on 5 September. According to the first message, there would be 25,288 Guardsmen in Louisiana and 11,760 in Mississippi (37,048 total) by 7 September, nine days after landfall. This projection actually fell considerably short as there were 46,630 Guardsmen reported to be operating within the area on 7 September with another 3,520 providing external support. The second message outlined the NGB's initiative to coordinate the flow of ARNG forces into the affected region by adding a request for forces (RFF) module onto the Guard Knowledge Online (GKO) website.

On 7 September, Acting Deputy Secretary of Defense Gordon England signed a memorandum approving the request for federal funding of the hurricane relief mission in Title 32 status with a retroactive date of 29 August 2005.¹⁰ The authority was "applicable to all approved requests for soldiers and support conducting hurricane relief operations in support of the States of Louisiana, Mississippi, Florida, and Alabama." It also applied "to all approved requests for soldiers conducting support to displaced persons." Modification 10 to the

NGB deployment coordination message addressed numerous logistical and fiscal issues which arose upon the transition of National Guardsmen to Title 32.¹¹ A later NGB modification message issued on 14 September authorized the states to keep Guardsmen in SAD status if it was advantageous to the soldier and a valid EMAC or other agreement was in place. Two states, Delaware and Iowa, chose not to transition their guardsmen to Title 32.

TF Pelican announced it had organized 12 geographic task forces to operate in Louisiana. Each of these task forces was responsible for, and took the name of, a particular parish. The task forces were composed of National Guardsmen originating from as many as eight states. Task Force Tangipahoa, operating in Tangipahoa Parish located north of Lake Ponchartrain was comprised of a single 255-member quick response force from the North Carolina National Guard. However, Task Force Orleans, operating in the more densely populated Orleans Parish, included National Guard units from Oklahoma, California, Ohio, Oregon, Puerto Rico, Rhode Island, South Carolina, and Texas. This task organization is graphically represented in Figure 8. It should be noted that Louisiana did not implement the published NGB organizational CONOPS mentioned earlier, choosing instead to operate with functional and geographic task forces rather than task forces based upon state of origin.

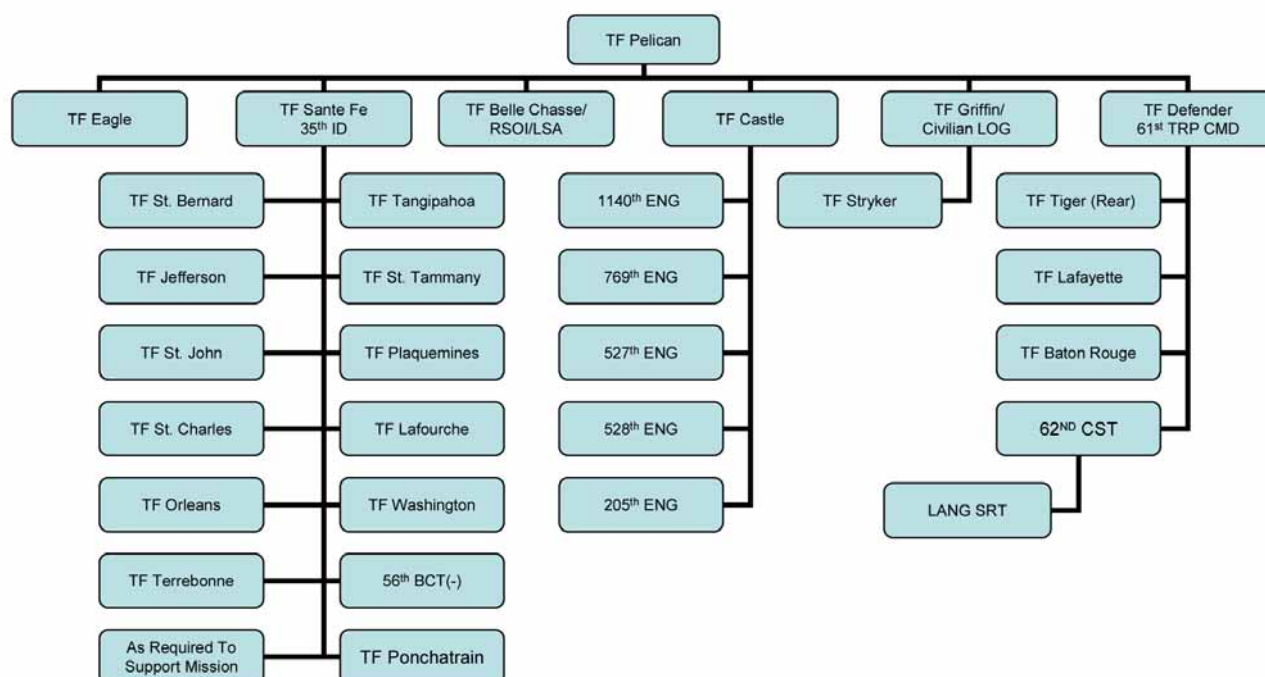


Figure 8—National Guard task organization in Louisiana.

Louisiana's TF Pelican was organized into as many as 19 subordinate task forces with operational command and control over approximately 150 National Guard units. The response was further complicated by the fact that the supporting units within the task forces did not have the benefit of prior training or operational experience with units from other states they were operating alongside.

The Third Week (12-18 September 2005) and Beyond

Within 15 days of landfall, a total of 765 National Guard units from around the nation had participated in the relief efforts. One of the more unusual National Guard missions involved the removal of an estimated \$50 million from the flooded Loomis, Fargo, and Company building in New Orleans on 12 September. Eight light armored vehicles and members of the Nebraska National Guard Counterdrug Task Force assisted the US Secret Service in securing this facility. They also helped transfer the large quantity of currency from the building's vault to transport vehicles.

The final NGB coordination message stated that at 1800 hours on 30 September the NGB Crisis Action Team (CAT) would stand down and transfer all operations to the NGB Crisis Response Cell (CRC). This effectively returned the NGB staff to their normal day-to-day operations.

In the four weeks after Hurricane Katrina struck the Gulf Coast, the National Guard was credited with providing 8.2 million MREs, 6.5 million gallons of water, and 49 million pounds of ice to Katrina survivors. During this same timeframe, the National Guard cleared debris from over 4,000 miles of roads and helped the US Army Corps of Engineers (USACE) install temporary roofs on 10,000 homes in Mississippi.

The Hurricane Katrina operation was the largest domestic disaster response in the history of the National Guard, peaking at over 50,000 personnel between 7 and 10 September.¹² Within 10 days of landfall, on 8 September, all 54 National Guard state/territorial organizations were participating in hurricane relief efforts. By 30 September, there were still 29,937 Guardsmen on Title 32 orders involved in the hurricane relief efforts. Figure 9 depicts the build up and draw down of National Guard forces as reported by NGB. The most significant detail in the graph is the surge of National Guard forces from roughly 10,000 to over

50,000 that occurred between 1-10 September. The external joint operations area (JOA) support depicted in yellow includes administrative and logistical personnel, as well as Guardsmen activated in states agreeing to receive Katrina evacuees.

The Response of National Guard Aviation Assets

Aviation assets were extremely important during the initial response to Hurricane Katrina. The depth of floodwaters made some areas completely inaccessible to high wheeled vehicles until New Orleans was dewatered. In addition, because many people retreated to the roofs of their houses, rescue by boat was difficult and limited. Consequently, significant numbers of people were rescued from rooftops by helicopters. Helicopters were also used extensively for aerial medical evacuation. During the relief mission 146 National Guard rotary wing aircraft and crews from 25 states provided aviation support. The NGB JOC reported that by 12 October the ARNG and ANG flew a combined 11,335 sorties, moved 93,980 passengers and 24,970 tons of cargo, and rescued 17,416 people. Of the 1,443 Air National Guard rescues recorded during Katrina, 500 were accomplished by pararescue/special forces personnel using zodiac boats. The Air National Guard also played a significant role in transporting Guardsmen from around the nation into the disaster area. ANG C-130 aircraft transported approximately 19,000 Guardsmen into Mississippi and Louisiana. Additionally, 12 ANG combat controllers established multiple helicopter landing zones and directed 3,249 sorties that evacuated 11,927 personnel.

Why It Happened:

Each States' National Guard Had Different Capabilities

States had varying capabilities within their Army and Air National Guard. Each state, territory, and the District of Columbia are authorized different types of units and numbers of personnel. The largest National Guard force (20,469 personnel) was located in the state of California, while the smallest was found in the Virgin Islands (793 personnel).¹³ Within the ARNG and ANG, each state was assigned a limited number of specific types of airframes.

Overseas operations in Afghanistan and Iraq affected the ability of the each state to respond to domestic

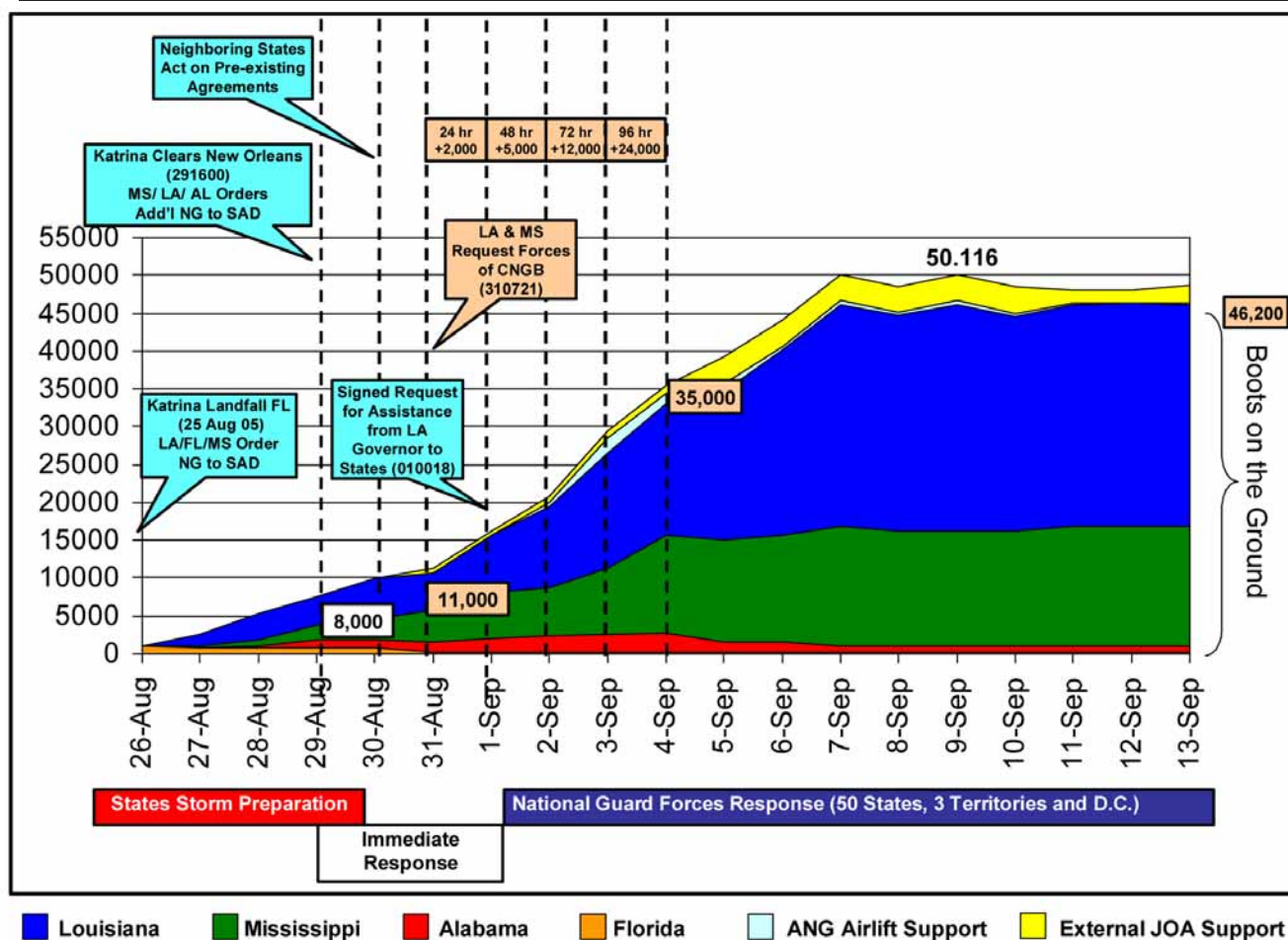


Figure 9—National Guard response through 13 September 2005.

emergencies to some degree. As part of the Total Force, the National Guard contributed a high percentage of its assigned forces to overseas missions since the attack on America in 2001. The ARNG and ANG composed 39 percent of the total reserve DOD manpower.¹⁴ In July 2005, approximately 35,500 Army National Guard members were deployed to Iraq, representing nearly one-third of the 113,000 United States forces in theater at that time. Figure 10 shows the number and percentage of National Guard available in the eastern United States on 27 August 2005, two days before Katrina made landfall along the Gulf Coast.

The National Guard's ability to conduct domestic operations was affected by the resources it received for its wartime mission. During peacetime, the majority of Army National Guard combat forces received only 65 to 74 percent of the people, and 65 to 79 percent of the equipment that they were authorized. Units were generally expected to obtain additional personnel, training, and equipment during a mobilization period before deploying to support military operations overseas.

Since 2001, the National Guard had transferred extensive quantities of equipment (more than 101,000 pieces as of July 2005) to units deploying overseas to ensure they were well equipped. This increased wartime support caused the National Guard to adjust equipment levels within and across states. This resulted in a decrease in the equipment level of non-deployed National Guard units from 75 percent of what was required for combat before 11 September 2001, to just 34 percent in the fall of 2005.

In addition, the United States Army required units returning from overseas deployments to leave significant quantities of equipment overseas. For example, High Mobility Multipurpose Wheeled Vehicles (HMMWV) were up-armored in Iraq and left for use by follow-on forces.¹⁵ As of June 2005, ARNG units had left more than 64,000 pieces of equipment, valued at more than \$1.2 billion, overseas to support continuing operations.

Following Katrina, in a September 2005 letter to President Bush, the Co-chairs of the Congressional National

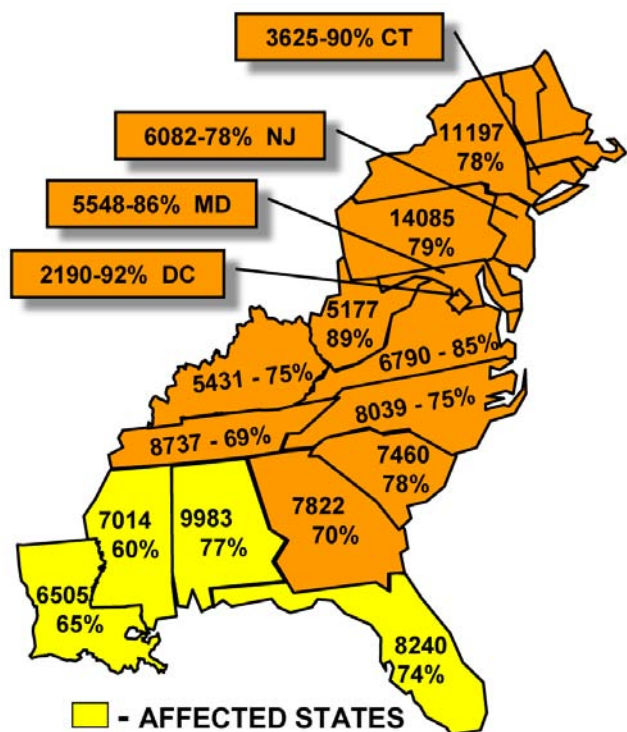


Figure 10—Number and percentage of National Guardsmen available by state on 27 August 2005.

Guard Caucus expressed their concern about the National Guard's equipment shortages, writing: "The National Guard has deployed many of its resources to Iraq and Afghanistan; consequently there are insufficient reserves of equipment available to respond to future disasters and military contingencies."

The most significant equipment issue arising during the Hurricane Katrina relief mission, dealt with communications equipment. According to LTG Blum:

"The real crux of the problem, and the no-kidding lesson learned, was the absolute need for reliable communications and unity of effort in these major disaster-relief operations — and the two are closely related. With good communications, you can have decentralized operations that draw synergy from everyone's efforts, and that's how we were postured before the storm hit. And then when we needed it the most, we lost all our communications connections. Suddenly, military commanders couldn't distribute resources, supplies, and troops to achieve the desired effect because they didn't know where the greatest need was."

Louisiana Lacked Organic Response Capabilities

The four states most affected by Hurricane Katrina were in the top one-third in size among the 54 National Guard organizations, and therefore possessed greater capabilities than most other states. Louisiana, Mississippi, Alabama, and Florida ranked 16th, 11th, 5th and 12th, respectively in total numbers of assigned Guardsmen. However, when Hurricane Katrina made landfall 35 percent of Louisiana's National Guard force was unavailable to respond. This was primarily due to one of their major commands, the 256th Brigade Combat Team (BCT), being deployed in Iraq.

In the month prior to Katrina, MG Landreneau reported that when the 256th BCT returned home from deployment, they would lack about 350 essential equipment items needed for hurricane response because it was required to leave much of its equipment in Iraq. Specific items of equipment needed included: trucks, HMMWVs, wreckers, and water trailers.

To make matters worse, when Katrina struck New Orleans and the levees failed, the Louisiana National Guard State Headquarters at Jackson Barracks flooded. In addition to losing 20 vehicles, the headquarters lost most of its ability to communicate. Many National Guard personnel who had been placed on SAD orders prior to the hurricane's landfall lost their homes to the flooding, and their families were displaced. This inevitability affected their ability to function as effectively as they might have under different circumstances and conditions.

In spite of their own victimization, the Louisiana National Guard played a vital role in early search and rescue operations and initial recovery efforts. In the first 48 hours following the storm, the LANG reportedly they flew 323 hours and rescued 2,662 persons. Although not widely reported in the media, actions by National Guardsmen at the Superdome, Morial Convention Center, and elsewhere in New Orleans prevented additional loss of life and property. Despite their performance in the face of adversity, the LANG was unprepared to respond to the vast numbers of displaced persons and to restore civil order in all areas of New Orleans in the immediate aftermath of the storm.

The LANG's focus on search and rescue missions and saving lives, rather than controlling looting inside the city, should be judged as correct. However, the national

media chose instead to focus its extensive coverage on the looting and suffering of the evacuees. This was the message portrayed nationwide in the early days following the storm. The Louisiana National Guard and NGB failed in getting the “good news” National Guard messages extensive airtime in the national media. The media chose to not focus on the effectiveness of the military response until Title 10 JTF Katrina forces moved into New Orleans. This resulted in the 82nd Airborne Division receiving media credit for much of the restoration of law and order in the city, although most of the areas they moved into were already secure.

The State’s “Request for Resources” Process Was Overwhelmed

It was evident even prior to Katrina’s landfall that the Louisiana and Mississippi National Guards would need external assistance. The EMAC provided one vehicle to obtain support from other states during a crisis, and several EMAC requests (primarily for National Guard aviation and communication assets) were made before the storm hit.

Although ratified by the United States Congress in 1996, EMAC was neither a federal agency nor part of the federal government. Rather, it was an agreement among most states, the District of Columbia, Puerto Rico, and the Virgin Islands—administered by the National Emergency Management Association (NEMA)—to provide assistance across state lines when a disaster occurs.¹⁶ Two weeks after Katrina’s impact, California became the 49th state to join the compact on 12 September 2005. Later, Hawaii became the fiftieth and final state to ratify EMAC. The EMAC response to Hurricanes Katrina and Rita was the largest in its nine-year history. As of February 2006, a total of 1,884 EMAC missions (involving 18,148 civilians and 43,264 National Guard personnel) had been conducted in support of this response at an estimated cost of \$771.3 million.

While not precluding the arming of National Guard soldiers and airmen, EMAC did not include a provision for personnel from an supporting state the authority to perform law enforcement missions within the supported state. Consequently, in its first Katrina-related coordination message, the NGB directed the states to execute separate agreements for deploying armed soldiers. Some guardsmen from the supporting states were deputized by the governors of the supported states

to perform law enforcement functions through memorandums of understanding (MOU). Although LTG Blum stated that deputizing supporting National Guard forces did not cause a significant delay in the guardsmen performing their law enforcement role, the MOU permitting Guardsmen from Alabama to perform law enforcement functions in Mississippi was not signed until nine days after Katrina’s landfall. Additionally, each state had its own rules for the use of force (RUF) based on state law and TAG policy. Guardsmen from supporting states were not familiar with the RUF of the supported states prior to the mission. As a result, Louisiana developed a RUF tri-fold card for the benefit of all guardsmen operating there.

Role of the National Guard Bureau

A joint bureau of the Departments of the Army and Air Force, the National NGB was formed to assist the 50 states, three territories (Puerto Rico, Guam, and the Virgin Islands), and the District of Columbia procure funding and administer policies for the Guard. The CNGB served as the federal government’s primary communications channel to the several states. The CNGB did not exercise command and control authority over the state TAGs, who were state employees and reported to the governors.

The NGB’s recent transition into a joint organization, and commensurate enhancement of the NGB JOC, served it well during the Katrina relief mission. The bureau took a proactive role in coordinating the states’ response. Lacking constitutional or statutory authority to order the deployment of National Guard forces from one state to another, the NGB requested maximum support for Louisiana and Mississippi from unaffected states. Those states responded by surging tens of thousands of National Guard forces into the Gulf region. However, many National Guard units deployed into the region prior to the submission of formal EMAC requests, creating a mismatch between the capabilities they brought with the requirements needed on the ground. Forces flowed into the intermediate staging base (ISB) at Alexandria, Louisiana, and Naval Air Station New Orleans at Belle Chasse, Louisiana, without a preplanned methodology for employing them. This was particularly problematic for logistical units whose capabilities were determined by the types of equipment they brought, or did not bring to the operation.

Transition from State Active Duty Status to Title 32 Status

Guardsmen initially activated for the disaster response were placed on State Active Duty orders. They were paid by their parent state and received employment benefits according to state law. States responding to an EMAC request were to be reimbursed by the requesting state. This funding process created potential hurdles to a rapid and massive National Guard response. Financing tens of thousands of National Guardsmen for extensive periods of time on SAD was an expense not contained in state budgets, and deficit spending was not an option for most states.¹⁷ Furthermore, states anticipating the need for assistance were reluctant to ask for EMAC support before an actual catastrophic event triggered a presidential disaster declaration, a prerequisite for reimbursement from the federal government.

To overcome these financial hurdles, states affected by Hurricane Katrina initiated the process for transitioning Guardsmen from SAD status to Title 32 orders soon after it became apparent that relief efforts would involve extensive numbers of National Guard forces. This was the first time large numbers of Guardsmen had been placed in Title 32 status while responding to a natural disaster.¹⁸ The process began with a letter from the Governor of Louisiana to the Secretary of Defense on 5 September, requesting the approval of 180 days of Title 32 military duty for National Guard personnel assisting in hurricane relief efforts. The governor's letter was accompanied by a memorandum from the Chief of the National Guard Bureau to the Secretary of Defense, which outlined additional reasons why the National Guard's hurricane relief efforts should be federally funded under Title 32. LTG Blum reasoned:

“The escalation from what was a local and regional response to one of national scope, and international attention, risks exceeding the capability and intent of the EMAC. This development compels the transition of National Guard forces from State Active Duty status under the EMAC to a Federally-funded status. The Governors’ ability to provide the number of troops and level of effort now required over a protracted period of time is not

sustainable....The EMAC arrangement, once appropriate, is no longer a practical solution...Continuing operations under the EMAC will likely result in the degradation of military equipment, as several states do not have the resources necessary for their maintenance and upkeep. Transitioning to Title 32 status will ensure that this military equipment remains ready for future deployments to the warfight.”

Two days later the acting Deputy Secretary of Defense, Gordon England, approved federal funding to support the Hurricane Katrina relief efforts under Title 32. His approval was made retroactive to 29 August.¹⁹ Although the states responding to Hurricane Katrina endorsed DOD's decision to place their National Guard forces in Title 32 status, the transition to Title 32 from SAD came over a week after the storm's landfall and initially caused some administrative confusion, which the NGB later addressed in its coordination messages to the states.

Separate Military Command Structures Impeded Unity of Effort

Ideally, the organization of joint military operations begins by establishing unity of command through the designation of a joint force commander (JFC) with the requisite authority to accomplish assigned tasks using a clear and uncomplicated chain of command; however, during the response to Hurricane Katrina, the existence of multiple military command and control (C2) structures complicated coordination efforts. A national level C2 authority did not exist for the National Guard in a multi-state disaster response operation. The Chief of the National Guard Bureau did not exercise C2 authority over the state Adjutant Generals or the National Guard forces of any state. Also, there were three separate military chains of command within the two states most affected by the storm. The Mississippi National Guard and the LANG each had their own chains of command led by their respective Adjutant Generals. The federal military response was coordinated under USNORTHCOM through JTF Katrina, led by LTG Honoré. JTF Katrina had a coordinating relationship with the Adjutant Generals of Louisiana and Mississippi, and LNOs were placed in the respective headquarters. However, neither JTF Katrina, nor the National Guard, had total visibility on each other's ongoing and planned operations in their overlapping areas of operation.

Resource and Structure of States' National Guard

What should be done:

- Department of Defense review the role of the National Guard in an effective multi-state response to catastrophe
- Department of Defense establish/codify abbreviated Force Provider Process for National Guard forces
- Consider giving the National Guard Bureau a force provider role for National Guard Forces when responding to a catastrophic event
- Improve the National Guard response:
 - Exercise and employ integrated command and control options for Title 10 / National Guard operations
 - Identify and resource critical National Guard shortfalls in responding to catastrophic disasters

response required to respond to a catastrophic event. The lessons learned from Hurricanes Katrina and Andrew, the Los Angeles riots, and the terrorist attacks in 2001 should be used to form the basis for future National Guard catastrophic response and employment doctrine.

- **Department of Defense should consider giving the National Guard Bureau a force provider role for National Guard forces when responding to a catastrophic event.**

The NGB's role in responding to a catastrophic event was limited to coordination between the states and providing situational awareness to the DOD concerning National Guard activities.

What Should Be Done:

- **The Department of Defense should review the role of the National Guard in providing an effective multi-state response to catastrophes.**

As mentioned earlier, under current law the National Guard may be ordered to respond to a domestic disaster under Titles 10 or 32 USC or in SAD. While President Bush could have federalized the National Guard under Title 10, he ultimately chose to not exercise this option. However, an argument could be made that the inability of the New Orleans Police Department and the State of Louisiana to prevent looting and lawlessness following the storm warranted the invocation of the Insurrection Act.²⁰ This act allowed federal military personnel to enforce federal or state law under certain circumstances without being constrained by the provisions of the Posse Comitatus Act and current DOD Directives prohibiting Title 10 forces from performing civilian law enforcement functions.²¹ A similar precedent occurred following Hurricane Hugo in 1989 when widespread looting was reported in the Virgin Islands and the Insurrection Act was invoked by President George H. W. Bush.

The DOD, as well as NGB, should review the roles of the National Guard in providing the level and types of

The NGB did not have statutory authority to task states to deploy their National Guard assets to assist other states in need.²² Each state's National Guard is autonomous when employed in SAD status. During the Hurricane Katrina response, NGB was proactive in coordinating with the several states to surge forces and assets into the disaster area. While the coordination process was refined in the weeks following the storm, it was not the most efficient or effective way to direct the deployment of thousands of guardsmen from 54 different organizations.

USNORTHCOM and NGB signed a memorandum of agreement (MOA) on 7 July 2005, which clarified the relationships between the two organizations. As part of this MOA, NGB agreed to provide USNORTHCOM with daily updates on the status of National Guard personnel performing SAD or Title 32 missions, and facilitate readiness reporting per Chairman, Joint Chiefs of Staff (CJCS) and combatant command guidelines. Due to the damaged communications infrastructure in the region and the support provided by states outside of the normal EMAC process, NGB was not always able to provide complete and accurate information to USNORTHCOM regarding the National Guard's total response effort. This affected USNORTHCOM's ability to formulate an accurate common operating picture of the total military response.

- **Exercise and employ integrated command and control options for Title 10 and National Guard operations.**

For its overseas mission, the National Guard “trains as it would fight” alongside its active component counterpart. However, with the exception of USNORTHCOM’s annual ARDENT SENTRY and VIGILANT SHIELD exercises, which include National Guard units from a limited number of states, the two components do not routinely train together for domestic response missions. This results in insufficient opportunities to test alternative C2 arrangements.

Currently, there are three basic options for organizing National Guard and Title 10 forces during domestic response operations. The first involves separate federal and state C2 structures operating within the same geographic area. This is what occurred following Hurricane Katrina. The second option involves federalizing the National Guard under Title 10 and incorporating their forces into an active duty JTF. When occurring simultaneously with a presidential invocation of the Insurrection Act, this option would permit all DOD forces to perform law enforcement functions under a single command authority. Except in cases where a

governor actually requests the invocation of the Insurrection Act, such as occurred during the 1992 Los Angeles riots, this option would likely provoke resistance from the states.²³

The final option involves standing up a “dual-hat” Title 10/Title 32 Headquarters to provide C2 of all responding military forces. A recent change to the United States Code permits a National Guard officer to simultaneously serve in SAD/Title 32 and Title 10 status. In 2004 USNORTHCOM applied this law to develop a new CONOPS for domestic response missions placing both National Guard and Title 10 forces under a single commander (see Figure 11 below) with dual-hat status. Under this CONOPS, Title 10 forces are controlled by a Title 10 deputy commander, and National Guardsmen fall under a National Guard deputy commander on SAD or Title 32 orders. A major advantage of this CONOPS is that it allows for increased visibility and reporting of all military forces operating within a JOA. Another benefit is the National Guardsmen are not restricted in the performance of law enforcement missions, as they remain under state command and control. Although the USNORTHCOM dual-hat CONOPS was not used during the Katrina response, it was successfully employed on four occasions prior to Katrina, including

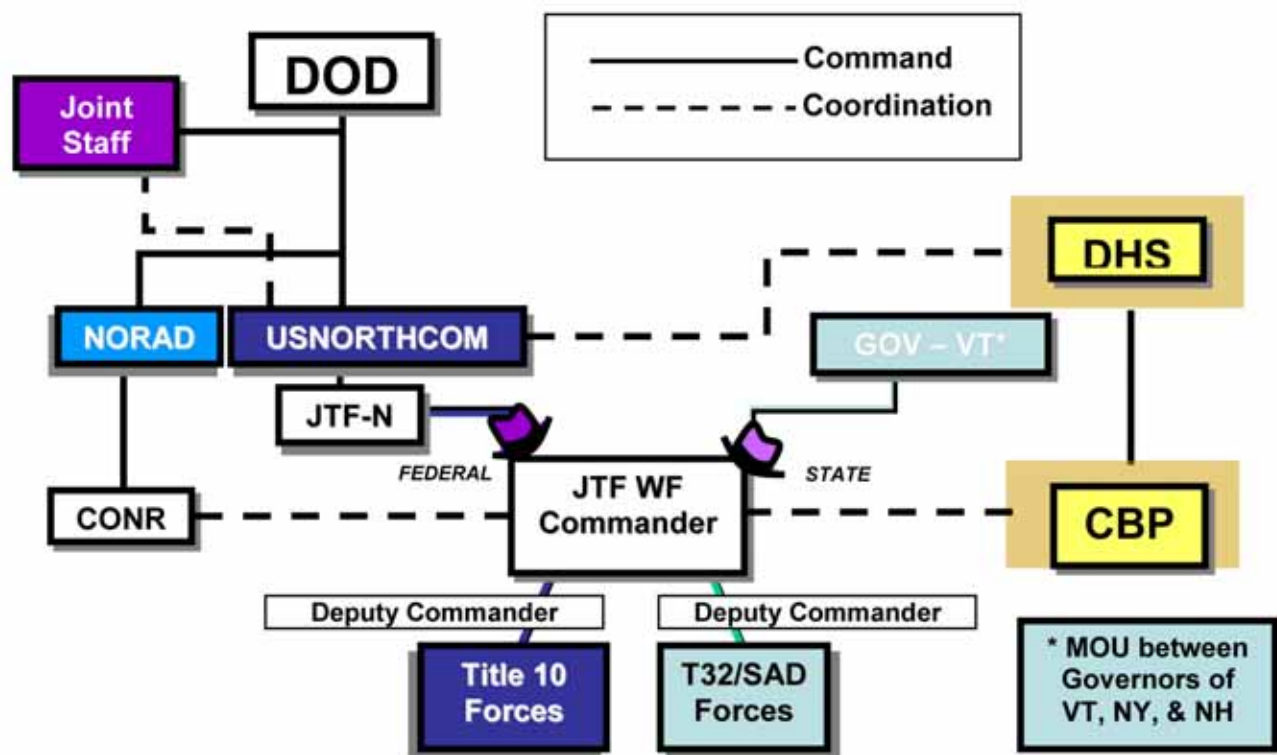


Figure 11—Command, control and coordination structure for Operation WINTER FREEZE.²⁴

three National Special Security Events (NSSE) and Operation WINTER FREEZE, a joint border security mission.

Variations on the dual-hat concept have been discussed for domestic response operations. One proposal involves dual-hatting the commander of the National Guard JTF - State. In a multi-state scenario, this individual would likely report to a Title 10 JTF commander and the state Adjutant General. Another proposal, reportedly rejected by Governor Blanco, was to appoint a Title 10 JTF Commander (LTG Honoré) as an officer in the LANG, simultaneously making him subject to her orders and the orders of the President.²⁵

Objections have been raised to the immediate and comprehensive adoption of the dual-hat concept. First, only a handful of states have ever utilized it; and the operations in which it has been employed received months of advance planning, and were miniscule compared to the Katrina response. Furthermore, the dual-hat CONOPS has not been a part of any major USNORTHCOM joint training exercise. Most importantly, it is not clear whether dual-hatting can be an effective approach for achieving integrated C2 in a crisis situation (as opposed to a pre-planned event) when a governor and the President may have differences of opinion on the appropriate response. This problem would be amplified in a multi-state catastrophic event. Finally, although Secretary McHale initially recommended to the Secretary of Defense that a dual-hat command be established following Hurricane Katrina, he indicated in later Senate testimony that he had reservations about utilizing this CONOPS in future crisis response operations.

- **Improve, identify, and resource critical National Guard shortfalls in responding to catastrophic disasters.**

Each state should determine its domestic response requirements based on the planning scenarios that are most likely to occur inside or near its borders. In turn, the NGB should identify and resource critical National Guard domestic capability shortfalls in city and state emergency response plans.

The response to Hurricane Katrina highlighted the natural tension between national defense requirements and state requirements for resourcing the National Guard for domestic operations. Equipment lost as a

result of combat damage, or left behind to support follow-on forces, reduces the National Guard's ability to respond to homeland security crises or domestic events. LTG Blum addressed this issue in recent Congressional testimony when he stated:

*“Current resource levels for combat support and combat service support equipment permit a **response** to domestic contingencies that falls short of our objectives in meeting the challenges of similar mission requirements... While we have been successful in meeting the needs of the warfighter overseas, there exists room for improvement in our capability to respond effectively to domestic mission requirements... Resourcing Guard units deploying in support of Operation IRAQI FREEDOM and Operation ENDURING FREEDOM has reduced the equipment inventory in the Guard's non-deploying units.”*

In addition to composing a significant percentage of the United States military's combat units,²⁶ the National Guard also contains many of the specially trained units that are in high demand during a domestic catastrophe. These include engineers, military police, transportation, aviation, and medical units; however, these units may not be geographically distributed so that they are in proximity to the locations where they would most likely be needed for a domestic operation. DOD and the NGB should review the types of National Guard units available, their level of resourcing, and their locations to ensure its force structure is adequate to meet domestic response requirements in a timely, efficient, and effective manner.

The NGB LNO “fly away” teams were instrumental to coordinating state and federal military actions during Katrina relief operations. These teams should be further staffed and resourced with trained and experienced Army and Air National Guardsmen to support multiple disasters or catastrophic events. As DOD's “channel of communications” to the states, this is a natural role for NGB.

The relatively new National Guard Weapons of Mass Destruction (WMD) Civil Support Teams (CST) functioned very well during the Katrina disaster.²⁷ All or parts of 19 CSTs deployed to Louisiana, Mississippi, and Texas in response to Hurricanes Katrina and Rita. Composed of 22 full-time (Title 32) National Guard members from the ARNG and ANG, the CST was

designed to support civil authorities at a domestic chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE) incident site by identifying agents/substances, assessing current and projected consequences, advising on response measures, and facilitating additional support. The CST's C2 technology was noted as being particularly valuable. Their organic satellite, secure, and cellular telecommunications equipment proved useful to the overall Katrina response when normal communications systems were seriously disrupted.

As mentioned earlier, one of the more unusual National Guard missions during the Katrina response involved the removal of an estimated \$50 million from the flooded Loomis, Fargo, and Company building by members of the Nebraska National Guard Counterdrug Task Force. Another notable use of Counterdrug Task Force assets involved OH-58 rotary wing aircraft, equipped with forward looking infrared (FLIR) imaging equipment. These aircraft, which normally search for marijuana plants, were used to identify personnel at night needing to be rescued. However, there was much discussion during the operation as to the legality of using counterdrug aircraft for this type of mission. These important assets represent capabilities within the states' National Guard units that should be available for domestic response missions.

Endnotes:

¹ The largest previous National Guard domestic disaster response mission was the 1989 San Francisco earthquake requiring 32,700 Guardsmen. Other large domestic disaster responses include Hurricane Agnes in 1972 - 11,100 Guardsmen; the 2004 hurricanes (Charlie, Francis, Ivan and Jeanne) - 10,000 Guardsmen; the 1993 Mississippi River floods - 8,400 Guardsmen; Hurricanes Connie and Diane in 1955 - 8,100 Guardsmen; and Hurricane Andrew in 1989 - 7,700 Guardsmen.

² An initial USNORTHCOM teleconference was conducted at 1530 hours on 24 August 2005. Other participants were US Army Forces Command (FORSCOM), First United States Army, Fifth United States Army, the Federal Emergency Management Agency (FEMA) National Headquarters, FEMA Regions 4 and 5, and US Joint Forces Command (USJFCOM).

³ These teams were commonly known as NGB "fly away" teams because they deployed from NGB Headquarters in Arlington, Virginia to any state that requested their support. The purpose of these teams was to serve as liaisons between the individual states and National Guard Bureau.

⁴ Teleconference participants included the National Guard in Florida, Alabama, Georgia, South Carolina, North Carolina,

Kentucky, and Pennsylvania, as well as USNORTHCOM, the Joint Staff Joint Director for Military Support (JDOMS), FEMA, and FORSCOM.

⁵ The Superdome roof suffered some damage from the storm, primarily in the form of two tears in the roof; however, significant damage to the roof subsequently occurred as helicopters landed near the facility to conduct evacuation operations and the downdraft from their rotors affected the already damaged roof covering.

⁶ The area immediately surrounding the convention center was not flooded. The massive center contains 1.1 million square feet of exhibit space on the main level and 140 meeting rooms on the upper level.

⁷ Title 32 USC 904(a) limits the period of service for a National Guardsman performing homeland defense duties under Title 32 USC 901 *et seq.* to 180 days, with a possible 90-day extension to meet extraordinary circumstances.

⁸ Title 32 USC 902(a) states: "the Secretary of Defense may provide funds to a governor to employ National Guard units or members to conduct homeland defense activities that the Secretary, determines to be necessary and appropriate for participation by the National Guard units or members, as the case may be."

⁹ Under Title 32 USC 901(1), the term "homeland defense activity" means an activity undertaken for the military protection of the territory or domestic population of the United States, or of infrastructure or other assets of the United States determined by the Secretary of Defense as being critical to national security, from a threat or aggression against the United States. Governor Blanco's request appeared to be based on the National Guard's protection of critical infrastructure in the region.

¹⁰ Title 32 USC 502(f)(2). Duty would be performed under the category "other duties."

¹¹ A detailed discussion of the impact of the transition from State Active Duty to Title 32 is beyond the scope of this paper.

¹² According to the official NGB JOC timeline, the National Guard response peaked at 50,150 personnel on 7 September.

¹³ The California National Guard had approximately 15,900 ARNG and 4,569 ANG personnel, while the Virgin Island National Guard had approx. 735 ARNG and 58 ANG personnel. Texas had more ARNG personnel (approx. 16,934) than California, but less ANG personnel (approx. 3,190), making it the second largest National Guard.

¹⁴ The total DOD reserve manpower as of 30 September 2004 was 1,154,003. This included the ARNG, which numbers 344,346; ANG, 106,822; US Army Reserve, 319,578; US Naval Reserve, 151,145; US Marine Corps Reserve, 102,435; and US Air Force Reserve, 129,677.

¹⁵ "Up-armored" describes the addition of armor plates to the exterior of the vehicle to better protect the occupants from explosions, such as improvised explosive devices emplaced along convoy routes. Most HMMWVs in the DOD inventory did not have this additional armor plating prior to being deployed.

¹⁶ EMAC gained national recognition in 2004 when four major hurricanes made landfall in the southeastern U.S. during a six-week period. This precipitated what was then the largest utilization up to that date of state-to-state mutual aid in our nation's history. Personnel from 38 EMAC member states and California were deployed for 99 consecutive days to Florida, Alabama, and West Virginia in support of the 2004 hurricane operations.

¹⁷ All states except Vermont are required to balance their budget for each budget cycle either by state constitution or statute. When a state's spending exceeds its revenues, it is forced to issue debt or raise taxes. Many state constitutions impose a debt limit. Raising taxes following a major disaster is not an attractive option due to the decline in economic activity and narrowing of the tax base.

¹⁸ The last major National Guard operation, which was federally funded under Title 32 was the airport security mission following the terrorist attacks of 11 September 2001.

¹⁹ Each state and territory pays its National Guardsmen on State Active Duty orders according to state law. Delaware and Iowa were the only two states that chose not to transition their Guardsmen to Title 32 from State Active Duty during the Katrina response. The *2005 National Guard Almanac*, indicates Delaware National Guardsmen on State Active Duty orders receive two times federal pay, with no allowances. Iowa pays its National Guardsmen military pay and allowances, with a minimum of \$100 a day base pay.

²⁰ The Insurrection Act encompasses Title 10 USC §§ 331-335. Section §332 states: "Whenever the President considers that unlawful obstructions, combinations, or assemblages, or rebellion against the authority of the United States, make it impracticable to enforce the laws of the United States in any State or Territory by the ordinary course of judicial proceedings, he may call into Federal service such of the militia of any State, and use such of the armed forces, as he considers necessary to enforce those laws or to suppress the rebellion."

²¹ The Posse Comitatus Act is codified at 18 USC 1385 and applies only to the Army and Air Force. DOD Directive 5525.5, "DOD Cooperation with Civilian Law Enforcement Officials," further restricts the actions of all Title 10 forces in civilian law enforcement operations.

²² It has been suggested that DOD's approval of Title 32 funding of National Guard forces for domestic disaster response could be conditioned upon state government cooperation with the NGB on matters related to the interstate deployment/employment of National Guard troops.

²³ According to Louisiana Governor Kathleen Blanco during Senate testimony, "There is not a governor in this country, four territories or DC, the mayor of DC, who would give up

control of the National Guard. You absolutely have to have the law enforcement capacity of the Guard in these circumstances."

²⁴ During Operation Winter Freeze the assistant TAG of Vermont, Brigadier General Thomas Shailor served as the dual-hat commander in accordance with a MOA with the other two states, New York and New Hampshire. Within the Department of Homeland Security (DHS), the US Customs and Border Protection (CBP) was designated as the lead federal agency for the operation.

²⁵ Under the United States Constitution, each state is reserved the power to appoint officers within its National Guard.

²⁶ Army units are categorized as combat, combat support and combat service support. Combat units include infantry, armor, field artillery, aviation and engineers. Combat support units include military police and signal. Combat service support includes medical and transportation units, among others.

²⁷ The WMD CSTs are congressionally mandated. The first ten WMD CSTs were established in 1998. To date, the United States Congress has authorized a total of 55 of these teams. When all teams have been certified, there will be at least one team allocated in each of the 54 National Guard organizations. The state of California is authorized two teams due to its population and size. At the date of this report, there were 32 certified CSTs. Twelve other states are currently in the process of getting their CSTs certified. The final eleven teams to be authorized and funded are currently being organized. Congressional restrictions currently restrict the deployment of the CSTs to domestic response and prohibit their overseas deployment.

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Learning from Disaster: The Role of Federalism and the Importance of Grassroots Response

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Backgrounder #1923

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In the aftermath of the widespread devastation wrought by Hurricane Katrina and the unsteady response to conditions in New Orleans, some argued to give the federal government a much more intrusive role in meeting future catastrophic emergencies.¹ While improvements in the federal response are necessary, turning responsibility for everything over to Washington is a terrible idea.

Homeland security and disaster management are national, not just federal, missions. The right response to domestic emergencies requires effective action from state and local governments, private-sector and voluntary associations, and communities and individuals, as well as support from federal officials. The best way to ensure cooperation and to meet shared responsibilities is not to put big government in charge.

Federalism has long been the guiding principle for allocating responsibilities to meet the needs of citizens after disasters. Remaining committed to a federalist approach is not just being a slave to tradition. It is a precedent based on practicality and experience. Both scientific research on disaster response and an analysis of recent emergencies argue that it is still the right approach. Many of the best efforts to save lives and safeguard property highlight the vital role that nongovernmental organizations (NGO), private-sector initiatives, and individual civic deeds play during extreme emergencies. In fact, they argue that rather than being supplanted by federal oversight, grassroots responses should be the cornerstone of the national effort.

The federal government can best facilitate establishing an effective national response to catastrophic disaster by meeting its own responsibilities, creating a national response system that promotes collaborative effort, and

supporting “train the trainer” programs that help communities to build strong grassroots response.

The Constitution and Governance

Embodied in the United States (US) Constitution, the principles of limited government and federalism give citizens and local communities the greatest role in shaping their lives. The 10th Amendment states that “powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.” In matters relating to their communities, local jurisdictions have the preponderance of authority and autonomy. This just makes sense: The people closest to the problem are the ones best equipped to find the best solution.

America’s system for disaster response reflects these principles. The core assumption is that incidents are typically managed best at the lowest possible geographic, organizational, and jurisdictional levels. Several reasons justify this approach.

- **Every community is unique.** Preparedness planning must account for local conditions of culture, geography, language, infrastructure, politics, and numerous other factors.
- **Local communities have the resources.** Since local communities are responsible for public safety, they already have the preponderance of assets that are usually required to deal with problems. Of the millions of emergency responders in the United States—including fire, police, emergency services, utility workers, medical personnel, and volunteer groups—the vast majority work either for or with local communities.
- **Time matters.** In most disasters, the first few hours are critical. Most life-threatening injuries require immediate attention. Since local responders are already in the jurisdiction, they are likely the only personnel that can reach the disaster scene in time to make a difference.
- **Priorities matter.** Large-scale disasters will require states and the federal government to prioritize the allocation of additional resources to help affected communities throughout a region. The more robust the local response, the more aid can

be focused on the areas most greatly affected by the disaster.

- **It encourages preparedness.** If local communities are not primarily responsible for disaster response, they will be less likely to invest in the resources and assets needed to safeguard their citizens.

A federalist approach to disaster response for a nation like the United States, with its vast population, wide geographical area, diverse regional conditions, and traditions of strong state and local governments and volunteerism, is the only practical choice.

National planning documents for homeland security adhere to the conviction that the federal government should reinforce—not replace—state, local, and nongovernmental efforts. Federal law, especially the Robert T. Stafford Emergency and Disaster Assistance Act,² and presidential directives embody this tiered approach in which state and local authorities have the initial lead role in managing emergencies within the United States.³

State and local governments devise the emergency response and evacuation plans for their jurisdictions and authorize their implementation. Each state decides for itself the precise delineation of authorities and responsibilities for emergency response between statewide and local public bodies (e.g., municipalities and counties). The common planning assumption is that communities need to manage a local emergency largely by themselves for up to 72 hours until substantial federal assistance can be mobilized and deployed on the scene.

The National Response Plan (NRP) provides the framework for delineating responsibilities during a domestic emergency. The NRP designates which federal agencies and programs are activated in various types of incidents or threat conditions. In particular, it specifies 15 emergency support functions (ESF) and states which organizations are primarily responsible for coordinating each ESF during an emergency. The NRP also indicates how federal agencies interact with state, local, and tribal governments and the private sector, and it identifies when federal authorities assume control of the national response.⁴

The Constitution, in such clauses as “provide for the common defense,”⁵ recognizes the ultimate role of the

federal government in preventing and managing large-scale terrorist attacks and other emergencies. When the scale of an incident exceeds the capacity of state and local actors to respond, the Federal Emergency Management Agency (FEMA) and other US government agencies mobilize to provide assistance.⁶ Such intervention requires the President, following an appeal from a state governor, to issue a disaster or emergency declaration that authorizes supplemental federal assistance to the stricken area.

However, even in this case, state bodies retain much authority over the response—and that is the way it should be. As long as state and local governments remain viable and operate within federal law, their sovereign authority to look after their citizens should not be questioned.

National Volunteer Network

Nongovernmental actors such as private businesses and voluntary associations can also make substantial independent contributions. Federal plans describe how Washington interfaces with the private sector and NGOs in the event of disaster. Homeland Security Presidential Directive 5 states:

The Federal Government recognizes the role that the private and nongovernmental sectors play in preventing, preparing for, responding to, and recovering from terrorist attacks, major disasters, and other emergencies. The Secretary [of Homeland Security] will coordinate with the private and non-governmental sectors to ensure adequate planning, equipment, training, and exercise activities and to promote partnerships to address incident management capabilities.⁷

The plans emphasize the federal government’s role in coordinating national activities, not in directing how and what individual communities do in the event of an emergency.

Although hundreds of national groups may respond to a disaster, the National Response Plan names only two: the American Red Cross and National Voluntary Organizations Active in Disasters (NVOAD).

- The plan assigns the Red Cross responsibility for coordinating federal mass care assistance (ESF-6) in support of state and local governments. This includes sheltering, feeding, providing emergency

first aid, providing human services like counseling, processing benefits, and maintaining the victims registry.

- The NVOAD does not offer direct support to victims. It is an umbrella organization: a coalition of over 40 of the largest groups that provide a range of emergency and support services. NVOAD primarily serves before disasters as an information-sharing and planning network for its member organizations. During disasters, it facilitates coordinating their activities with one another.⁸

The role of these national organizations, like the role of the federal government, is supporting—not taking over—local communities.

Grassroots Response

Washington's plans offer a framework for providing national assistance to local communities in times of need, both through state and local governments and through national-level NGOs. They are necessary but not sufficient. They are designed to supplement, not supplant, grassroots responses—and with good reason. Current research on disaster preparedness argues that community-centered disaster preparations are far more effective than Washington-centric planning.

More Effective Planning. A study by the Center for the Advancement of Collaborative Strategies in Health examined how communities would react to two kinds of terrorist attacks: a smallpox outbreak and a dirty bomb explosion. The study found that most extant response plans will not work. Surveys suggested that most individuals would not follow instructions such as reporting to vaccination sites or sheltering-in-place when required.

The study found that most people have common-sense reasons for noncompliance. People have little faith in plans that affect their personal safety and that were developed without their direct involvement. The public has little confidence that the planning of professionals necessarily offers the best course of action to protect themselves and their families. This is especially true when plans ask them to do things that are counterintuitive, such as not going to school to pick up their children during an emergency. On the other hand, the study found that disaster planning that included input from the community resulted not only in higher quality

plans, but also in far higher levels of community approval and confidence in the plans.⁹

More Meaningful Response. Not only does community-centered planning offer better prospects for developing better plans and obtaining greater public support, but grassroots efforts make for more resilient responses in the event of disaster. Indeed, community-centered actions, in which citizens take care of themselves and their neighbors, are more effective and have therapeutic mental health effects. One disaster research study found that when community ties “are strong, supportive, and responsive to the individual’s physical and emotional needs, the capacity to withstand and overcome stress is heightened.”¹⁰ Citizens feel more secure and better cared for when they are looked after by members of their own community.

More Versatile Response. Another reason why grassroots responses are essential is that as the scale of the disaster increases, so does the likelihood of confusion and ambiguity. Under these conditions, improvisation and adaptation are crucial to eliciting an effective response, particularly in the first hours and days of a catastrophe before organized responders can reach the scene. Research has found that the communities themselves are the best source of innovation and ingenuity, and the stronger the community, the more resourceful and robust is the nature of its adaptive qualities.¹¹

America in Action

The efficacy of grassroots response was demonstrated in the wake of Katrina. National-level organizations—not just the federal government, but nongovernmental agencies such as the Red Cross and the Salvation Army—proved unable to mobilize an effective response. They lacked adequate situational awareness of local needs and the means to deploy the right resources to the right place at the right time to do the right thing.

In contrast, local communities in many cases provided the most effective response. One district in Louisiana had 40 operating shelters in the immediate aftermath of the storm, and less than 10 were Red Cross shelters. Tens of thousands of people were sheltered and fed by local efforts.

“The best job,” argued Representative Jim McCrery (R-LA), was done by “ordinary people who came out

of their homes and bought diapers and pillows and blankets and food and stayed at the high school gymnasium or wherever, the civic center in some small town and cooked for the people who were there, who gave them rides to the Social Security office to make sure they got their checks.”¹² Additionally, local faith-based organizations responded quickly and effectively by providing facilities and resources and by mobilizing volunteers. Louisiana residents affected by these two storms generally rated the assistance provided by private sources such as nonprofit, community, and faith-based organizations substantially higher than assistance from federal, state, and local governments and national organizations like the Red Cross.¹³

Such views are not exceptional. Traditionally, local churches provide immediate assistance to a stricken area, the American Red Cross takes the lead in providing emergency relief a few days later, and other charities (many from the affected community itself) then focus on long-run recovery.

In the aftermath of Katrina, the grassroots response proved especially important. Overwhelmed American Red Cross personnel required an exceptionally long time to service many of the smaller, often rural Gulf Coast communities and declined to operate in some locations when they feared for the safety of their volunteers and the victims (e.g., because of fear of strong winds or unsanitary conditions).¹⁴ Government agencies also found it difficult to provide timely assistance to all residents of the many devastated areas. Private civic efforts (often local churches) filled many of these gaps through countless, if often unrecorded, acts of generosity. In cooperation with neighbors, friends, and fellow sufferers, victims also organized to help themselves—a step that mental health professionals consider essential to overcoming feelings of powerlessness and trauma.¹⁵

The Not-So-Local Community

Since New Orleans has an unusually large number of long-term residents, they perhaps found it easier to form self-help networks than would communities with more transient inhabitants. On the other hand, local newspapers throughout the United States reported how myriad groups organized to help to fill the gap by collecting money, food, clothing, and other supplies; sending them to stricken regions; and distributing them to Katrina victims, either in the Gulf Coast states or wherever they had been evacuated. Although they lacked the resources available

to government agencies, their smaller size and innovative approaches often allowed them to respond more flexibly than their larger, more established partners.¹⁶

As after the terrorist attacks on September 11 and the tsunami in the Indian Ocean, large corporations and small enterprises donated hundreds of millions of dollars in cash, goods, and services after Katrina and Rita. Umbrella associations such as the Business Roundtable played an important role in connecting companies seeking to provide assistance with points of contact in government and nongovernmental sectors.¹⁷ For example, Wal-Mart provided 2,500 trailers of emergency supplies within the first three weeks of the disaster. In some cases, local Wal-Mart managers organized their stores as caches of supplies for local responders and disaster victims.¹⁸

Modern communications technologies such as the Internet also facilitated the development of virtual communities among concerned people. Many commercial Web sites (including Amazon, Google, MSN, and Yahoo) offered visitors the opportunity to donate cash to hurricane victims with just a few clicks of a mouse.

In addition to the corporate response, Korean, Hispanic, Vietnamese, and African-American media and local activist groups around the country were especially active in mobilizing support for fellow ethnic people affected by the disaster. Fearful of dealing with the federal government, illegal immigrants came to depend heavily on such private assistance.

Indeed, in 21st century America, the “local” community is defined by more than just geographic proximity. As one research study found, in modern urban societies, “people’s personal communities often transcend time and space and the traditional categories of [geographic and demographic] groups.”¹⁹ These extended communities, whether based on corporate responsibility, social action, or individual initiative, are also an important part of the grassroots response.

Learning from Katrina

The worst reaction to the aftermath of Katrina would be to adopt a more heavy-handed federalized approach, which would undercut the very kinds of responses that proved the most effective. This is not to say that Washington’s response does not need to be improved significantly. The federal government has a unique and important role to play. Only the federal government can build a national response system of the kind needed in

a catastrophic disaster (like Katrina) to mobilize the resources of the nation in the face of a disaster that immediately overwhelms local leaders and puts tens of thousands of lives at risk.²⁰

The federal government is also responsible for building the “plugs” that allow state and local government to “plug” into the system. This includes training, education, planning, interoperable communications, and effective information sharing.²¹ Beyond that, the federal government should focus federal dollars on building up the federal assets needed to respond to catastrophic disasters.

As part of the federal effort, more can be done to improve Washington’s support for building grassroots responses.²² The Department of Homeland Security (DHS) should:

- **Create regional outreach offices.** The country needs a national homeland security system that mobilizes public safety officials and state and local governments as effective partners in emergency response. For more effective coordination among these different levels of government and the private sector, the DHS should create regional field offices as required by the Homeland Security Act of 2002. Among their primary duties, the regional offices should work with state and local officials to encourage strong community-based efforts.²³
- **Deemphasize national preparedness programs.** Initiatives like Ready.gov and National Preparedness Month are redundant to programs run by the American Red Cross and will never be as effective as programs run by communities with the participation and leadership of local citizens.
- **Train the trainers.** The DHS can help state and local communities develop a culture of preparedness by helping them to establish training programs for state and local leaders, who in turn can work to help develop strong community-centered programs.

For its part, Congress should:

- **Reform the grant formulas.** Washington’s approach to funding state and local security has been flawed from the start. The Patriot Act requires a significant portion of homeland security grants to be divided among the states without regard to need

or risk. As a result, 40 percent of the state grants are simply entitlements. As the 9/11 Commission’s report accurately stated, the current system is in danger of turning homeland security grants into “pork barrel funding.”²⁴ Grants should be based on risk, vulnerability, and national priorities, not on past funding or state population. Congress should repeal or substantially reduce the congressionally mandated state minimums. This would allow available funds to be used to build a national response system that supports state and local efforts and encourages communities to look after their own needs rather than wait on Washington.

- **Require the DHS and the Department of Health and Human Services to establish joint working groups.** These groups should (1) promote the development of community-centric planning; (2) help state and local officials provide the necessary means and infrastructure for the American public to volunteer to assume a direct and influential role in community-based disaster preparedness, response, recovery, and mitigation planning efforts; and (3) develop standards to measure the success of community disaster planning efforts.

Conclusion

Preparedness and response programs run by Washington bureaucrats that diminish the role and responsibilities of state and local governments will not make Americans safer. Instead, they will waste tax dollars and divert the DHS from tasks that would make a difference.

Federal, state, and local governments need to work together to encourage, not supplant, community-centered programs. As with many other homeland security missions, applying—rather than trying to circumvent—the principles of federalism usually produces the best results.

Endnotes:

¹ For example, see George Lakoff and John Halpin, “Framing Katrina,” *The American Prospect*, October 7, 2005, at <http://www.prospect.org/web/page.www?section=root&name=ViewWeb&articleId=10391> (January 30, 2006).

² 42 U.S. Code 5121 *et seq.*

³ “The Federal Government recognizes the roles and responsibilities of State and local authorities in domestic

incident management. Initial responsibility for managing domestic incidents generally falls on State and local authorities.” George W. Bush, “Management of Domestic Incidents,” Homeland Security Presidential Directive HSPD–5, Section 6, at <http://www.whitehouse.gov/news/releases/2003/02/20030228-9.html> (January 30, 2006).

⁴ U.S. Department of Homeland Security, *National Response Plan*, December 2004, at <http://www.dhs.gov/interweb/assetlibrary/NRPbaseplan.pdf> (January 30, 2006).

⁵ U.S. Constitution, Article I, Section 8.

⁶ For more on FEMA’s role, see James Jay Carafano, Ph.D., and Richard Weitz, Ph.D., “The Truth About FEMA: Analysis and Proposals,” Heritage Foundation *Backgrounders* No. 1901, December 7, 2005, at <http://www.heritage.org/Research/HomelandDefense/bg1901.cfm>.

⁷ Bush, “Management of Domestic Incidents,” Section 7.

⁸ U.S. General Accounting Office, *September 11: More Effective Collaboration Could Enhance Charitable Organizations’ Contributions to Disasters*, GAO–03–259, December 19, 2002, at <http://www.gao.gov/new.items/d03259.pdf> (January 30, 2006).

⁹ Roz D. Lasker, “Redefining Readiness: Terrorism Planning Through the Eyes of the Public,” *New York Academy of Medicine*, September 14, 2004, at <http://www.cacsh.org/pdf/RedefiningReadinessStudy.pdf> (January 30, 2006).

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¹¹ Gary R. Webb, Michael Beverly, Megan McMichael, James Noon, and Tabitha Patterson, “Role Improvising Under Conditions of Uncertainty: A Classification of Types,” University of Delaware, Disaster Research Center *Preliminary Paper* No. 289, 1999, at http://www.udel.edu/DRC/Preliminary_Papers/pp289.pdf (January 30, 2006).

¹² *To Review the Response by Charities to Hurricane Katrina*, hearing before the Subcommittee on Oversight, Committee on Ways and Means, U.S. House of Representatives, 109th Cong., 1st Sess., December 13, 2005, at <http://waysandmeans.house.gov/hearings.asp?formmode=view&id=4682> (March 17, 2006).

¹³ Audrey Hudson, “Storm Victims Praise Churches,” *The Washington Times*, December 2, 2005, at <http://www.washingtontimes.com/national/20051201-114736-6989r.htm> (March 15, 2006).

¹⁴ Stephanie Strom and Campbell Robertson, “As Its Coffers Swell, Red Cross Is Criticized on Gulf Coast Response,” *The New York Times*, September 20, 2005, p. A24.

¹⁵ See Marianne Szegedy-Maszak, “Shattered Lives,” *U.S. News & World Report*, October 3, 2005, pp. 50–54, and Cynthia Fagnoni, testimony before the Subcommittee on Oversight, Committee on Ways and Means, U.S. House of Representatives, December 13, 2005.

¹⁶ Many of their contributions are recounted in William Schambra, “Katrina and the American Idea of Community,” *Philanthropy*, forthcoming.

¹⁷ Jeffrey H. Birnbaum, “Stepping Up: Corporate Efforts for the Stricken Gulf Are Unprecedented,” *The Washington Post*,

September 4, 2005, p. F1, at <http://www.washingtonpost.com/wpdyn/content/article/2005/09/03/R2005090300253.html> (March 16, 2006).

¹⁸ Jason Jackson, testimony before the Committee on Homeland Security and Government Affairs, U.S. Senate, November 16, 2005.

¹⁹ Charles E. Fritz, “Disasters and Mental Health: Therapeutic Principles Drawn from Disaster Studies,” University of Delaware, Disaster Research Center *Historical and Comparative Disaster Series* No. 10, 1996, p. 78, at <http://www.udel.edu/DRC/preliminary/handc10.pdf> (February 21, 2006).

²⁰ For recommendations on improving the federal response to catastrophic disasters, see James Jay Carafano, Ph.D., “Improving the National Response to Catastrophic Disaster,” testimony before the Committee on Government Affairs, U.S. House of Representatives, September 15, 2005, at <http://www.heritage.org/Research/HomelandDefense/tst091505a.cfm>.

²¹ Homeland Security Presidential Directive 8 describes the kind of national effort that is required. Under its auspices, the DHS is establishing national performance standards, developing the means to measure readiness and allocating funds based on national priorities. See James Jay Carafano, Ph.D., “Homeland Security Dollars and Sense #4: An End to Pork Barrel Security Grants?” Heritage Foundation *WebMemo* No. 962, January 23, 2006, at <http://www.heritage.org/Research/HomelandDefense/wm962.cfm>.

²² James Jay Carafano, Ph.D., “Beyond Duct Tape: The Federal Government’s Role in Public Preparedness,” Heritage Foundation *Executive Memorandum* No. 971, June 3, 2005, at <http://www.heritage.org/Research/HomelandDefense/em971.cfm>.

²³ Edwin Meese III, James Jay Carafano, Ph.D., and Richard Weitz, Ph.D., “Organizing for Victory: Proposals for Building a Regional Homeland Security Structure,” Heritage Foundation *Backgrounders* No. 1817, January 21, 2005, at <http://www.heritage.org/Research/HomelandDefense/bg1817.cfm>.

²⁴ Chairman Thomas H. Kean and Vice Chairman Lee H. Hamilton, remarks on Final Report of the 9/11 Public Discourse Project, December 5, 2005, p. 2, at http://www.9-11pdp.org/press/2005-12-05_statement.pdf (March 16, 2006).

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Proposals to Improve Federal Response to Natural and Man Made Disasters

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Federal response to Hurricane Katrina highlighted numerous problems with the interface of federal agencies with state, local, and tribal first response organizations. Three areas present themselves as low hanging fruit in the effort to improve this interface.

There is no existing command and control (C2) architecture that is consistent across the United States, territories, and possessions and that links the Department of Defense (DOD) and other Federal departments and agencies in support of homeland defense (HD) and civil support (CS). An integrated national, regional, and state approach could provide a federal command and control coordination capability for federal agencies and link state and federal organizations. At the regional level the structure could provide timely visibility on geographically close resources, as well as a backup for any state which lost its own C2 capability. A standardized, command facility and deployable capability, to include connectivity and communications applications, provided for and maintained by the Department of Homeland Security (DHS), could provide a national approach to response to special security events as well as natural and man made disasters. At the state level the C2 centers are the governors' command center. Budgeting will be the responsibility of DHS per Chapter 1, Title 6 United States Code (USC), Section 103.

A separate, but related proposal is to coordinate the organization and structure of federal regions across departments and agencies for a more rational approach to existing regional constructs.

Finally, the National Guard (NG) and Reserve (RES) structures must be, and are being, reevaluated based on the requirements of the Global War on Terrorism, national strategic goals and objectives, the Quadrennial Defense Review, revisions of the Unified Command Plan, and the Base Realignment and Closure Commission recommendations. By focusing on the HD and CS mission areas, the NG in particular can build on traditional strengths while providing depth in knowledge and experience.

With four significant data points (G8 Summit, Republican National Convention, Democrat National Convention, and the 2005 Presidential Inauguration) as well as the recent requirements of Hurricanes Katrina and Rita and the 9/11 Commission Report, system and process shortfalls for federal response have been identified. While these events had US Northern Command (USNORTHCOM) acting in a supporting role for CS; process and system connectivity to the state and local levels of government are essential for an effective response in either CS or HD.¹

Proposal One – Integrated Command and Control

DOD organizations have their own command and control systems and processes, some unique, others common across the DOD. This DOD approach must be expanded to integrate Federal with Regional and State approaches to command and control architecture. Currently, DHS has a centralized command center, USNORTHCOM has a command center, and the states have some form of emergency command and control center for the governor of the state.

Each state will create and man an emergency operations center (EOC), minimally manned 24-hours a day/7-days per week (24/7) with NG personnel, as a modification of existing NG state headquarters and in accordance with the creation of Joint Task Force – State (JTF-State) for every state. EOCs will be funded by DHS.

The Hurricane Katrina response highlighted the difficulty in coordinating a regional approach to disasters. LTG Honoré, as the regional JTF Katrina Commander, had some difficulties implementing decisions that ran across state boundaries. This shortfall argues for a regional approach to C2, at least to monitor and coordinate the use of scarce resources.

Regional operations centers (ROC) will monitor readiness status and in place agreements for all units in the region to include NG, RES, and active duty units and bases. ROC manning will be provided by each federal and state department and agency on full and/or part time basis. ROCs will be paid for by DHS, run 24/7 by the RES and have coordination authority only.

As illustrated in Figure 1, during civil support missions, the EOC provides a C2 center for the governor of a state, as well as a physical focal point for federal liaisons. The EOC is a part of the federal, state, and

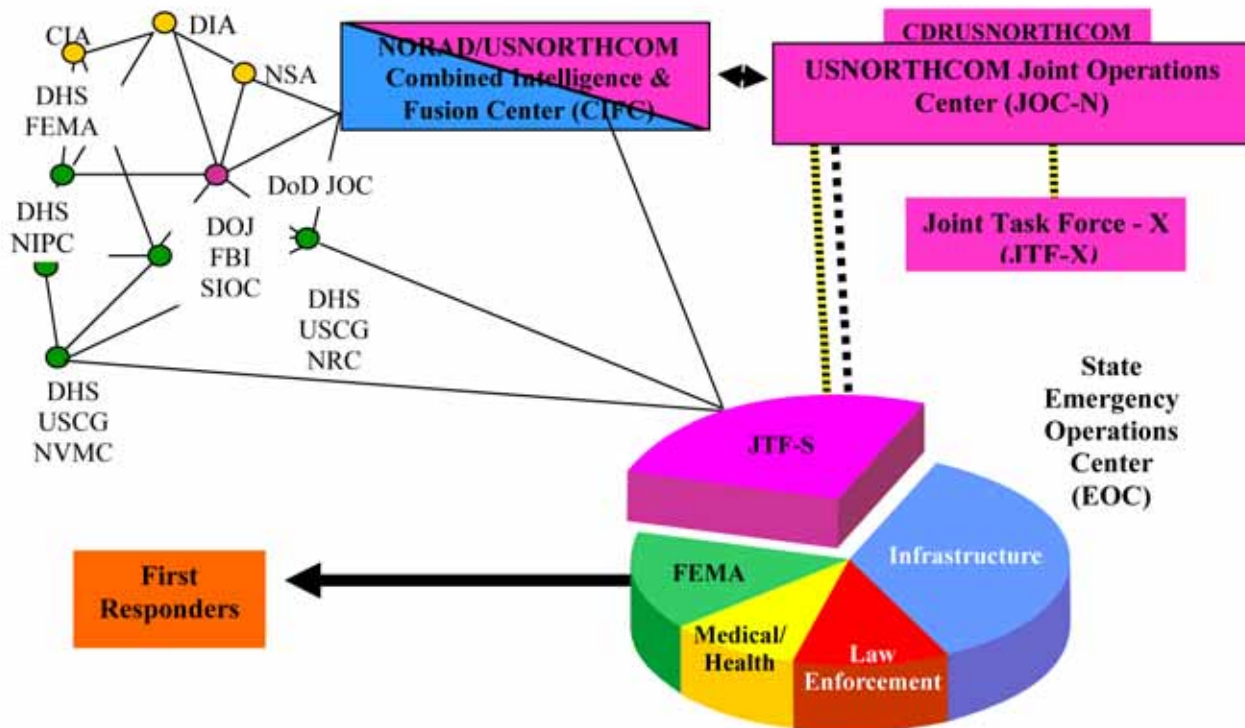


Figure 1– EOC and Federal Network with USNORTHCOM

local integrated network, capable of sharing data across standardized applications.

Creation of a ROC, with coordination authority, builds on NG procedures to establish agreements between states to share NG resources and the development of JTF-State.

Proposal Two – Rationalizing the Regions

While the concept of a ROC is interesting and meets a demonstrated need, there is no comprehensive federal approach to regions. At the federal level, agencies like DHS (e.g., Federal Emergency Management Agency (FEMA), US Army Corps of Engineers (ACE), Department of Justice (DOJ), US Coast Guard, Veterans Administration hospitals, and medical response areas) are organized along regional lines. The regions are not aligned with one another or state borders.

The following figures reflect examples of existing federal organizations and their regional structures.

Figure 2 depicts the Department of Veterans Affairs (DVA) health care system regions; 158 hospitals, with at least one in each of the 48 contiguous states, Puerto Rico, and the District of Columbia. DVA operates 854

ambulatory care and community-based outpatient clinics, 132 nursing homes, 42 residential rehabilitation treatment programs, and 88 comprehensive home-care programs. DVA health care facilities provide a broad spectrum of medical, surgical, and rehabilitative care. DVA's medical system serves as a backup to the Defense Department during national emergencies and as a federal support organization during major disasters.

In Figure 3, the Coast Guard's field operating units are divided into two regions: the Atlantic Area, based in Portsmouth, Virginia; and the Pacific Area, in Alameda, California. Each of these Areas is further broken down into districts, with district headquarters located in nine key cities around the country. Each district, in turn, includes a wide range of facilities; marine safety offices, groups, air stations, boat stations, and cutters.

DOD Joint Regional Medical Planning and Operations Offices (JRMPO) establish and maintain a liaison with governmental and healthcare agencies including Department of Health and Human Services (DHHS), FEMA, DVA, Federal Bureau of Investigation (FBI), and DOD. They are the DOD medical connection to FEMA and DHHS, and educate and advise on DOD medical capabilities, response times, and operating requirements. JRMPOs also provide interagency

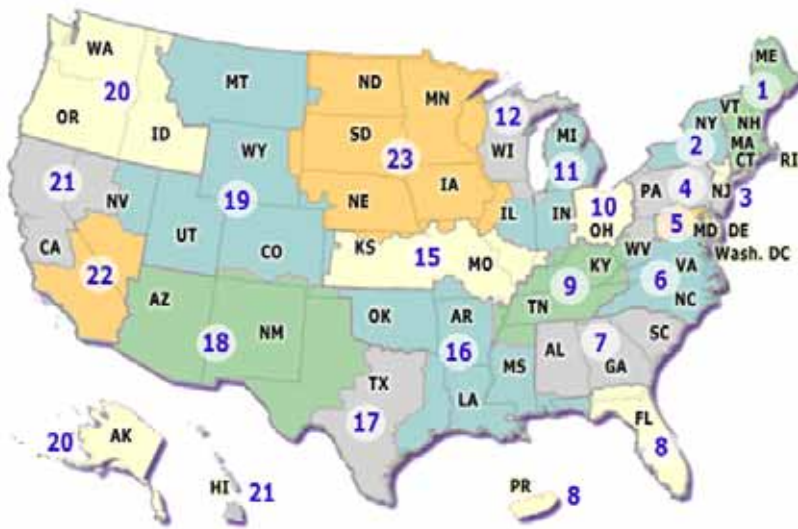


Figure 2—Veterans Integrated Service Networks (VISNs)

medical planning assistance to lead agencies and regional planning agents upon request. JRMPOs are shown in Figure 4.

Figures 5 and 6 illustrate the Army Corps of Engineers Divisions and the existing FEMA regions, respectively. As these diagrams demonstrate, the key organizations for response to natural and man made disasters already

have a regional approach. There are, however, no efficiencies in the current design since there is no common C2 structure or processes. In fact, the disparate dividing lines can contribute to confusion and lack of response.

The existing FEMA regions, although convenient as a starting point, are not adjusted for the combination of state boundaries, the population base that the NG will require for recruiting support, and the distribution of resources. Population is also reflective of the availability of resources. Therefore, the next step will adjust the regions

with the NG constraints in mind. An example of this approach follows; the color-coded boxes correspond to population totals in the regions.

The figure 7 proposal meets our assumptions for alignment with state geographic boundaries, while providing a catchment area with a population base ranging from 19 to 47 million. This is only one example



Figure 3—US Coast Guard Regions and Areas

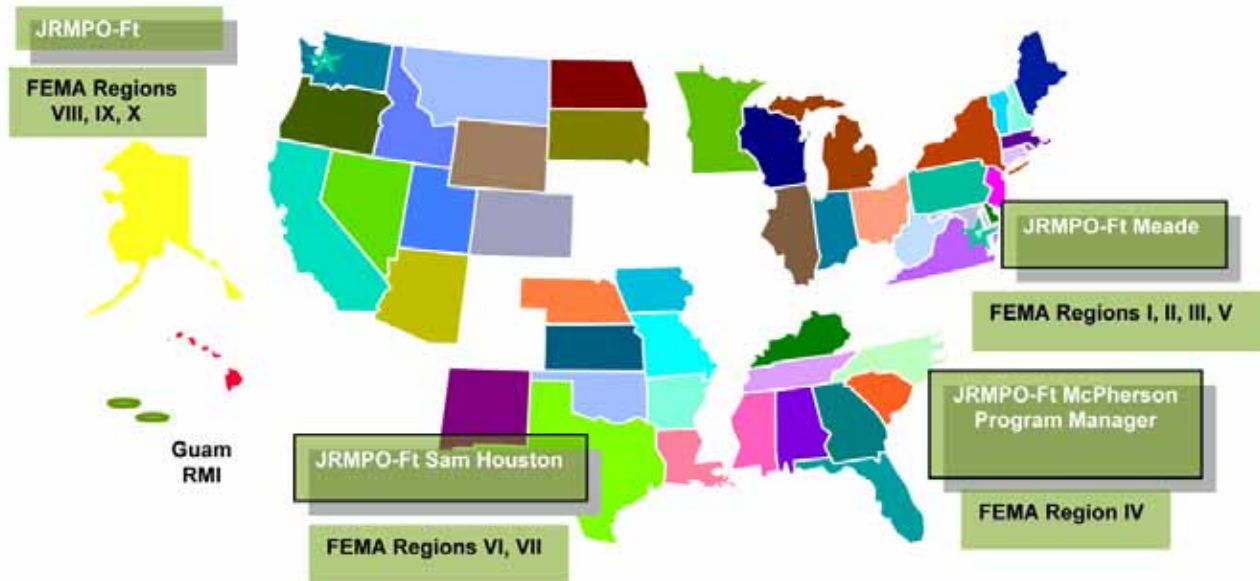


Figure 4–DOD Joint Regional Medical Planning and Operations Offices

based on arbitrary guidelines to demonstrate how the initial alignment with existing FEMA regions may be modified.

Proposal Three

The NG is directly organized and controlled by individual states with funding assistance from the Federal government. A mechanism exists whereby state

governors may agree to shift NG units to another state to respond to need.

The traditional guard unit task of disaster relief takes on expanded meaning in an era of homeland defense against non-traditional enemies capable of unleashing attacks with weapons of mass destruction (WMD). In the aftermath of such attacks, with high yield explosives as well as nuclear, biological, and chemical weapons, the civilian government will need the services of rapid response organizations that can significantly augment local capabilities and support civilian agencies in the first critical hours of a crisis. In addition, involved units must be capable of limited self-deployment within the continental United States (CONUS).



Figure 5–US Army Corps of Engineers Divisions

Simultaneously, there is a growing demand for trained command and control personnel within the active duty force. These personnel run the gamut from crisis action

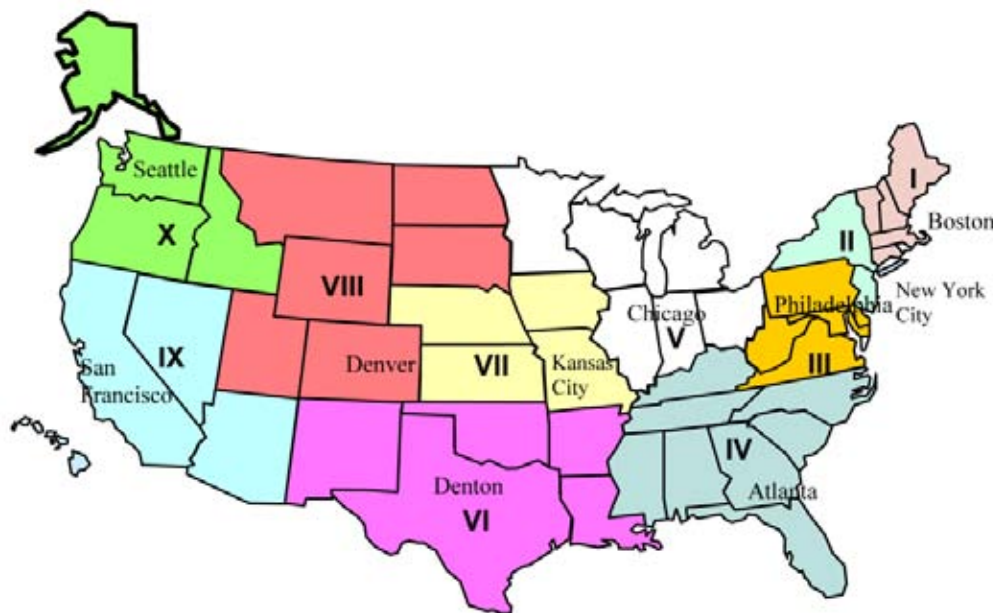


Figure 6—Current Federal Emergency Management Agency Regions

planning specialists to network administrators; all capable of operating in harsh combat environments including nuclear, biological, and chemical (NBC) release situations. These personnel operate primarily at the operational level of warfare and can augment the critical C2 nodes, such as air operations centers (AOC) of the air and space expeditionary task force (AETF), providing the active force with a trained pool of resources.

The existing structure of the National Guard must be evaluated for the relevance of each unit to both state and federal missions. To improve homeland security and national defense, a regional approach can provide highly trained units that can support both governors and the active duty force with a wide range of skilled citizen soldiers.

In the area of homeland defense, DOD is the supported lead federal agency (LFA). For the CS mission, various other federal agencies will be the supported LFA and DOD will be the supporting department. For homeland

defense, the existing military force is trained and equipped, in general, to meet the mission requirements, such as securing areas or facilities and providing logistic support. However, CS requires a more complex array of skill sets. For example, the use of non-lethal weapons in suppression of a civil disturbance is not within the skill set for active duty line infantry companies.

A regional approach to C2 provides the

governors with the depth of units necessary to respond to the full range of possible tasks. It provides self contained, deployable units that can support the DOD expeditionary philosophy (as exemplified by the Expeditionary Aerospace Force (EAF) concept of the active duty Air Force) while maintaining state and region unit identity. Also, the emerging role of Striker Brigades in the US Army will demand a new look at force integration, particularly regarding highly specialized skills like those found in the WMD civil support teams.

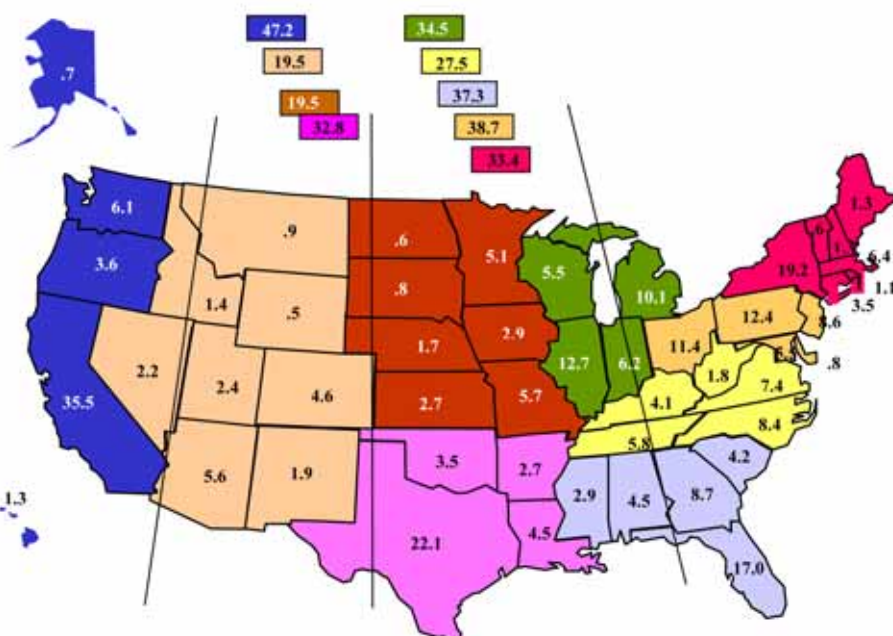


Figure 7—Regional Adjustment Reflecting State Population

Regions are based on geographic integrity of state borders and population density. Each region will support one US Army Civil Support Brigade, and one US Air Force Air Operations Group/Wing

The following unit descriptions provide examples of the type of units that could be created with a regional approach to mission requirements. These units will not only provide homeland security mission support, but also provide a pool of trained resources for non-combat operations within an area of operations (AOR) outside the continental United States (OCONUS). The examples are notional.

Army National Guard

Option 1 - Civil Support Brigade (Figure 8)

(a) Headquarters Company. The brigade commander will be a colonel with a colonel as executive officer. There will be a complete brigade staff, S1-S6. Officers and noncommissioned officers (NCO) with special area expertise such as public affairs and information operations will be imbedded in the staff.

This unit will be fully mobile with wheeled vehicles capable of operating in a chemical, biological, radiological, nuclear, and high yield explosives (CBRNE) environment and transportable by C-130 type aircraft. The commander and staff will be trained to integrate with military or civilian command and control systems. When tasked, the brigade commander will assemble a mission-oriented number of unit type codes (UTC) from the assigned battalions and deploy them to the mission area.

(b) Engineer Battalion. Headquarters and four companies. This unit will be fully mobile with wheeled vehicles capable of operating in a CBRNE environment and transportable by C-130 type aircraft. All personnel will train in crowd control techniques and the use of non-lethal weapons.

(c) Military Police Battalion. Headquarters and four companies. This unit will be fully mobile with wheeled vehicles capable of operating in a CBRNE environment and transportable by C-130 type aircraft. All personnel will train in crowd control techniques and the use of non-lethal weapons.

(d) CBRNE Battalion. Headquarters and four companies. This unit will be fully mobile with wheeled vehicles capable of operating in a CBRNE environment and transportable by C-130 type aircraft. Personnel will provide on-scene assessment of CBRNE effects to include type of attack medium used, persistence of residual CBRNE threat, and support requirements for decontamination of the event zone.

(e) Medical Battalion. Headquarters and four companies. This unit will be fully mobile with wheeled vehicles capable of operating in a CBRNE environment and transportable by C-130 type aircraft. The medical personnel will provide on-scene assessment of medical support requirements, initial triage, and critical care within the event zone. The medical battalion will include qualified medical examiners and mortuary affairs personnel.

(f) Signals Battalion. Headquarters and five companies.

- Computer Network Company

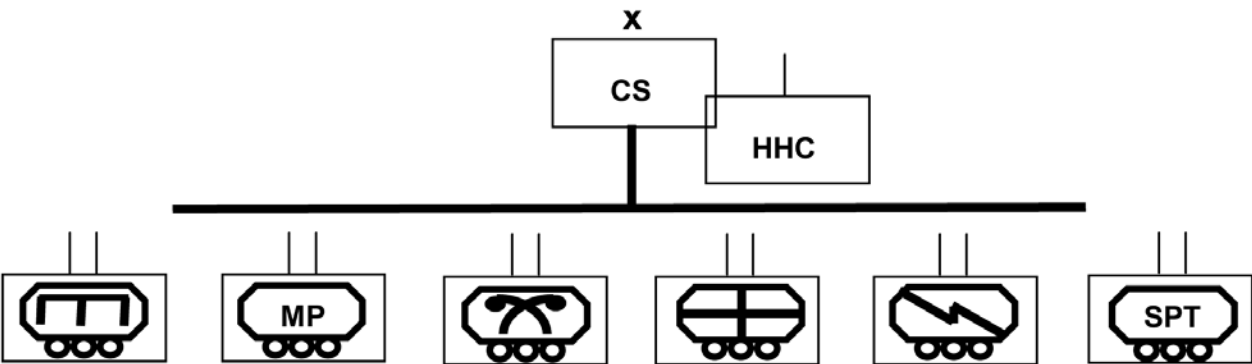


Figure 8—Regional Civil Support Brigade Option 1

- Long Range Communications Company
- Short Range Communications Company
- Public Affairs Company
- Psychological Operations Company

(g) Support Battalion. Headquarters and remaining combat support and combat service support slice elements to provide for thirty-day sustainment of the brigade, battalion, or company task forces as required. Mission requirements will include, but may not be limited to, messing, transportation, logistics, sanitation, water, power, and contracting.

Option 2 - Civil Support Brigade (Figure 9)

Under Option 2, each state will have a civil support battalion with component companies and platoons made up of the critical skills identified in Option 1. The civil support brigade will still have a regional focus and be able to shift a state battalion across state lines within the region.

(a) Headquarters Company. The brigade commander will be a colonel with a colonel as executive officer. There will be a complete brigade staff, S1-S6. Officers and NCOs with special area expertise such as public affairs and information operations will be imbedded in the staff.

This unit will be fully mobile with wheeled vehicles capable of operating in a CBRNE environment and transportable by C-130 type aircraft. The commander and staff will be trained to integrate with military as well as civilian command and control systems. When tasked, the brigade commander will assemble a mission-oriented number of UTCs from the assigned battalions and deploy them to the mission area.

(b) Civil Support Battalion

(1) Engineer Company. Headquarters and four Platoons. This unit will be fully mobile with wheeled vehicles capable of operating in a CBRNE environment and transportable by C-130 type aircraft. All personnel will train in crowd control techniques and the use of non-lethal weapons.

(2) Military Police Company. Headquarters and four Platoons. This unit will be fully

mobile with wheeled vehicles capable of operating in a CBRNE environment and transportable by C-130 type aircraft. All personnel will train in crowd control techniques and the use of non-lethal weapons.

(3) CBRNE Company. Headquarters and four Platoons. This unit will be fully mobile with wheeled vehicles capable of operating in a CBRNE environment and transportable by C-130 type aircraft. Personnel will provide on-scene assessment of CBRNE effects to include type of attack medium used, persistence of residual CBRNE threat, and support requirements for decontamination of the event zone.

(4) Medical Company. Headquarters and four Platoons. This unit will be fully mobile with wheeled vehicles capable of operating in a CBRNE environment and transportable by C-130 type aircraft. The medical personnel will provide on-scene assessment of medical support requirements, initial triage, and critical care within the event zone. The medical battalion will include qualified medical examiners and mortuary affairs personnel.

(5) Signals Company. Headquarters and five Platoons.

- Computer Network Platoon
- Long Range Communications Platoon
- Short Range Communications Platoon
- Public Affairs Platoon
- Psychological Operations Platoon

(6) Support Company. Headquarters and remaining combat support and combat service support slice elements to provide for thirty-day sustainment of the brigade or battalion or company task forces as required. Mission requirements will include, but may not be limited to, messing, transportation, logistics, sanitation, water, power, and contracting.

Establishing the Unit. In creating the brigades, the NG Bureau will coordinate with geographically collocated states to develop sufficient catchment areas to provide a sustainable pool of recruits, and with the affected governors to ensure they are in agreement on

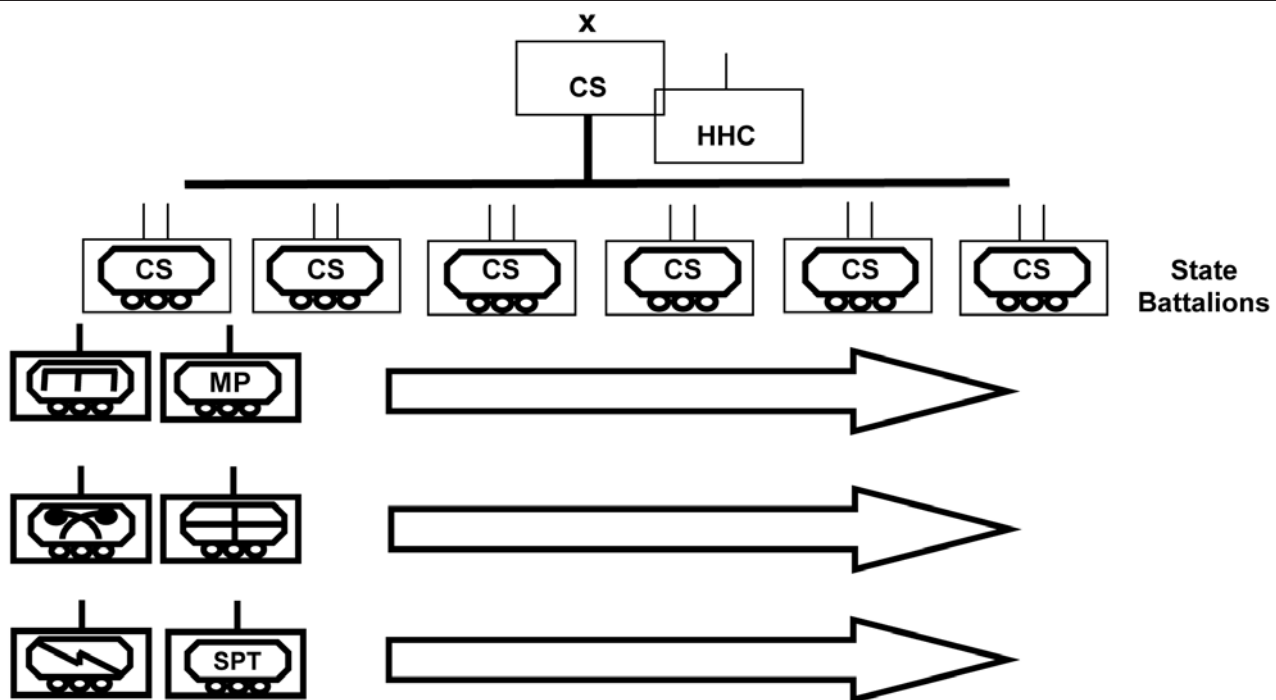


Figure 9—Regional Civil Support Brigade Option 2

support arrangements. Basing will be a function of C-130 aircraft with full cargo loads being able to rapidly reach any area within the region. (See Figures 11 - 13 for options with range and response times. Current Air National Guard (ANG) bases are used for comparison.)

Training. The personnel of the brigade will have a dual track-training program addressing the requirements for both homeland security and combat. Although some processes—crisis action planning and course of action development as well as assessment of the mission—will be similar, training scenarios will cover the range of employment options.

Employment Concept.

Disaster Relief. When activated by a supported governor (s), the brigade will activate a planning team from the staff to assess the nature of the disaster and the type of response team required. The team components will be assembled at rally fields and be deployed via C-130 to the designated forward area. The brigade will provide initial response and whatever sustained response as dictated by the affected governor(s) and the LFA.

USA Support. When activated or tasked for augmentation, the brigade will support operations of deployed forces.

Air National Guard

Option 1 - Aerospace Operations Group (Figure 10)

(a) Group Headquarters. A small headquarters with two colonel billets, a commander and deputy, with affiliated staff. The purpose of the headquarters is to track manpower, budget, training, and readiness of the affiliated squadrons. There will be a complete group staff, A1-A6. Officers and NCOs with special area expertise such as public affairs and information operations will be imbedded in the staff. The staff will be administratively organized as an operations support squadron.

This unit will be fully mobile with wheeled vehicles capable of operating in a CBRNE environment and transportable by C-130 type aircraft. The commander and staff will be trained to integrate with military as well as civilian command and control systems. When tasked, the group commander will assemble a mission-oriented number of UTCs from the assigned squadrons and deploy them to the mission area.

(b) Air Operations Squadron. This squadron will appear rank heavy since it will have O4 and O5 rank officers and senior NCOs. More senior personnel are necessary since they will be responsible for crisis action planning and course of action

development. Critical thinking and processes in these areas will be valuable for both disaster analysis and AOC augmentation. Squadron members will be from a wide range of Air Force specialty codes (AFSC) and will train at the operational level of command and control. This squadron will absorb senior personnel from other units that are excess.

(c) Combat Communications Squadron. Provides communications connectivity for the group. When the group is in support of disaster relief, the squadron will also provide analysis of the existing communications architecture in the disaster area. When supporting an AOC, the squadron will provide “inside the fence” networks and communications connectivity.

(d) Air Intelligence Squadron. Capable of gathering relevant data for the task and turning it into decision quality information. This capability includes battle damage assessment and combat assessment in the AOC, and predictive analysis in a terrorist threat environment. In disaster relief operations the squadron will provide a damage assessment to civilian authorities, focusing on damage to infrastructure and its ability to support recovery operations. The squadron would not collect on US nationals within the United States, territories, and possessions.

(e) Logistics Squadron. On site analysis of logistics infrastructure for restoration operations during

a disaster response. Short-term, thirty-day minimum, sustainment of the deployed team, messing, billeting, etc. Initial support of deployed team as well as logistics planning and analysis when augmenting an AETF.

(f) Security Police Squadron. Trained in the following missions: law enforcement, air base ground defense, search and rescue in coordination with the medical squadron, crowd control, riot control, and combat patrol. Trained in the use of lethal and non-lethal force. Security planning and analysis when augmenting an AETF.

(g) Medical Squadron. Capable of performing medical infrastructure analysis during disaster relief as well as limited triage and emergency care. Able to perform search and rescue in coordination with the security police squadron. Medical planning and analysis when augmenting an AETF. Will provide an NBC flight capable of evaluating contamination when NBC weapons have been employed.

(h) Airlift Squadron. A six-aircraft primary aircraft authorization (PAA) squadron plus one aircraft in attrition reserve. This squadron structure is consistent with EAF tasking and Aerospace Expeditionary Force (AEF) rotation. Each squadron would include a flight based on a tanker airlift control

element (TALCE) that could become the link to US Transportation Command (USTRANSCOM), the Air Mobility Command (AMC) Tactical Air Control Center (TACC), and the theater air mobility division in the theater AOC. The group may actually have multiple squadrons depending on the size of the area and the desired response time. The aircraft and personnel will be sourced from excess airlift projections for the C-130 starting with the FY06 budget. (See Figures 11 - 13 for options with range and response times. Current ANG bases and FEMA regions are used for comparison.)

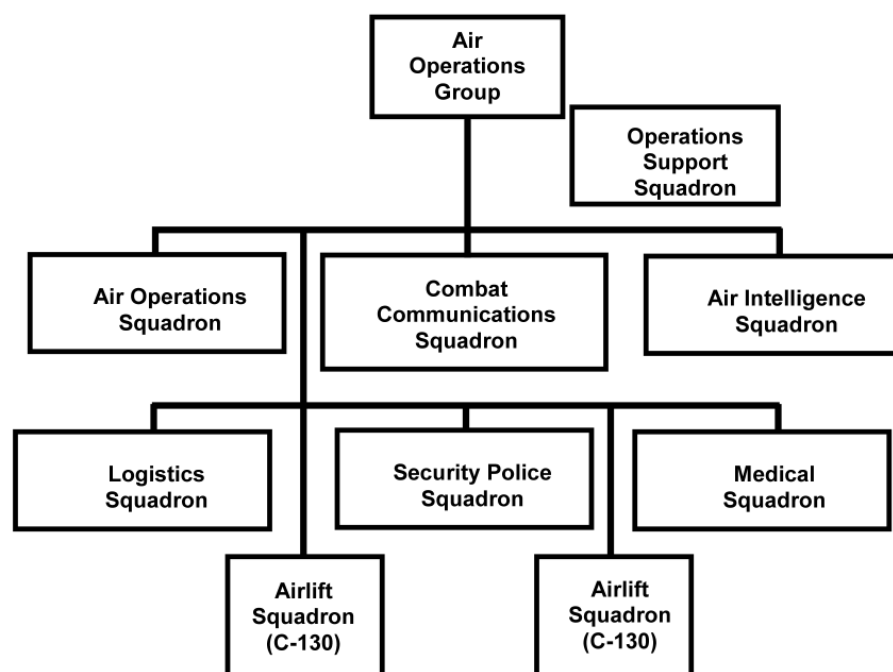
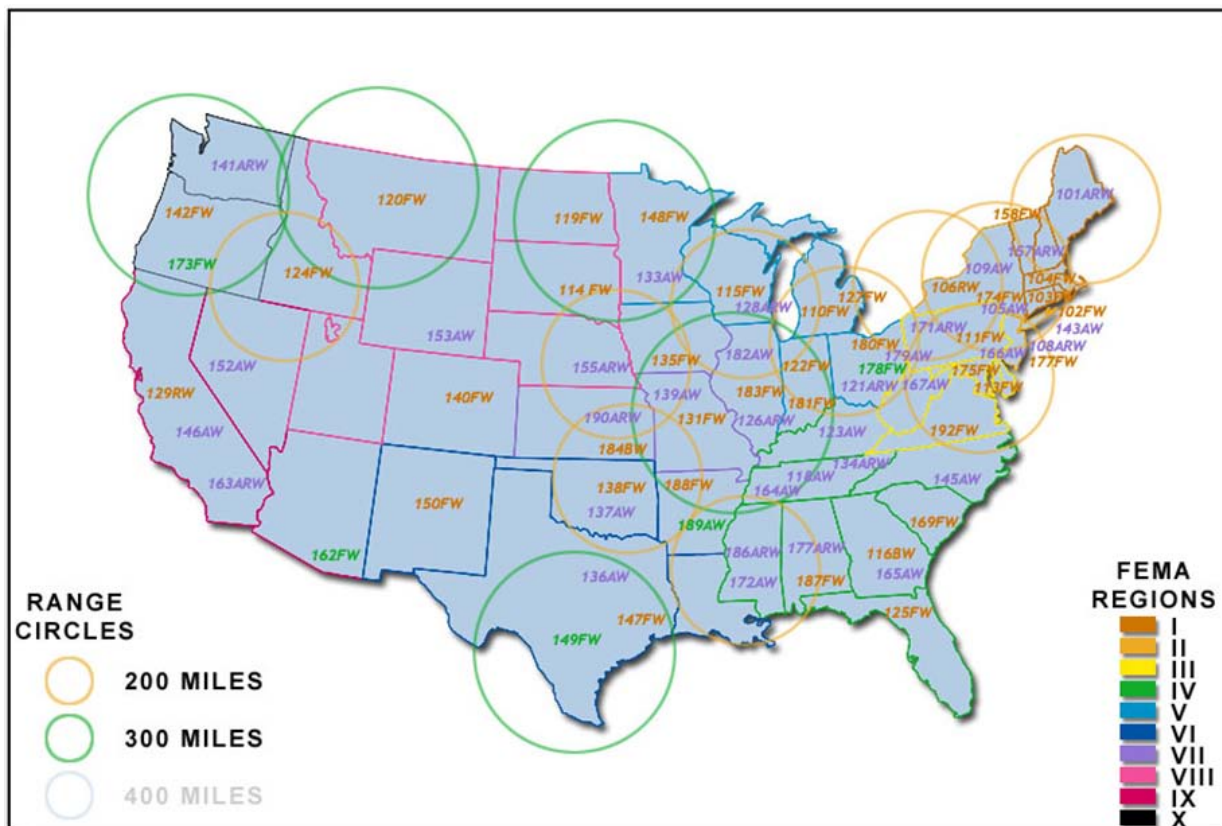
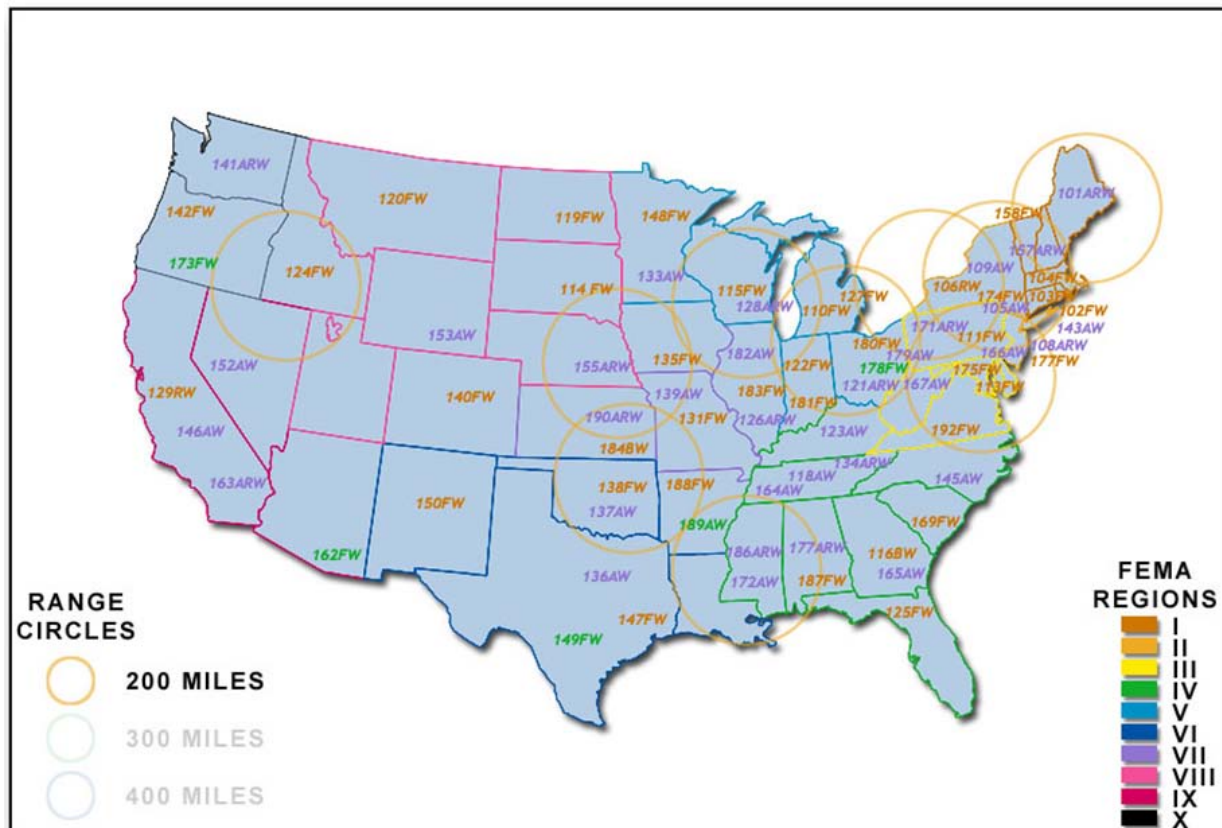


Figure 10—ANG Regional Air Operations Group Option 1



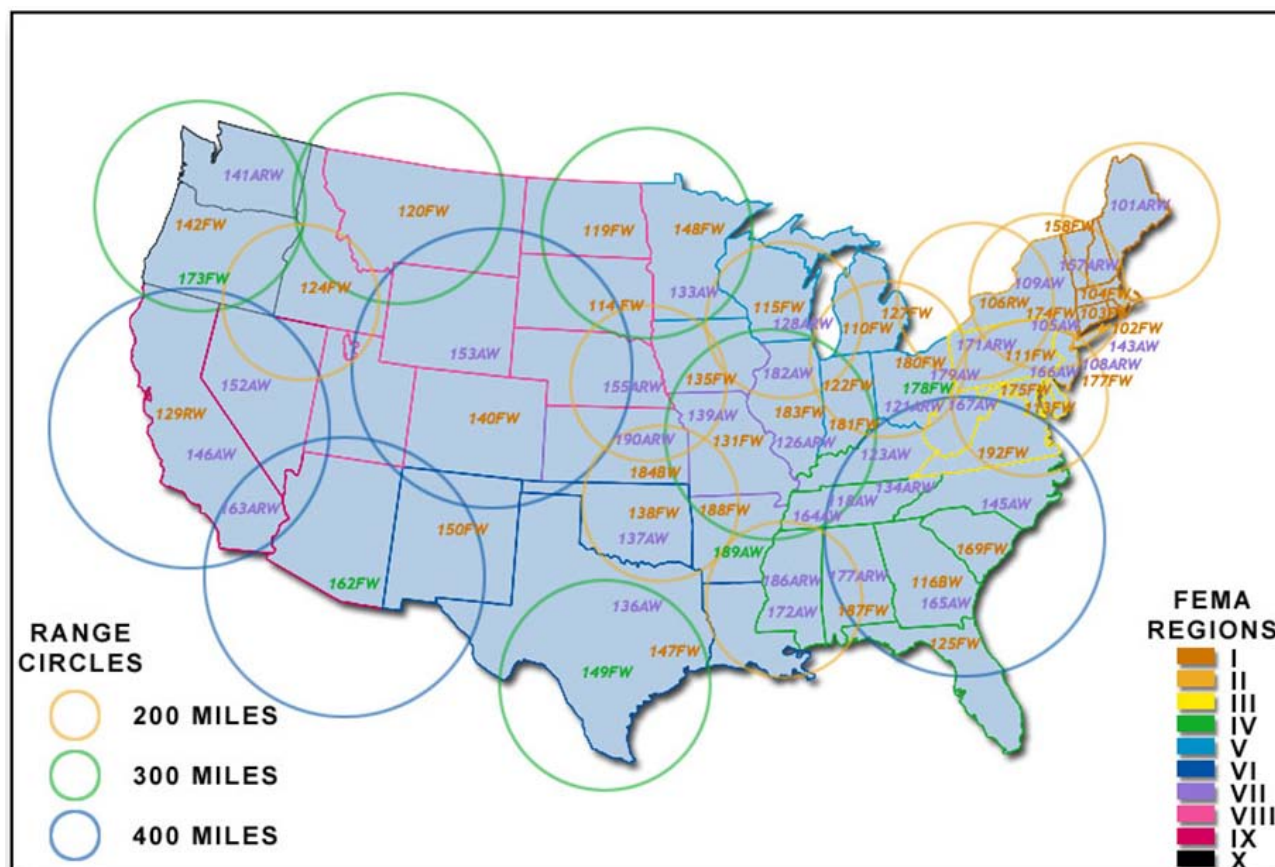


Figure 13–C-130 400 mile Response Areas and Current FEMA Regions

Option 2 - Aerospace Operations Wing (AOW) (Figure 14)

(a) Wing Headquarters. A small headquarters with a brigadier general billet and two colonel billets (consisting of a commander, vice, and chief of staff), with affiliated staff. The purpose of the headquarters is to track manpower, budget, training, and readiness of the affiliated squadrons. There will be a complete wing staff, A1-A6. Officers and NCOs with special area expertise such as public affairs and information operations will be imbedded in the staff. The staff will be administratively organized as an operations support squadron.

This unit will be fully mobile with wheeled vehicles capable of operating in a CBRNE environment and transportable by C-130 type aircraft. The commander and staff will be trained to integrate with military or civilian command and control systems. When tasked, the wing commander will assemble a mission-oriented number of UTCs from the assigned squadrons and deploy them to the mission area.

(b) Operations Group. There will be a complete group staff, A1-A6. Officers and NCOs with special area expertise such as public affairs and information operations will be imbedded in the staff. The staff will be administratively organized as an operations support squadron. This unit will be fully mobile with wheeled vehicles capable of operating in a CBRNE environment and transportable by C-130 type aircraft.

(1) Air Operations Squadron. This squadron will appear rank heavy since it will have O4 and O5 rank officers and senior NCOs. More senior personnel are necessary since they will be responsible for crisis action planning and course of action development. Critical thinking and processes in these areas will be valuable for both disaster analysis and AOC augmentation. Squadron members will be from a wide range of AFSCs and will train at the operational level of command and control. This squadron will absorb senior personnel from other units that are excess.

(2) Airlift Squadrons. Three each, six-aircraft PAA squadron plus one aircraft in attrition reserve. This

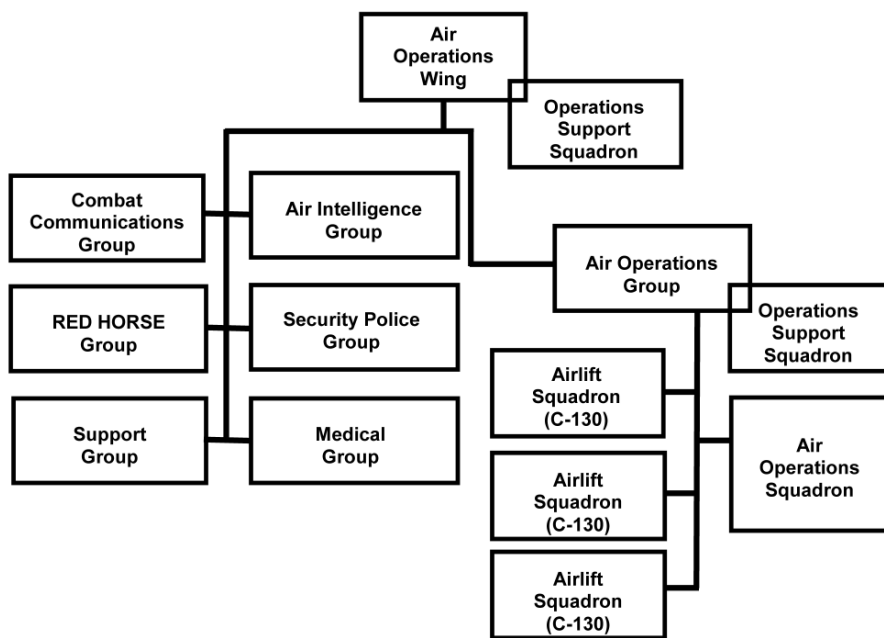


Figure 14—ANG Regional Air Operations Wing Option 2

squadron structure is consistent with EAF tasking and Aerospace Expeditionary Force (AEF) rotation. Each squadron would include a flight based on a TALCE that could become the link to USTRANSCOM, AMC TACC, and the theater air mobility division in the First Air Force/Continental US North American Aerospace Defense Command Region AOC. The group may actually have multiple squadrons depending on the size of the area and the desired response time. The aircraft and personnel will be sourced from excess airlift projections for the C-130 starting with the FY06 budget. (See Figures 11 - 13 for options with range and response times. Current ANG bases are used for comparison.)

(b) Combat Communications Group.

Provides communications connectivity for the wing. When the wing is in support of disaster relief, the group will also provide analysis of the existing communications architecture in the disaster area. When supporting an AOC, the squadron will provide “inside the fence” networks and communications connectivity, as well as long haul communications.

(c) Air Intelligence Group.

Capable of gathering relevant data for the task and turning it into decision quality information. This capability includes battle damage assessment and combat assessment in the AOC, and predictive analysis in a terrorist threat environment. In disaster relief operations the squadron will provide a damage assessment to civilian authorities,

focusing on damage to infrastructure and its ability to support recovery operations. The group will not collect on US nationals within the United States, territories, and possessions.

(d) Logistics Group.

On site analysis of logistics infrastructure for restoration operations during a disaster response. Short-term, thirty-day minimum, sustainment of the deployed team, messing, billeting, etc. Initial support of deployed team, and logistics planning and analysis when augmenting an AETF.

(e) RED HORSE Group.

On site analysis of civil engineering infrastructure for restoration operations during a disaster response. Provides initial support of deployed team, as well as base construction and civil engineering logistics planning and analysis when augmenting a theater headquarters.

(f) Security Police Group.

Trained in the following missions: law enforcement, air base ground defense, search and rescue in coordination with the medical squadron, crowd control, riot control, and combat patrol. Trained in the use of lethal and non-lethal force. Security planning and analysis when augmenting an AETF.

(g) Medical Group.

Capable of performing medical infrastructure analysis during disaster relief along with limited triage and emergency care. Fully deployable as an air transportable hospital. Able to perform search and rescue in coordination with the security police squadron. Provides medical planning and analysis when augmenting an AETF. Will provide an NBC flight capable of evaluating contamination when NBC weapons have been employed.

Establishing the Unit. In creating the air operations group/air operations wings (AOG/AOW), the ANG Bureau will coordinate with geographically collocated states to develop sufficient catchment areas to provide a sustainable pool of recruits, and with the affected governors to ensure they are in agreement on support

arrangements. Basing will be a function of C-130 aircraft with full cargo loads being able to rapidly reach any area within the AOG/AOW region. (See Figures 11 - 13 for options with range and response times. Current ANG bases are used for comparison.)

Collocated with the TALCE at the host base, it will be an aerial port of embarkation/debarkation (APOE/APOD). By creating multiple APOE/APOD, the regional capability can be used to support CONUS and OCONUS unit deployments for active duty, RES, and NG units.

Training. The personnel of the AOG/AOW will have a dual-track training program addressing the requirements for both homeland security and combat at the operational level of warfare. Although some processes will be similar (crisis action planning and course of action development, as well as assessment of the mission), training scenarios will cover the range of employment options.

Employment Concept.

Disaster Relief. When activated by a supported governor(s), the AOG/AOW will assemble a planning team from the operations support squadron to assess the nature of the disaster and the type of response required. The team components will be assembled at squadron rally fields and be deployed via C-130 to the designated forward area. The team will provide initial response and whatever sustained response as dictated by the affected governor (s) and the LFA.

US Air Force Support. When activated or tasked for augmentation, the group/wing will support operations of deployed AETFs. The airlift squadrons will also provide flex in support of increased airlift tasking.

Way Ahead

In order to avoid difficulties in dealing with the fifty four states and territories, the DOD should suggest these proposals in coordination with DHS. DHS could then create a standard command center facility design and communications package, as well as a mobile force package and budgets for deployment, maintenance, and upgrade of these state and regional level resources.

DHS could further create a federal standard region approach for all federal departments and agencies. DOD, in conjunction with National Guard Bureau, would then create civil support brigades and AOG/AOWs within regions.

These proposals address critical problems that continue to plague CS and CD responses for the United States.

Endnote:

¹ *OSD Strategy for Homeland Defense and Civil Support, June 2005*, addresses the need to restructure the RES and the NG to provide better support to Homeland Security. The GAO Report to the Chairman, Committee on Government Reform, House of Representatives, *HOMELAND SECURITY: Effective Regional Coordination Can Enhance Emergency Preparedness* also supports a regional approach to optimize coordination in support of homeland security.

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