DHS/FEMA Initial Response
Hotwash
Hurricane Katrina in Louisiana, DR-1603-LA

ROYAL SONESTA HOTEL, NEW ORLEANS, LA
DECEMBER 13-14, 2005

FEBRUARY 13, 2006
EXECUTIVE SUMMARY

From: Federal Coordinating Officer
Joint Field Office, Baton Rouge – Hurricane Katrina

After Hurricane Katrina caused massive destruction throughout southeast Louisiana and the inundation of New Orleans, tens of thousands of residents were stranded in the city without adequate supplies or means of escape. Life sustainment, shelter, medical care, toxic threats and public security all became serious concerns, even as southeast Louisiana remained an extremely difficult environment in which to operate. This presented a response challenge of unprecedented magnitude for a natural disaster in this nation.

All levels of government—Federal, State, and local—participated in the response to the storm. DHS/FEMA led the Federal response with the activation of all fifteen of its Emergency Support Functions, an unprecedented action for a disaster. The military, through Joint Task Force-Katrina, also deployed significant assets in the early days of response.

Despite our efforts, there are many ways in which the Federal response was overwhelmed by the magnitude of this disaster. However, out of crises can come opportunities – in this case, the opportunity to improve the service that the Federal government can provide to Americans in future disasters.

The Initial Response Hotwash

On December 13-14, 2005, an Initial Response Hotwash meeting was held in New Orleans. The purpose of this meeting was to capture recommendations for improving operations in future disaster responses. These recommendations were based on the experiences of the managers of sections at the Joint Field Office as well as those in the forward response areas in New Orleans and surrounding Parishes during the first 20 days of the Hurricane Katrina disaster in Louisiana.

The Initial Response Hotwash participants initially focused discussion on six topics, each of which had a separate breakout session. The Initial Response breakout session identified a set of underlying issues that were critical to exploring the Katrina response.
Those underlying issues were converted to focus areas for the purpose of this report. The final focus areas for this report are as follows:

- Initial Response
  - Logistics
  - Command and Control
  - Communications
  - Media
  - Staffing
  - Action Request (ARF) Process
- Medical Response
- Continuity of Government
- Mortuary Affairs
- Post-Landfall Evacuation
- Parish Liaison Teams

A seventh breakout session had been planned in order to address Search and Rescue, but it was cancelled due to scheduling conflicts for many of the key participants.

Each section of the report presents background on the operation, explaining the related missions and how the work was completed. Each section also addresses findings, which include discussions of the lessons that were learned and recommendations for future improvements.

**Recommendations**

Hurricane Katrina has highlighted the need for major changes in the management of catastrophic disasters. While each section presents recommendations specific to that focus area, some common themes are present across all the sections. All of these are issues believed to be critical to effective disaster response. Although the recommendations resulted from responders’ experiences in a catastrophic event, addressing these recommendations should improve the nation’s ability to respond to smaller disasters as well. They are all fixable and need to be addressed at Senior Management levels in order to improve future response operations to disasters. The issues are:

- **Communications and Interoperability.** Communications is the foundation of the management and awareness that allows all other aspects of the initial response to meet the mission. Responders need communications suites that are mobile, interoperable, and robust even in environments where the physical and social infrastructure is compromised. That being said, many of the communication problems we experienced were due to organizational and management problems, not hardware problems.

- **Unified Command.** Limited adherence to the precepts of Unified Command existed during the Hurricane Katrina response. DHS/FEMA seems to be in an awkward transition, with Unified Command understood by some and followed by
too few. Unified Command has the right principles, but adoption of the practices needs to be directed at all levels, and supported with education and training.

- **Logistics and Staging.** It would be impossible to overstate the value of “hitting the ground running” after a disaster. A quick response can head off a multitude of challenges before they escalate into crisis situations and create a larger drain on the response. In some hazards, such as earthquakes, there is no forewarning. But for events like hurricanes where some forewarning is available, the pre-positioning of supplies and personnel is an investment that pays huge dividends.

- **Staffing.** Staffing shortfalls are always a risk, but with this event’s mass evacuation to locations throughout the country and other spillover effects nationwide, human resources were stretched particularly thin. Compounding the problem was that staff needed to be very productive and well-trained in order to address the huge challenges presented. Staffing problems include access to the needed quantity of personnel and the need for well-trained people with senior experience for many Operations positions.

- **Lack of Operating Procedures.** All too often, response teams were guided by procedures that have been allowed to become outdated, or by no procedures at all. In other cases, existing procedures simply were not applicable to the scale of this event. Many of the disaster teams involved in Katrina in Louisiana reported the inadequacy of procedures (ERT, RNA, Liaisons, DMAT, DMORT, etc.) An audit system must be established and enforced to ensure that procedures are modernized, coordinated, and can meet a catastrophic event.

In order to provide the support to meet the recommendations described in this report, some higher-level recommendations have also been made. It is recommended that FEMA should:

- Work to strengthen emergency management capability at State and local levels
- Review emergency management architecture for response and recovery operations
- Train, equip, and staff response teams
- Improve the financial management of disasters
- Improve leadership and management
- Establish command authority in the Joint Field Office (JFO)
- Continue catastrophic planning with Federal, State, and local governments

All of these recommendations can be implemented and must be addressed at the senior management levels in order to improve disaster response for future events. These recommendations are discussed in further detail below.

**Strengthen emergency management capability at the state and local level**

- There is limited emergency management capability at the state and local level. States generally have not allocated sufficient resources for a viable capability for medium-to-large disasters much less a catastrophic one.
• Communities do not generally stage or store adequate critical supplies and equipment such as water, food, generators and communications equipment in order to be self-sufficient for the first 72 hours following a disaster. This results in the Federal government assuming a first-responder role in emergency management.

• Staffing of local and state emergency management is generally inadequate to perform critical functions during response operations. States and local governments do not have sufficient staff and resources to accomplish the requisite planning and preparedness activities to attain a viable readiness posture for a large to catastrophic disaster.

**Review emergency management architecture for response and recovery operations**

• There are problems associated with the implementation of the Robert T. Stafford Disaster Relief and Emergency Assistance Act as it is executed through the National Response Plan (NRP) and the Incident Command System (ICS). The emergency management community at state and local levels in Louisiana has not embraced ICS. Senior emergency management officials did receive some ICS training in the days following Katrina’s landfall, but, in order to be effective, this training should have been conducted prior to the onset of a disaster.

• Several inherent conflicts preclude the effective execution of the Stafford Act via the architectures of the NRP and ICS.
  o ICS is a system where requirements are identified at the lowest level and sourced from the lowest to highest level (county and parish to State to Federal government). This is accomplished by the Incident Commander submitting requirements to the parish or county emergency manager who—in the event that he or she cannot meet the requirement—forwards requests to the State. In the event that the State cannot meet the requirement, the request is forwarded to FEMA.
  o During disasters, this system is often trumped by the political process where a mayor or parish president/county executive goes directly to the state to acquire resources to meet his or her requirements. Some of this is understandable and even necessary, but only as a matter of exception. Often in disaster operations, the political process is dominant over the ICS process—as a matter of rule—resulting in two systems attempting to do the same thing.
  o The Stafford Act is based on the Federal government providing supplemental assistance to a State, whereas ICS is based on who can best meet a need. The ICS is much faster than the Stafford Act processes. For example, the Federal government, as a matter of Stafford Act process, fills needs identified by the state. In many cases, Federal responders are aware of needs but must wait for the state to fill these needs through its state processes, such as the Emergency Management Assistance Compact. If the state fails to meet these needs, they request Federal assistance, but this request generally is made several days after a resource is needed.
Train, equip, and staff response teams

- At this time, virtually no training for personnel involved in response operations exists. In order to conduct a more effective response, specialized individual and team training must be designed and implemented for all response team members. Hurricane Katrina highlighted the need to train operations personnel for evacuation, continuity of government, and restoring critical infrastructure. Looking ahead, responders need to have advanced training based on scenarios for chemical, biological, radiological events.
- The overwhelming majority of Federal response team members are not primarily employed in response operations, but have this role as a secondary or tertiary responsibility. In order to conduct effective response operations, response team members must have response operations as their primary jobs in a manner similar to first responders such as firefighters and police.
- We do not have the force structure needed to support major response operations. FEMA Regions do not have sufficient staffing capability to support a Regional Response Coordinating Center (RRCC) and a full Emergency Response Team (ERT) simultaneously. Most significantly, there is a lack of senior management and planning expertise in response operations. Critical functions such as operations, logistics, and planning are very thinly staffed, having only one specialist in many cases. With the present force structure, FEMA can perform the mission for small and medium size response operations but not in large or catastrophic operations. For example, during the early response to Hurricane Katrina, FEMA did not have sufficient Emergency Response Team staff for a day shift, much less a night shift. Team members had to work around the clock in many cases.

Improve the financial management of disasters

- The current system of financial management in disasters essentially fleeces the taxpayers, hampers states in the execution of their responsibilities, and degrades disaster response and recovery operations. States do not have enough financial strength to fund disasters up front, and they often must call a special legislative session or take administrative actions to fund the non-Federal share of disaster operations.
- One of the most common state actions is to request that the Federal government pay 100% of disaster costs. In order to improve the process, the Federal government should give states loans in lieu of 100% Federal funding. When states pay no costs, the result is invariably gross inefficiency, unwarranted costs, and waste. Loans would require that states take ownership in disasters, forcing fiscal discipline and removing gamesmanship from the decision-making process at state and local levels during disaster operations. These loans must be provided at the onset of the disaster response.

Improve leadership and management

- FEMA does not currently have a system for mentoring and training leaders and managers or rotating the management staff between Headquarters and the
field. Most employees at FEMA Headquarters have limited field experience, and conversely, most field personnel do not have Headquarters experience. This results in poor execution of FEMA missions, fostering a lack of understanding that diminishes teamwork. It also puts policy-makers in the awkward position of having to develop, modify, execute, explain policy without the field background necessary to understand and appreciate the ramifications of policy decisions.

**Establish command authority in the JFO**
- The Federal government does not, as a matter of policy, give command authority to the Federal Coordinating Officer (FCO). Instead, the FCO has coordinating authority. The FCO needs command authority in order to give impact and effectiveness to his efforts to accomplish the mission. Too often, response is plagued by ESFs and Other Federal Agencies taking direction from their own higher headquarters that conflicts with the consensus direction that the FCO has coordinated. This is a situation that degrades the effectiveness of the overall operation.

**Continue catastrophic planning with Federal, State, and local governments**
- In a series of workshops from July 2004 through August 2005, Federal, State, and local officials used a scenario-based exercise to drive development of an integrated response plan for a catastrophic hurricane in New Orleans, the result of which was the Southeast Louisiana Catastrophic Hurricane Plan. While the hypothetical storm that was used in the workshops, Hurricane Pam, was not identical to Hurricane Katrina, many of the attributes of the storm and its consequences were remarkably similar.

- The Hurricane Pam planning sessions had focused on immediate response, such as search and rescue and temporary medical care, and some aspects of recovery (e.g., temporary housing). While the resulting plan was still in development, untested, and not widely disseminated at the time Katrina made landfall, many of the responders had collaborated on its development and were intimately familiar with the processes identified for each of the response categories. In order to be prepared for next hurricane season, this plan must be:
  - Augmented with knowledge obtained from the Hurricane Katrina response
  - Adopted and published
  - Tested through exercises involving stakeholders from all levels of government
  - Updated regularly based on exercise results, policy changes, and lessons learned from other disasters and disseminated to the stakeholders
<table>
<thead>
<tr>
<th>Storm Description</th>
<th>&quot;Pam&quot;</th>
<th>Katrina</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Slow-moving Category 3 Storm with landfall west of New Orleans</td>
<td>Faster-moving Category 3 (^1) storm with landfall east of New Orleans</td>
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<tr>
<td>Rainfall</td>
<td>20&quot; of rain</td>
<td>18&quot; of rain</td>
</tr>
<tr>
<td>Levees</td>
<td>Overtopped</td>
<td>Breached</td>
</tr>
<tr>
<td>Unwatering of New Orleans</td>
<td>Estimated 30 days to unwater New Orleans</td>
<td>Took 43 days to unwater New Orleans</td>
</tr>
<tr>
<td>Pre-Landfall Shelters</td>
<td>Over 55,000 in public shelters</td>
<td>Approximately 60,000 people in public shelters</td>
</tr>
<tr>
<td>Power Failures</td>
<td>786,359 people in Louisiana lose electricity at initial impact</td>
<td>881,400 people in Louisiana without electricity the day after impact</td>
</tr>
<tr>
<td>Telecommunications Failures</td>
<td>Over 900,000 people without phone service in Louisiana</td>
<td>1.75 million people without phone service in Louisiana and Mississippi (cell phone service sporadic for weeks)</td>
</tr>
<tr>
<td>Displaced Population</td>
<td>Over 1.1 million Louisiana residents displaced for the long-term</td>
<td>1 million Gulf coast residents displaced for the long-term, majority from Louisiana</td>
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<tr>
<td>Educational Needs</td>
<td>252,327 children displaced from Louisiana schools</td>
<td>More than 247,000 public and private school students displaced</td>
</tr>
<tr>
<td>Structural Losses</td>
<td>Estimated $40 billion in damage to residential and commercial infrastructure</td>
<td>Losses currently estimated ant $22 billion to $65 billion for homes and businesses</td>
</tr>
<tr>
<td>Fatalities</td>
<td>61,290</td>
<td>1,102(^2)</td>
</tr>
</tbody>
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Table: Comparison of “Pam” Scenario to Katrina

The discussion, lessons, and individual recommendations raised through the hotwash offer a valuable perspective from our responders in the field. In these pages, you will find the concerns of the leaders who lived and breathed the initial response to this catastrophe.

In terms of scale and severity, the devastation and widespread impact of Katrina on the Gulf Coast is impossible to overstate. Katrina brought issues forward (mass displacement, continuity of government) that allowed it serve as a laboratory of sorts – a proving ground for future potential catastrophes such as a major weapon of mass destruction (WMD) event. In that light, we hope that these perspectives will be a useful guide to needed policy changes and resource initiatives as the nation seeks to retool and modernize DHS/FEMA and the nation’s disaster preparedness capabilities.

\(^1\) Initially the National Hurricane Center reported that Katrina made landfall as a Category 4. But the storm was described as a Category 3 in a report released by the National Hurricane Center on December 20, 2005.

\(^2\) Louisiana Department of Health and Hospitals, February 10, 2006.
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INTRODUCTION

After Hurricane Katrina’s passage caused massive structural destruction throughout Southeast Louisiana and the inundation of New Orleans, tens of thousands of residents were stranded in the city without adequate supplies or means of escape. Life sustainment, shelter, medical care, toxic threats and public security all became serious concerns, even as southeast Louisiana remained an extremely inhospitable environment. This presented a response challenge of unprecedented magnitude for a natural disaster in this nation.

The response was similarly unprecedented in magnitude. At the local and state level, the Louisiana emergency management, the National Guard, and local first responders took immediate action, even while they or their families were often victims of the storm. DHS/FEMA led the federal response with the activation of all fifteen of its Emergency Support Functions, something never done for a single disaster before.

The military also deployed significant assets. The military participated in two ways.
1. The military provided a small number of military personnel to the Joint Field Office and supported federal operations in accordance with the National Response Plan (NRP)
2. Most of the military served in the Joint Task Force Katrina, which operated outside the bounds of the NRP

The government response was massive but in many ways was overwhelmed by the demands of the situation. But out of crisis can come opportunity – in this case the opportunity to improve the service we can provide to Americans in future disasters.

On 13-14 December, 2005, a meeting – the Initial Response Hotwash – was held in New Orleans to capture recommendations for improved operations for future disaster responses. These recommendations are based on the experiences of managers of sections “in the field” during the first 20 days of the Hurricane Katrina response in Louisiana.

The hotwash participants focused their work on eleven different “Focus Areas.” We started with six Focus Areas, each of which had a breakout session. The Initial Response breakout session identified a set of underlying issues that were critical to exploring the Katrina response. They were made their own “Focus Areas” for purposes of this report.

The Focus Areas are:
- Initial Response
  - Logistics
  - Command and Control
  - Communications
  - Media
  - Staffing
  - Action Request (ARF) Process
- Medical Response
• Continuity of Government
• Mortuary Affairs
• Evacuation
• Parish Liaison Teams

Originally we planned to have a breakout session on Search and Rescue as well. But those plans were cancelled due to scheduling conflicts for several key personnel.
PARISH LIAISON EMERGENCY RESPONSE (STRIKE) TEAMS

Background

On Monday, August 29, 2005, Hurricane Katrina made landfall. The next day a FEMA team (former ERT-N team for Texas headed by Curt Musgrave and Phil Parr) arrived at the New Orleans Superdome. Their mission was to set up a base of operations, to establish a Unified Command with the State and City, and liaison with surrounding Parishes most affected by Katrina. This team was not able to execute the liaison mission as they were overtaken by events with the evacuation of the Superdome. On September 2, The FCO directed Lee Champagne to establish Parish Liaison (Strike) teams and deploy them as quickly as possible to the parishes hit hardest by Hurricane Katrina, as determined at the State of Louisiana Emergency Operations Center (EOC) from input from the field. Eight parishes were initially selected: Orleans, Jefferson, St Bernard, Plaquemines, St Tammany, Washington, Lafourche, and St. Charles.

The mission was to go to each Parish and embed with local officials in the Parish EOC to ascertain and coordinate critical emergency response needs (commodities and services) between the Parishes and the Joint Field Office operations section in Baton Rouge.

On September 3, eight parish teams plus a central coordination team were established, each composed of a team leader, plus a representative from the Community Relations and PIO, a USACE representative and two (or three) U.S. Marshals.

The Team Leads were:

- Coordination Team Leader: Lee Champagne (FEMA FCO R10)
- New Orleans: Tom Majusiak (FEMA R2)
- Jefferson Parish: Dan Griffith (FEMA R7)
- Plaquemines Parish: John Roberts (FEMA R6)
- St. Bernard: Dorothy Hamory (FEMA CR DAE) and later Phil Parr (FEMA FCO R2)
- St. Tammany: Roger Ingram (FEMA CR DAE)
- Washington: Tim Barnett (FEMA R1)
- Lafourche: Dennis Olson (FEMA CR DAE)
- St. Charles: Mike Miron (DHS HQ)

The teams were provided contact information including a roster of other team members, the Parish Emergency Management Director and Parish President and directions to each of their Parishes EOCs. Each team received inoculations, special cell phones, cots, bottles of water, and MREs; they were told to deploy and report in when on station.

On September 4 all teams reported that they were on station at their respective EOCs and beginning to coordinate critical service and commodities.
Findings

1. **THE LIAISON (STRIKE) TEAM CONCEPT OF OPERATIONS SHOULD BE CAPTURED, STANDARDIZED AND USED IN FUTURE MAJOR HURRICANES OR CATASTROPHIC DISASTERS.**

**Discussion**

When the Parish Liaison teams deployed to the disaster area, there was some initial difficulty in establishing a standardized reporting structure and getting a smooth battle rhythm established because there were no formal or otherwise established operating procedures to follow. Although based loosely on the procedures used during the Hurricane Charlie response effort in Florida the previous year, the Concept of Operations that emerged (and proved to be very effective) was mostly made up on the go. The Parish Liaison teams relayed disaster relief requirements from the Parish Emergency Operation Centers to the Parish Liaison Coordinating Team, who consolidated the reports and forwarded them to JFO Ops. The Parish Liaison teams then followed up and tracked the status of these requests. The Coordinating Team Leader led twice daily conference calls and traveled daily to various Parish sites to meet with the team leaders and the Parish leadership (Emergency Management Directors, Sheriffs and Parish Presidents). Initially the Coordinating Team Leader was trying to do everything himself including meeting daily with Parish Leadership and solving issues amongst the teams, and was becoming overwhelmed. The U.S. Forces Command provided a planning team consisting of an Army Major and two Captains that quickly were able to solve this problem. They were of immense value and were able to help the teams work cooperatively with military and National Guardsmen that were present in all parishes.

The resulting procedures included five primary components:

1. **Liaison:** Maintaining liaison with senior Parish officials (Emergency Manager, Parish President, Sheriff, Mayors, etc.).

2. **Reporting and Tracking:** The establishment of a reporting and tracking structure with standardized format for reporting information to the JFO through a central coordination team, and tracking response for the JFO to ensure local life-saving and life-sustaining needs were efficiently met.

3. **Conference Calls:** A FEMA conference call number was established and the teams called in to JFO Operations Section, initially twice daily and then after two weeks the calls were reduced to once a day. Parish Emergency Managers and Parish Presidents were invited to call in, and they occasionally did, particularly when they had a big concern and wanted to ensure their issue got high level attention. The FCO and SCO were invited to participate and for awhile they did.
4. **Mission Status:** The JFO was kept informed on the status and progress of response operations in each Parish through a red/yellow/green status system for each emergency support function (ESF).

5. **Coordination:** Parish Teams were the single focal point for Federal response activities with Parish officials and any FEMA group coming into the Parish coordinated their activities with the Team Leader. Sometimes this was difficult, because various FEMA personnel deployed from the JFO on their normal program mission (such as Public Assistance (PA), Individual Assistance (IA), or Community Relations (CR)) and sometimes did not check in and coordinate their activities, which sometimes annoyed senior Parish officials because they expected their Parish Liaison to know about FEMA activities in their Parish and keep them informed.

These procedures and components proved very effective.

**Recommendations**

A. Liaison (strike) team concept of operations should be formally captured and standardized. It should be continued in the future to enhance FEMA’s ability to respond effectively to critical events. Liaison teams should be incorporated within the NRP as an emergency response measure for catastrophic or extremely large disasters. The plan should include reporting procedures, composition and routines.

2. **LIAISON TEAM LEADER AND TEAM COORDINATOR POSITIONS SHOULD BE DESIGNATED (AS PART OF THE ERT) IN ADVANCE.**

**Discussion**

All in all each of the team leaders did a magnificent job and had a big responsibility. We were fortunate to obtain at such short notice such capable and competent leadership with the diplomatic ability to manage in some cases difficult Parish Presidents. Parish leaders were generally pleased with the FEMA Liaison Team concept. Prior to the teams being in place, Parish officials were on TV lambasting FEMA for non-support; after the teams were in place and parishes had their own FEMA representatives on site to provide for their needs, this subsided. Having an FCO as the Coordinating Team Lead gave credibility that senior FEMA leadership was responding to their needs.

Although each team started with about six people per team, within a short period of time the teams grew in number and capability representing a challenge for the Team Leader to house and feed the new additions. For example, Dan Griffith in Jefferson Parish quickly had over 90 people residing in the abandoned gymnasium he was using as a field headquarters. When it came time to prepare for evacuation when Hurricane Rita threatened, over 300 people were reporting to the various teams.
**Recommendations**

A. Qualified personnel with leadership ability and emergency response experience should be pre-designated as FEMA liaison officers for counties, parishes, or boroughs. Placing them on an ERT-A would make them available for immediate deployment.

B. Liaison team composition should include a liaison officer plus other elements depending on the situation or magnitude of the disaster. These may include representatives from the following functions: Community Relations, Public Information, US Army Corps of Engineers, PA, Security, and a Military Liaison.

3. **LIASION/COORDINATION TEAMS SHOULD BE PROPERLY EQUIPPED FOR THE MISSION, PARTICULARLY SO THEY CAN COMMUNICATE, TRANSPORT, AND BE LOGISTICALLY SUSTAINED ON STATION.**

**Discussion**

Communications initially was a big problem as the cell phones in most areas only worked in the walkie-talkie mode. Even the land-line phones in the EOCs were not reliable. To solve this problem, FEMA deployed Mobile Disaster Recovery Center (MDRC) vehicles to each team location, plus a Mobile Emergency Operations Vehicle (MEOV) for the coordination team to use. These vehicles provided computer and voice capability, and work space for team members to coordinate and report their activities. With this capability teams were able to effectively and rapidly coordinate response needs. In fact, in many cases the teams allowed the Parishes to use FEMA’s communications, and in St. Bernard Parish a second MDRC was deployed to provide the Parish with a communication facility as their EOC was uninhabitable.

**Recommendations**

A. Standardized equipment and supplies should be designated for team members including communication and transportation, such as MDRCs, satellite radios, MEOV’s, trucks, and camping equipment. These equipment designations will increase the readiness posture prior to a disaster so that teams can be effective more quickly.

4. **PRIOR TO HURRICANE LANDFALL, LIASION/COORDINATING TEAMS SHOULD BE IN PLACE OR STAGED FOR RAPID ARRIVAL ON-SCENE.**

**Discussion**

There was tremendous value in having the teams in place co-locate with the Parish Emergency Management and Political Leadership to provide communication with the Joint Field Office on emergent needs and ensure the timely delivery of commodities and services. The problem was it should have been there more quickly, perhaps even before landfall.

There were delays in forming and equipping the teams, formulating standardized procedures for reporting and tracking, and getting planning expertise on site. For
example, the big difficulty that delayed forming these teams was finding qualified team leaders. Numerous personnel from HQ and Regional staff were contacted and most were previously engaged, unavailable or declined. Although once the teams were established they performed exceedingly well, it would have been very beneficial to have worked out all these issues in advance.

With prior training, established procedures and routines, and adequate equipment, the liaison teams could have been more effective from day-one. For Hurricane Rita for example, liaison teams were deployed prior to landfall and were in place operating in the southwest Parish EOCs from the beginning. “Red October” and three MEOVs were deployed to Lake Charles immediately after the hurricane passed and were operational the next day, which provided command and control and communication capability between the Parishes and the JFO. Lee Champagne was designated the DFCO for Hurricane Rita response and took over Parish liaison team coordinating. He implemented the same standardized reporting and tracking routine that was successfully used during Katrina. It worked well for Rita response.

Another value of the teams was a supporting role to the Parishes, particularly Orleans in the area of Continuity of Government. Immediately after Katrina landfall, following the flooding of New Orleans, the city said it could not keep essential city workers on station without essential services such as shelter, food, water, and operating funds (PA Cat B). Parish Liaison Teams were instrumental in coordinating these vital services and commodities. The teams kept government functioning which aided the response and recovery efforts. (Note: The Public Assistance piece was a little harder as there were no PA personnel assigned to the teams; they would have been beneficial).

**Recommendations**

A. Prior to a large hurricane landfall, liaison and coordinating teams should be in place at county/parish/boroughs EOCs. They need to be on station ASAP with state participation as feasible.

5. **FEMA SHOULD CONTINUE EMPLOYING FIREFIGHTERS TO AUGMENT LIAISON FIELD PERSONNEL DURING FUTURE CATASTROPHIC DISASTERS**

**Discussion**

Firefighters were initially deployed as CR augmentation to our liaison teams, and soon after deploying to the field, each team had a dozen or more firefighters assigned. The firefighters proved able to do almost anything, and they became multi-purpose, invaluable team members. For example, many were paramedics/EMTs and were instrumental in saving eighteen lives during deployment.

**Recommendations**

A. FEMA should continue employing firefighters to augment field personnel during future catastrophic and extremely large disasters.
6. **LIAISON TEAM MEMBERS NEED TO BE MENTALLY AND PHYSICALLY CAPABLE TO HANDLE THE RIGORS OF THE INITIAL DAYS OF RESPONSE**

**Discussion**
Lodgings and accommodations were physically challenging. There were team members who slept in their vehicles or on their cots wherever they could find a place to put it. Food and water came initially from the MREs and bottled water that they brought and then from the supplies trucked in to the Parish. There were a lot of physical demands in the initial days of response.

Working hours were long. Teams worked along with Parish counterparts, starting before 7am and working sometimes to midnight for the first week or so, and gradually reducing the hours as the pace slowed.

**Recommendations**
A. Team members need to be selected that are mentally and physically able to handle the rigors of the initial days of response.

**Participants Present**

Steven Adukaitus, DHS/FEMA  
Lee Champagne, DHS/FEMA  
Sean Fontenot, IEM  
Jackie Gladish, DHS/FEMA  
Dorothy Hamory, DHS/FEMA  
Tom Majusiak, DHS/FEMA  
Ted Monette, DHS/FEMA  
Curt Musgrave, DHS/FEMA  
David Passey, DHS/FEMA  
John Roberts, DHS/FEMA  

Amy Courville, IEM: Facilitator  
Perry Lynn Pierce, DHS/FEMA Local Hire: Recorder
LOGISTICS

A Note on the “Initial Response” Breakout Session

The Initial Response breakout session discussed a set of issues that they brainstormed, consisting of:

- Action Request Process
- Command and Control
- Communications
- Logistics
- Media
- Staffing

During the hotwash, subgroups of the breakout participants discussed some of these issues in greater detail. After the hotwash, it was decided to address each of these issues as its own Focus Area in this report.

Background

Hurricane Katrina was the worst disaster to hit the U.S., causing the largest logistical requirements that FEMA has ever needed to meet. The hurricane’s landfall was August 29, 2005, and a Unified Logistics cell was established on September 1. Massive amounts of commodities were distributed over the 120-day response period. During that time, over 9,000 tractor-trailer loads of water, food, ice, tarps, tents, blankets, and other commodities were moved through the Camp Beauregard staging area for subsequent distribution throughout the State. The logistics response was adequate, but it could have been improved in a variety of ways.

Not all commodities were distributed to those who needed them in a timely fashion. This was primarily due to a lack of requests from the State. The State did not have a distribution system in place before landfall or immediately after landfall. In fact, it took several days before the state distribution system was complete. Disaster response is basically a bottom-up process, with requests moving from cities – parish/county – state – Federal government. If the bottom fails, as it did during Katrina, our federal response system is not designed to compensate.

Specific lessons were learned in the areas of contracting, communications, organization, acquisition, commodity visibility and tracking, force protection, mass feeding, and staffing. Also, noteworthy best practices for commodity pre-positioning, commodity distribution and control, and use of Mobile Disaster Recovery Center vehicles (MDRCs) as command vehicles have been noted as positive processes that occurred during the response to Hurricane Katrina.

Findings

It is obvious from Katrina that the country looks to FEMA as the government agency in charge of disaster response; however we were sadly lacking in our response to Katrina.
FEMA needs to step up and loudly declare that we are in the response business and we need to develop logistics policy and manage our logistics forces accordingly.

For years FEMA has approached disasters almost timidly. Too often the emphasis has been to keep costs down. As a result, FEMA typically does not deploy sufficient personnel, taking the approach “deploy in small numbers and if we need more people we’ll get them later.” Unfortunately this approach leads to smaller and smaller forces. In the case of this past hurricane season we found ourselves without sufficient personnel available across the board in all Regions and at HQ because of the hiring freeze that had been put in place. Lack of sufficient trained logistics staff significantly detracted from our response to Hurricane Katrina in Louisiana and jeopardized the overall logistics mission.

Now is the time to make changes. FEMA should be attacking with sledgehammers, not fly swatters. Specific changes in logistics need immediate attention. We owe it to the American public to be better prepared.

1. DEVELOP SURGE PERSONNEL CAPABILITY TO SUPPORT LOGISTICS MISSIONS

**Discussion**
FEMA Logistics provided timely and adequate response to all state requests for commodities and assistance, but these requests were not sufficient to satisfy all the basic requirements of victims. Disaster response systems must be overhauled to allow the Federal government to step in and intervene if states cannot meet basic requirements. This will require significant amounts of manpower in order to accomplish logistics missions efficiently and expeditiously. There are two proposed mechanisms for establishing surge personnel capability in the recommendations listed below.

**Recommendations**

A. Designate regular army units that are specifically trained in disaster response operations and mission assign them to ERT-N or ERT-A prior to landfall of potentially catastrophic hurricane events, or immediately after other types of catastrophic events (e.g., earthquakes, acts of terrorism).

B. Provide DHS funds to recruit, train, and equip National Guard troops in each state to provide logistical support during catastrophic disasters.

2. ESTABLISH CONTRACTS FOR PRIORITY RESOURCES PRIOR TO THE ONSET OF DISASTERS

**Discussion**
Time constraints and urgent needs required FEMA Logistics to negotiate and award large contracts with broad statements of work and little methodology included in the contract documents.
The lack of pre-negotiated contracts for large recurring services impacted the overall response. For example, it took three days to work out all the details for fuel distribution. This delayed response efforts in all critical areas to include operating our search and rescue boats. In order to have fuel for S&R boats, in several cases responders siphoned gas in a “midnight requisition” from other vehicles of opportunity to continue these operations.

Due to the lack of pre-negotiated contracts, the process of defining details and receiving approval to begin building the first base camp following Hurricane Katrina took approximately three days. The lack of housing for disaster response personnel during these days had a negative effect on other response operations. For example, commodity deliveries from Camp Beauregard were set back because the shuttle drivers and other personnel assigned to the camp did not have a place to sleep and eat. All of these individuals had to sleep in their cars or similar locations for at least three nights, and production suffered significantly under these circumstances.

Logistics personnel established a total of 36 base camps to house and feed up to 24,400 personnel. Contracts had to be written and negotiated for each of these camps, taking time away from other key logistical support for the response effort. Compounding the problem was vague, open-ended contractual language, consisting of a statement of work that essentially stated “establish and operate base camp at one or more locations.” These contracts were not in the best interests of the government from a cost and performance basis as the terms were open to interpretation, excess, and mischief.

Recommendations
A. FEMA Headquarters Logistics should establish pre-negotiated contracts for large recurring services such as base camps, fuel distribution, Material Handling Equipment (MHE), extended-shelf-life meals, etc. We need to pre-negotiate contracts such as these to save time, ensure we get what we need the first time, and get better terms for the government.

3. ESTABLISH A DISASTER FUEL DISTRIBUTION PLAN

Discussion
Confusion over responsibility for fuel distribution and a lack of a pre-existing State plan required us to develop an ad hoc fuel distribution plan that used fuel sources from FEMA, the State of Louisiana, the Department of Defense, the Department of Transportation, and the private sector.

This impromptu plan worked, but it could certainly have been put in place much faster and more efficiently if a preexisting plan had been established. The ad hoc plan also did not have the checks and balances required to ensure accountability and prevent abuse.
Recommendations
A. FEMA Headquarters Logistics should develop a common matrix for a fuel distribution plan. This matrix should be adaptable for use in any disaster situation.

4. IMPROVE COMMUNICATIONS CAPABILITY

Discussion
Communications throughout southern Louisiana were non-existent or severely compromised following the landfall of Hurricane Katrina. Cellular and land-line telephone services were unreliable and local 911 systems were inoperable.

The Superdome was crammed with approximately 25,000 people as the shelter of last resort for New Orleans. FEMA personnel providing situation reports and requests for supplies from the Superdome had only satellite phones and cellular phones for communications. But Baton Rouge area communication systems were saturated to the point of virtual non-existence (both land-line and cellular). The only alternative way to communicate was via email, which was not feasible for most personnel as most responders did not have access to computers or web-enabled personal digital assistant devices like a Blackberry. As a result, responders in New Orleans had extreme difficulty contacting response personnel at the State EOC to communicate the resource requests.

A difficulty with satellite phones is they are essentially a one-way communication system. People were trying to receive a call on a satellite phone, but they had to be located outside with the antenna pointed at the orbiting satellite. Due to the high floodwater (five to ten feet) surrounding the Superdome, neither the MERS mobile communication vehicles nor the MDRC vehicles could gain entrance. We desperately needed mobile, SATCOM-capable communications suites that could be brought in by boat or helicopter but could not get them purchased in the time needed.

Recommendations
A. FEMA Mobile Emergency Response Support (MERS), in coordination with DHS, should take the lead to determine what is required to field an interoperable communications system. The interoperable system must include voice, data, and two-way land mobile radios. DHS should fund the system and provide to emergency responders nationwide.

B. Purchase sufficient commercially available small, portable SATCOM-capable communications suites with voice and data capability and provide to every MERS unit and each Region ERT-A Team with a minimum of two such suites apiece. Note that these are not satellite phones. Primary responsibility for this recommendation should fall to Mount Weather and the FEMA Chief Information Officer.
5. **IMPROVE ACQUISITION PROCESS ACCOUNTABILITY**

**Discussion**

Some acquisitions were made by FEMA Headquarters staff independent of required acquisition guidelines and also independent of the RRCC or JFO. If such actions are necessary in the heat of the battle, the actions eventually need to be coordinated and funded through the RRCC or JFO to maintain accountability and satisfy the government’s financial obligations.

An example of a process conducted outside of required guidelines was the purchase and lease of four large motor coach sleeping buses by an individual at the headquarters. This purchase was made via phone call to the vendor. While this action was understandable and defensible during the immediate response, the purchase was not formalized through the procurement process. Accountability was compromised and the vendor was frustrated in attempts for reimbursement. Considerable work had to be done after the fact by JFO Logistics and contracting personnel to write and resolve contracts, mollify the vendor, and straighten out what should have been a relatively straightforward situation. Simple coordination with acquisition personnel is the answer to this problem.

**Recommendations**

A. Coordinate acquisitions with field staff and “make right” any acquisitions that are in any way questionable as soon as possible. This is a shared responsibility of all parties.

6. **ESTABLISH CLEAR DELINEATION OF NDMS MST LOGISTICS SUPPORT, SPECIFICALLY IN SUPPORT OF DMORT TASK FORCE LOGISTICS**

**Discussion**

A logistics section was established within a newly created DMORT Task Force. This section was created independent of the National Disaster Medical System (NDMS) Management Support Team (MST) and independent of the DR-1603 Logistics Section at the JFO. While the DMORT Task Force may have been a good idea, the DMORT Logistics Section was basically an afterthought that became a problem for the JFO Logistics section to fix although it was outside of the section’s chain of command.

Personnel who were assigned to the DMORT Logistics section were inexperienced in the processes required to function as a productive section. The JFO Logistics Section had to assign personnel as part-time advisors to educate the DMORT Logistics on simple day-to-day requirements such as accounting for equipment, completing FEMA Form 60-1 (Requisition for Goods and Services), and credit card purchase procedures. The NDMS Management Support Team did not provide assistance to the DMORT Logistics Section.
**Recommendation**

A. Command and control of DMORT and support of DMORT by NDMS

Management Support Teams (MST) needs to be clearly delineated and followed. The MST should provide logistics support to both the NDMS and DMORT Teams.

7. **IMPROVE RESOURCE TRACKING CAPABILITY**

**Discussion**

The FEMA Total Asset Visibility (TAV) system of commodity tracking has a lot of potential, but it was of little use to Logistics personnel during Katrina response operations. The system is designed to track tractor-trailer loads of commodities from departure point to destination and display composite pictures of commodities at a location. TAV failed to provide this important picture. The system does not provide the information needed to track items in the field and also does not use all of the capabilities inherent with the equipment. In order to be an effective tool, the system needs to be able to identify all commodities within a geographical area. It also needs to be able to differentiate between full and empty trailers and between types of commodities, such as water, MREs, etc.

In the “fog of war” present during the initial response, it was critical to know exactly where specific tractor-trailer loads of commodities were located in the New Orleans area, and, unfortunately, Logistics personnel had a muddled picture. Trailers were being dispatched into the hard-hit areas and were subsequently being diverted, commandeered, and moved again by on-site personnel without any communication back to the EOC or JFO. The TAV system did not provide the information needed to determine resource location. This resulted in unnecessary confusion, overload of assets in the wrong areas, and people needlessly going without life-saving and life-sustaining commodities.

The TAV system uses GPS-equipped transponders that are affixed to the transport vehicles (truckloads of water, MRE, etc.) to send signals back to servers, and the signals are then displayed on laptop screens. Users select individual displays based on the tactical situation at hand, i.e., how many truckloads of water at specific locations. In Katrina response, Logistics personnel were unable to use the system to display on one screen all the given commodities within an area, such as trailer-loads of food and water at the Superdome or Orleans Parish. It should be noted that the equipment used by the TAV system is capable of this display, as the same equipment was purchased in Florida during the 2004 hurricane season and was field tested and used extensively there. During Katrina, however, instead of seeing all commodities at one glance, users could only call up transponders individually to see where one particular truck was located. This did not provide what we needed and we seldom used this capability.

Furthermore, the transponders affixed to a trailer do not differentiate as to whether the trailer is full of a commodity or the transponder is affixed to an empty trailer. This
Logistics

basically renders the system useless because of all the false positives that it displays. False indications were also received when spare transponders that were sitting on the shelf in storage gave locations as if they were full trucks in the field.

In its current configuration, the TAV system does not provide the capability to identify groupings of commodities, such as the number of trailer loads of water at a given location. In fact, when a transponder is called up, it is identified as a number rather than a commodity. Only after laboriously retrieving several screens of data is the number finally translated to a commodity. As a result, the Logistics cell at the JFO only used the system once in a blue moon to locate one particular trailer. Instead, Logistics used manual systems to keep track of commodities and opened trailer doors to verify contents.

**Recommendation**
A. Since the FEMA TAV system is of little use to track commodities in its present configuration, it needs to be totally overhauled to:
   • Provide a “geo-fencing” capability that displays and identifies all the assets in a designated area, i.e., staging area, city, parish, etc.
   • Resolve both the false positive and full versus empty trailer problem
   • Change the system from one that tracks by number to one that tracks by noun (commodity).
   • Design TAV tracking capabilities to enhance field tactical applications.

The system must be designed to provide easy-to-use, tactically-based, commodity tracking information to field personnel, as this is where the critical life-saving and life-sustaining decisions are made. These changes must be made prior to the start of next hurricane season.

8. **CHANGE PROCESSES TO SUPPORT DECISION-MAKING “ON-THE-FLY”**

**Discussion**
Individuals occasionally bent the rules in the heat of the battle to get the job done in life saving and life sustaining situations. These individuals were reprimanded for their actions even though they did the right thing, just not in the “right way.” There needs to be a process for “not following the process” when rules are bent in order to do the right thing.

For example, an individual was pressured by time and mission to approve the installation of phone lines at a call center without following all IT/contracting coordination procedures. When this individual attempted to establish the process through the appropriate channels following the initial coordination, the individual was severely reprimanded and threatened with liability for money expended.

**Recommendation**
A. “On the fly” decision-making is always going to be part of disaster response.
   Personnel who are going to be placed in that position should be given training or
wargaming opportunities to help them be ready to make good decisions in those situations.

B. In the event that regular procedures were not followed in a disaster, the decisions should be objectively evaluated through a non-threatening lessons learned process. This could serve to improve regular procedures if the implemented procedure has proven to be more effective in the disaster situation. If the action was not effective, the responsible parties should be educated on policy and procedures. Support and educate individuals who err if their decision was made in good faith and attempts to redress it have been made.

9. IMPROVE MASS FEEDING CAPABILITY

Discussion
Demand for food in a catastrophic disaster such as Hurricane Katrina will quickly surpass MRE supplies. Due to the vast devastation of southern Louisiana (1.1 million registrants, 250,000 homes destroyed), many people needed food. FEMA Headquarters Logistics was not able to provide MREs fast enough to meet the demand, and NORTHCOM did not have sufficient MREs in the non-war reserve stockpile to handle a catastrophic disaster. Another problem was that ESF-6 (Mass Care) did not have plans in place to quickly switch from MRE feeding to the Red Cross and other volunteer mass feeding kitchens.

While responders had pre-positioned MREs at the Superdome prior to Katrina landfall, supplies quickly ran out. When FEMA Headquarters and NORTHCOM could not provide MREs fast enough, the ERT Logistics team contracted for a vendor to supply approximately 25,000 to 40,000 sandwiches daily for the Superdome. Mass feeding kitchens were slow to be established because the Red Cross and other volunteer agencies typically wait until an area is safe for reentry following a disaster.

By the time the area was deemed to be safe, all of the MREs in the national reserve had been consumed, forcing Logistics personnel to begin using the Department of Defense MRE war reserve stockpile. Logistics personnel attempted to use commercial sources of extended-shelf-life meals to fill the gap, but the industry was not prepared to supply the quantities we needed on the required short notice.

Recommendations
A. NORTHCOM needs to reevaluate strategic MRE stockpiles to take into account quantities needed to respond to natural or terrorist catastrophic disasters.

B. FEMA HQ Response Division (ESF-6) and the Red Cross need to develop plans to allow for rapid set up of mass feeding kitchens.

C. FEMA (HQ Logistics and HQ Contracting) needs to negotiate general contracts with vendors and have them in place to provide extended-shelf-life meals if and when a disaster strikes.
10. IMPROVE FORCE PROTECTION FOR COMMODITY TRANSPORT AND DISTRIBUTION

Discussion
Several attempts by local officials to hijack or divert commodities in transit underscored the need to ensure there are sufficient security forces deployed for force protection of these assets.

For example, local officials threatened and intimidated (some brandishing firearms) truckers transporting generators in order to divert generators to locations of their choosing. Local officials also surreptitiously moved generators to other locations after they had already been installed. On several occasions, FEMA tractor-trailers were stopped at highway roadblocks, the load was examined, and the tractor-trailer was diverted by local officials to locations of their choosing rather than the original destination.

Recommendation
A. FEMA Security and Federal Protective Service (FPS) security personnel need to be integrated with state and local officials immediately during first response. If necessary, FEMA and FPS personnel need to be assigned to roadblocks and checkpoints manned by local officials.

11. ESTABLISH INCENTIVES FOR PRE-POSITIONED ASSETS

Discussion
Local and state officials typically wait until disasters are declared to purchase assets. Consequently, the jurisdictions have little pre-positioned assets or commodities. We need to provide incentives to state and local governments so they can procure assets and have them on hand prior to disaster declarations. The State of Louisiana did not have any commodities stored in staging areas prior to the landfall of Hurricane Katrina. Furthermore, it took several days to establish distribution point functionality.

Recommendations
A. Policies should be changed in order to provide funding and incentives to states so they will pre-position commodities.

B. Some critical assets should be staged in safe areas within the expected area of impact. The operational benefit is to reduce the amount of time that it will take for life-sustaining commodities to arrive in the impact zone. This benefit is well worth the risk of losing some assets to the impact of the storm.

12. REDUCE LOGISTICS STAFFING SHORTFALLS
Discussion

During Hurricane Katrina, there were insufficient Logistics personnel available to meet response requirements. In order to accomplish the missions, we needed large numbers of staff across the board, especially in the areas of coordination and planning specialists, resource management, accountable property officers (APOs), contracting officer technical representatives (COTRs) and information technology (IT) specialists. Shortages were filled as best we could with FEMA personnel from areas other than logistics disciplines, firefighters hired as DAEs through the Fire Hire program, and staff from other federal agencies.

Many of the logistics functions are specialized and cannot easily be taught to other agency staff or local hires. For example:

- Coordination and planning specialists need to know operational aspects of FEMA response and are trained to respond to and manage logistical crises.
- Resource management specialists must be knowledgeable of the FEMA procurement system and also need FEMA-issued purchase cards.
- APOs require considerable formal training and must be certified.
- COTRs require formal training and subsequent certification.
- IT specialists need training, experience, and certification in the hardware and software applicable to FEMA operating systems.

During initial response, we needed at least twelve more coordination and planning staff, four more deputy logistics chiefs, fifteen more qualified logistics management specialists, four more resource management personnel with credit cards, four more qualified APOs, twenty COTRs, and twenty certified IT staff to have a truly effective response. The cost of not having these individuals meant that the Logistics personnel:

- Had a token workforce on the night shift. (Personnel routinely worked 18-20 hour days during the first several weeks of response.)
- Could not provide needed support to DMORT Task Force
- Could not provide sufficient personnel to manage logistics functions at forward field locations
- Had hundreds of requisitions backlogged
- Got significantly behind on accountable property tracking
- Could not provide people to proved onsite management of base camp contracts
- Could not provide IT support in a timely manner

The staffing shortfall at forward field locations was particularly glaring. The Superdome was filled with 25,000 evacuees, but had no Logistics staff. The airport\(^3\) managed the evacuation of over 20,000 persons, including medical evacuations, but it had the support of only one Logistics staff. The Convention Center\(^4\) became a collection point for thousands of people, but it too initially had no Logistics personnel at their forward field office.

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3 The Louis Armstrong (MSY) International Airport in Kenner, Louisiana.
4 The Ernest N. Morial Convention Center in New Orleans.
**Recommendations**

A. FEMA Headquarters (Logistics, Human Resources) should allow Regions to recruit and train sufficient skilled DAEs to meet requirements. Change policies to provide for incentives that will keep these DAEs on board and motivated. Allow for periods of funded training on mock disaster scenarios, etc., on a quarterly basis if these individuals have not been deployed.

B. FEMA Headquarters (Logistics, Contracting) needs to pre-negotiate contracts with the private sector to provide personnel to fill shortfalls in the specific areas of Coordination and Planning, resource management, IT, APOs, and COTRs.

13. **REDUCE COTR SHORTFALLS**

**Discussion**

Hundreds of large contracts were awarded without the required support of COTRs to oversee and manage the contracts. For example, a total of 36 base camps provided lodging, food, laundry, and showers for up to 24,400 personnel. All of these camps were contracted out and all should have had a COTR to oversee the governmental interests. With the exception of ten base camps managed by the USFS, no COTRs were assigned. FEMA Logistics did not have COTRs available, nor were there any available for deployment anywhere else in FEMA. Attempts were made to get COTRs from other Federal agencies, but those attempts were unsuccessful. As a result, no COTRs provided on-site management for the contracts worth millions of dollars at 26 base camps.

**Recommendations**

A. FEMA needs to train and roster sufficient COTR personnel to handle the needed duties and they need to be part of the Logistics ERT Staff. In addition, these individuals need to be readily identifiable in the Automated Deployment Database (ADD) system.

14. **INCORPORATE BEST PRACTICES IN CATASTROPHIC DISASTER RESPONSE PROTOCOL**

**Discussion**

The following innovations worked well in the Logistics response to Hurricane Katrina and should be considered for policy and process implementation for future disasters.

- Theater control of hub-and-spoke commodity distribution
- Pre-positioned commodities at Camp Beauregard
- Use of Mobile Disaster Recovery Center vehicles (MDRCs) as command vehicles

*Theater control of hub-and-spoke commodity distribution*

Logistics established a system of theater control of assets that utilized that utilized Camp Beauregard as the Operational Staging Area hub. Shuttle transport drivers were assigned and operated under local operational control rather than under the
operational control of FEMA Headquarters Logistics and the Department of Transportation (DOT). This was a significant improvement from previous disasters that required endless coordination between the JFO, Staging Area, Mobilization Center, HQ Logistics, DOT/ESF-1, and the Atlanta Emergency Transportation Center in order to move every truckload of a commodity, whether within or between states.

The inordinate coordination required on previous disasters typically resulted in confusion, lost documents, finger-pointing, and unfortunately, late or non-deliveries of commodities. Given the volume (9,000 trailer loads) of activity on this disaster, the old Headquarters control system would have quickly self-destructed.

Commodities were ordered in bulk from Headquarters, (e.g., 100 truckloads of water). These 100 truckloads of water were under the operational control of the field operations to be deployed as needed by the local shuttle drivers. This system worked extremely well. The only problem that surfaced was when Headquarters shipped trailers of commodities on non-FEMA leased trailers. When this occurred, personnel were forced to cross-load to FEMA-leased trailers that could be subsequently delivered to a location.

The 135 shuttle drivers were under local control and assigned to Camp Beauregard. These drivers formed the “spokes” of the hub and spoke system used within the state. The maximum range for these drivers was a 300 mile radius which allowed them to reach any part of the state and also enabled Logistics to range into Mississippi and Texas during the course of expanded operations.

**Recommendation**

A. Theater control of commodities using local drivers in a hub-and-spoke delivery system should be adopted as the FEMA standard operating policy. FEMA Headquarters Logistics needs to ensure that all shipments are on FEMA-owned and FEMA-leased trailers.

*Pre-positioned commodities at Camp Beauregard*

Region VI had pre-positioned fifty-five trailer loads of commodities at Camp Beauregard early in the hurricane season, a brilliant strategic move that served to improve the logistical response in Louisiana. The stored commodities included seventeen truckloads of ice (at a local cold storage location), seventeen truckloads of MREs, sixteen truckloads of water, and five truckloads of tarps. This stockpile enabled the pre-positioning of food and water at the Superdome prior to Katrina’s landfall. If we had not been able to pre-position food and water at the Superdome, anarchy would have prevailed, riots would have been likely and casualties would have been high.

Ten local shuttle drivers were staged at Camp Beauregard prior to landfall, enabling the immediate resupply of the Superdome and other critical locations immediately after Katrina had passed.
Recommendation

B. Regions in hurricane prone areas should preposition stockpiles of commodities at strategic locations prior to the start of the hurricane season. These commodities must be under local control.

*Use of Mobile Disaster Recovery Center vehicles (MDRCs) as command vehicles*

In the aftermath of Hurricane Katrina, virtually all of southern Louisiana was without power and communications. Several devastated Parishes were without a 911 system. Several MDRCs were requested and received prior to landfall in the anticipation of using them in their primary role of DRC support, but also knowing their communications capabilities would be useful. The MDRC’s have satellite communications capability, voice and data service, hookups for eight to ten laptops, fax service, satellite TV, and of course they are mobile.

Five MDRCs were received prior to landfall. During the critical response period, the five MDRCs were pressed into service as command vehicles and were sent to the five most severely damaged Parishes. Several more were ordered at that time, bringing the final total to fifteen MDRCs. Ten of them were almost exclusively used as command and control vehicles.

The MDRCs provide a nice addition to the MERS MEOV/PKU command vehicles. They are actually easier to set up and are more mobile than the MERS units. They do not have all the capabilities of the MERS units but they certainly have the basics, (satellite communication, voice/data, etc.); they can serve as a “MERS light.”

MDRCs were used as command and control vehicles in St. Bernard, Orleans, Plaquemines, and Jefferson Parishes immediately after landfall and served basically as a combined FEMA and Parish Emergency Operations Center in these Parishes. The MDRCs proved invaluable as command vehicles instrumental in maintaining control, directing response activity, and restoring services to the Parishes.

Another MDRC was used as the base of operations for the search and rescue activity taking place in and around New Orleans. This unit was set up at the Zephyr Field Search and Rescue (S&R) marshalling area and was used for operational S&R support and also used as forward command S&R post. It was instrumental in mission success for Search and Rescue.

Recommendation

C. The use of MDRCs needs to be reevaluated. These vehicles have distinct advantages relative to MERS vehicles, and they should be routinely dispatched as a push package if a potentially catastrophic hurricane is inbound. These units should be used as command vehicles during the first response period and then transformed to their other role of DRC support as that need comes on line.
Participants Present

Steven Adukaitis, DHS/FEMA R3
Jim Ballow, LOHSEP Operations
Joe Bearden, DHS/FEMA R6 RRCC Ops Chief
Dan Beaty, DHS/TSA Asst. Fed. Sec. Dir./Insp
Linda Black, DHS/FEMA-Comptroller
Phillip Bowen, DHS/FEMA R6 Ops
William Brannan, LA National Guard Deputy CDR TF Eagle
Jarrett Devine, DHS/FEMA Logistics
R. Scott Erickson, DHS/FEMA R1 Deputy Logistics
Mark Gallagher, DHS/FEMA Region 1
Jackie Gladish, DHS/FEMA R6 Operations
Bryon Grable, DHS/FEMA R7 Deputy Log
Richard Harrington, DHS/FEMA R7 Logistics Chief
Bruce Jones, USCG Coast Guard Air Station-New Orleans
Frank Paskewich, USCG USCF Corp
David Passey, DHS/FEMA External Affairs
Travis Ratcliff, DHS/FEMA R6 Deputy Log
John Roberts, DHS/FEMA Region 6
Tony Robinson, DHS/FEMA Region 6 FCO
Kent Weathers, DHS/FEMA R6 Logistics

Alan Johnson, DHS/FEMA R6 DAE: Facilitator
Perry Lynn Pierce, DHS/FEMA Local Hire: Recorder
COMMAND AND CONTROL

Background

According to the National Response Plan, command and control of a Federally-declared disaster event should consist of a Principal Federal Official (PFO), a Federal Coordinating Officer (FCO), and a State Coordinating Officer (SCO) working out of a Joint Field Office in a Unified Command structure, in constant liaison with State and Parish officials.

However, in the case of the response in Louisiana to Hurricane Katrina, the State used multiple contacts to access federal resources, focusing on specific FEMA representatives at the operational level rather than through the Unified Command.

In addition, the military played a pivotal role in the early days of response, participating in two ways.

1. The military provided a small number of military personnel to the Joint Field Office and supported federal operations in accordance with the National Response Plan (NRP)
2. Most of the military served in the Joint Task Force Katrina which was strictly military and operated outside the bounds of the NRP

Similar command and control issues existed throughout the operation, serving to lessen the overall effectiveness of the response effort.

Findings

1. INCREASE THE EFFECTIVENESS OF THE UNIFIED COMMAND STRUCTURE AND IMPLEMENTATION OF THE NATIONAL RESPONSE PLAN (NRP)

Discussion

An effective Unified Command between the State and Federal government did not exist during the initial Hurricane Katrina response. This problem can partially be attributed to an incomplete understanding and implementation of the Incident Command System (ICS) and the NRP. The State emergency management officials had a limited understanding of the ICS and the NRP prior into Katrina. The State hired a consultant to conduct training on the ICS and the NRP approximately three days post-landfall (approximately August 31).

Another obstacle to the establishment of an effective Unified Command structure was limited State and local involvement. Due to personnel shortfalls and a preoccupation with evacuation issues, the State leadership was not available to attend Unified Command meetings. Similar problems were experienced at the local level. For
example, in New Orleans it proved difficult to establish a Unified Command among
the City, the State, and FEMA. The commitment even to attend Unified Command
meetings was simply not there. This problem was mirrored in the surrounding
parishes. It is believed to be a symptom of State and local officials not understanding
and appreciating the principle of Unified Command.

In accordance with the NRP, FEMA could not command non-FEMA assets. The FCO
could only coordinate and facilitate federal operations with partner agencies.
Additionally, FEMA Headquarters did not permit the FCO to move assets that were
pre-positioned in Louisiana, significantly degrading the operational capability at the
field level. For example, the FCO attempted to direct the movement of the Red
October mobile command post from Shreveport to Baton Rouge. Headquarters
countermanded this action, causing the command post to be delayed in arriving on
scene.

As implemented during the Hurricane Katrina response, the established chain of
command was counterproductive. Communications limitations and lack of a common
operational picture added to the impediments. Because the chain of command was
dysfunctional, responders at all levels attempted to conduct their missions to the best
of their ability, often outside of the chain of command. At times, local responders and
government representatives requested assistance directly from FEMA, and similarly,
FEMA representatives worked directly with Parishes to accomplish missions. These
efforts, while well-meaning, resulted in overlapping management, which ultimately
contributed to confusion and limiting effective work by all personnel.

Recommendations
A. Emergency management personnel at all levels of government should be required
to have training on ICS and the NRP. Such a requirement would increase
understanding and ease implementation of emergency response and create a more
effective Unified Command structure. Training on ICS and the NRP is currently
available through FEMA Emergency Management Institute and through online
courses that are free of cost to participants. FEMA should also create a rotational
training/work program for field personnel to spend time at FEMA/DHS
Headquarters and for FEMA/DHS managers at Headquarters to train in the field
on simulated and actual disaster events.

B. The federal government needs to establish a method to determine scenarios,
address an array of events, and create plans and operational support packages
specifically designed for response to and recovery from catastrophic disasters.
These packages would not only apply to severe weather disasters but to terrorism
hazards also, focusing on resources and processes. Several options for the initial
undertaking of this effort are 1) amendments to the Catastrophic Incident Annex
of the NRP and 2) FEMA’s Catastrophic Planning Initiative.

C. Senior management must develop doctrine to provide a single, simplified
command structure and train people to use it. As part of this command structure,
the PFO Cell should be integrated into the JFO structure. It is also recommended that senior management review the Goldwater-Nichols Department of Defense Reorganization Act of 1986. This act could serve as a model for interagency action on catastrophic events.

2. **INCREASE SITUATIONAL AWARENESS**

**Discussion**

Our ability to take timely and appropriate actions in the prior to and following landfall was limited by insufficient situational awareness. Disaster-related decisions are made based on mission needs. In the pre-landfall phase, the anticipated needs continually changed as the projections for the severity of Hurricane Katrina’s effect on the State of Louisiana evolved. Early projections indicated little to no effect on southeastern Louisiana. However, as the projected storm track moved farther west in the Gulf of Mexico, the threat became increasingly severe.

In the post-landfall response, maintaining a common operating picture was severely hampered due to communications outages. Communications infrastructure was either damaged or overloaded in southern Louisiana. Some of the greatest reductions of service were concentrated in Baton Rouge; a very small percentage of calls could be made out of or into Baton Rouge. In order to coordinate missions, field personnel in New Orleans had to call the FEMA Region VI Regional Response Coordination Center (RRCC) in Denton, Texas or the National Response Coordination Center (NRCC) in Washington, DC.

An example of a problem associated with the lack of communications was during the Superdome evacuation coordination. The liaison team at the Superdome attempted to coordinate with the Federal and State elements at the State Emergency Operations Center (EOC) in Baton Rouge. Communications to Baton Rouge failed, so the liaisons coordinated with the RRCC and NRCC. Consequently, the EOC in Baton Rouge had no visibility on this operation.

**Recommendation**

A. See *Communications and Coordination* section.

**Cross-References**

Command and Control is a management process that underlies many aspects of the initial response. References to Command and Control issues are contained in the following other sections of this report:

- The Medical breakout includes a recommendation for Unified Command over NDMS and HHS pre-positioning of personnel and resources (Recommendation 1.A).
- The Medical breakout includes a recommendation for unified medical logistics supply chain for all federal partners providing medical resources (Recommendation 2.A).

- The Medical breakout includes a recommendation for a clearer Fed/State relationship on displaced persons who are medically fragile (Recommendation 3.A).

- The Logistics breakout includes a recommendation for clearer delineation of authority for Management Support Teams in the mortuary affairs arena, to avoid conflicts with Logistics (Recommendation 6.A).

- The Post-Landfall Evacuation breakout includes a recommendation for centralized coordination of everyone that is involved in moving living disaster victims (Recommendation 1.A).

**Participants Present**

This Command and Control section was developed initially as a subtopic within the Initial Response breakout. The *Logistics* Section of this report lists the participants in the Initial Response breakout, though not all of them may have contributed to this subtopic.
COMMUNICATIONS AND COORDINATION

Background

A fundamental aspect of effective coordination is situational awareness. During Hurricane Katrina response operations, representatives from all levels of government were missing the coordinated information acquisition, analysis, and reporting structure that is necessary to support a clear common operational picture.

Findings

1. IMPROVE COMMUNICATION AND COORDINATION CAPABILITY FOR CATASTROPHIC DISASTER RESPONSE

Discussion

Serious technical hurdles to communication following Katrina existed throughout the Gulf Coast states. Most of the pre-landfall communications infrastructure (both normal and emergency communications) was destroyed. In addition, much of the communications equipment brought into the area of operations post-landfall to support the response was too large and unwieldy to be deployed in the flooded and debris-strewn field environment. Iridium satellite phones were the primary communications means. A limiting factor was they had to be outside (antennae) to communicate, and were sporadic in their connectivity.

Field-based responders were not the correct personnel to collect, analyze, and share the information in a timely and appropriate manner. FEMA is repeating the same rapid needs assessment (RNA) errors as were made in the past. We cannot translate the data collected (visual, reports, etc.) into a needs definition for logistics support.

Recommendations

A. Situational awareness and communications need to be improved. The fundamental avenue for communication system improvements is a communications suite or cache that can operate independent of normal communications infrastructure and is able to be moved into disaster locations. This communications suite would be regularly used in exercises and staged with other response resources.

Cross-References

Communications and Coordination is a management process that underlies many aspects of the initial response. References to Communications and Coordination issues are contained in the following other Focus Areas of this report:
• The Medical breakout includes discussion of poor communication between nursing homes and the State EOC (Discussion in Topic 3).

• The Logistics breakout includes a general call for improved, interoperable communications technical capability (Recommendation 4.A).

• The Logistics breakout includes a recommendation for highly mobile communications suites that are SATCOM-compatible but not satellite phones (Recommendation 4.B).

• The Post-Landfall Evacuation breakout includes an entire issue discussion on communications, with recommendations for a FEMA-led effort to have a common communications capability (Recommendation 3.A).

• The Mortuary Affairs breakout includes recommendations for redundancy in communications equipment any time operations are in a potentially dangerous environment (Recommendation 6.A).

• The Mortuary Affairs breakout includes a recommendation for communications equipment to be part of a cache included with deployment (Recommendation 6.A).

• The Command and Control focus area includes discussion of the impact of degraded communications capability on the effectiveness of the Unified Command (Discussion in Topic 2).

Participants Present

The Communication and Coordination Section here was developed initially as a subtopic within the Initial Response breakout. The Logistics Section of this report lists the participants in the Initial Response breakout, though not all of them may have contributed to this subtopic.
MEDIA RELATIONS

Background

Media Relations is one of the Public Affairs functions assigned under ESF-15, External Affairs. FEMA public affairs staff deployed to the Louisiana State EOC two days before the landfall of Hurricane Katrina and began coordinating with state counterparts. Press operations also stood up at the Regional Response Coordination Center (RRCC) and at FEMA Headquarters. At each location, media inquiries and requests for interviews were nearly constant. FEMA officials also participated in regular briefings with other federal and state disaster officials.

Press releases and written products were developed and distributed by FEMA Headquarters in the first week, and RRCC press staff worked closely with media outlets in Louisiana, since the State EOC-based team had very limited communications capabilities.

Findings

1. **A POLICY ON EMBEDDED REPORTERS IS NEEDED**

   **Discussion**
   
   FEMA embedded Public Affairs specialists and reporters with Urban Search and Rescue teams and Disaster Medical Assistance Teams (DMAT). Additional embedded media would likely help the Federal team show life-saving and life-sustaining operations while they take place. However, FEMA is limited in supporting embedded media because of the small number of full-time and reservist Public Affairs Officers who can operate in harsh environments. Also, embedded media often take a seat on a helicopter or boat that could be used by an individual in need.

   **Recommendations**
   
   A. A written embedded media policy and support assets (food, water, communication equipment) must be developed prior to the 2006 hurricane season. There are potential benefits and potential detriments to embedding reporters during a disaster response, particularly during life-saving activities in a dangerous environment. Therefore, a policy needs to be developed that balances those potential benefits and pitfalls.

2. **IMPROVE THE MEDIA RELATIONS PRESENCE ON THE GROUND**

   **Discussion**
   
   The hotwash group’s comments included the observation that the Media Relations team reacted to the media coverage rather than working proactively to get the right messages out. This situation was harmful to the overall response because there are
often high-priority messages that the government wants to get to the public in order to help them protect themselves and make informed decisions for their own well-being. If the Media Relations team is constantly in reaction mode, then they are not able to get their own high-priority messages out effectively.

In the initial response to Katrina FEMA was not in a position to get their messages out in a timely fashion. This is bad because it hurts the government’s credibility when most of their statements seem like corrections or clarifications of earlier media stories, rather than a clear and consistent message.

**Recommendations**

A. In large incidents, FEMA should plan to establish a media center as soon as possible after the incident. The center can be part of the Interim Operating Facility (IOF) or Joint Field Office (JFO), but does not have to be co-located. Speed in establishing the office will greatly enhance media relations and enable the Media Relations team to work within the news cycle to get messages out. With improved connectivity to the media and anticipation of issues, media coverage problems can be avoided before they arise.

B. In disasters federal response teams often co-locate at the state EOC or establish IOFs far from the location of primary media interest. In future incidents, federal Public Affairs operations must establish a strong presence in the locations of greatest media interest. In this operation, Baton Rouge served as the primary location for coordinated federal media relations. External Affairs later established a Joint Information Center (JIC) in New Orleans, but earlier establishment of the New Orleans team would have strengthened the communications effort.

3. **IMPROVE ACCESS TO CURRENT INFORMATION**

**Discussion**

In disaster situations, timely and accurate information for the public about response operations aids communities and contributes to the credibility of government actions. Current information is critical to press operations, but it was very difficult to find current information during this response. Situation reports were inadequate to address media interest.

**Recommendations**

A. A Daily Intelligence Summary (DISUM) or another means should be employed to provide, in near real-time, the status of response operations so that the same information is provided to all disaster spokespeople.

**Participants Present**

David Passey, DHS/FEMA: Primary Author

The Media Relations section was developed initially as a subtopic within the Initial Response breakout. There was very limited discussion on Media Relations and the only recommendation discussed as a group
was that a policy be developed on embedding reporters with disaster teams. Therefore, the recommendations below are those of the author, not the group that discussed initial response operations. The input has been expanded after the hotwash to ensure its usefulness to the purpose of this report.
STAFFING

Background

There is a continuing reluctance to develop sufficient staff in the early planning stages of a deployment. The Hurricane Katrina response was no exception, and the gap was particularly stark given the scope of the event. Staffing needs to be in place quickly because timeliness is vital in the first days of a major disaster. In Katrina this was not the case. For example, it is estimated that the ERT had 25% of the staff that were needed.

With a shortage of senior managers with operational experience among the full-time employees, DHS/FEMA ramped up staff for initial response largely by activating DAEs to fill staff positions. The ramp-up was hindered by two Headquarters policies. First, FEMA employees could not begin travel toward the disaster area until billeting was already arranged. Second, there was no authority within the FEMA personnel in the State to approve establishment of a base camp. Base camps were put on hold, pushing back the schedule for needed personnel to get “boots on the ground.”

Some DAEs were overworked, particularly in the Operations Section of the JFO. In fact, the Operations Section imported available on-site personnel from other sections to work in Operations to meet critical mission objectives, and even then there was not sufficient staff. Only limited training was provided, because of the urgency of getting the work started.

Findings

1. A COMMITMENT TO ADEQUATE STAFFING MUST BE MADE

Discussion

The primary means of providing the staffing ramp-up in the initial phases of a disaster is typically through the Disaster Assistance Employee (DAE) cadres that are maintained by each FEMA Region. DAEs are reserve personnel who are not full-time FEMA staff, but instead are called up to assist during disasters. The existing DAE cadres did not have sufficient numbers of personnel to respond to Hurricane Katrina. This is a continual vulnerability in major disasters. The percentage of staff available from each cadre for deployment at any given time is impacted by circumstances such as what other disasters are active, which creates a persistent risk of staffing shortfalls.

DHS/FEMA needs to have 24/7 staffing capability for each section. The agency needs to be willing and able to provide heavy staffing at the start of a disaster, and establish minimum staffing requirements based on responsibilities of the sections. Failure to do so causes fatigue, mistakes and errors in judgments in the units.
**Recommendations**

A. DHS/FEMA needs to lead an audit of current staffing capability. The agency needs to perform a comprehensive assessment of the demands for staff in a severe or catastrophic event. At the same time, they must determine the number of personnel available to serve in each position or unit for such a disaster. Then, a strategy for addressing any identified staffing gaps must be developed and put in place.

To staff strategically, the agency needs to know what human resources DHS/FEMA and all other agencies have, which this audit will provide. In FEMA’s case, the audit must include not only DAEs but also Permanent Full-Time (PFT) staff. FEMA needs to define, acquire, and train adequate PFT staff.

As part of the staffing strategy that arises from the audit, the agency should consider arrangements with contractors that have surge capacity to respond for the short term in a disaster. A contract arrangement might be possible that obligates a contractor to provide staff up to set limits and within set timeframes. This arrangement would provide multiple benefits to FEMA. First, it would be an enforceable mechanism for providing extra staff to meet critical needs. Second, because it would not be negotiated under time duress, the contract might have terms more favorable to the government than the contracts entered into in the early days of the Katrina response.

B. Process management needs to be applied to solving the staffing problem. Activation and “ramp up” for disasters will only improve if the process is managed – meaning that the process is documented, has performance objectives, and the process is tested against those objectives.

In the case of ramping up staffing, one performance objective is time. There needs to be a timeline for ramp up for disasters. Then a process needs to be designed that will support the timeline. For example, there needs to be quicker security and background check processes, so that it is not a bottleneck to surge staffing.

Another performance objective is the quality or appropriateness of the staff that is deployed. Here are two examples of this performance objective:

- It is not realistic to expect administrative staff to necessarily bring in the right mix of personnel, given current processes. All positions need to have Position Descriptions to support an appropriately skilled cadre and to support a selection process that reliably meets the needs of a particular disaster.

- There should be a process to assess and ensure that contractors have the appropriate technical expertise. To address this issue, it is suggested that contractors work with FEMA responders periodically to maintain a prepared base of people to draw on in an emergency.
A third performance objective is sustainability. Part of the staffing challenge in Katrina has been to sustain quality effort over time. Therefore, process improvements need to include designing time-phased force deployments into the process, so that operations are sustainable.

2. TRAINING PROGRAMS MUST BE MORE ROBUST

Discussion
During Katrina there was a shortage of qualified people, particularly at Headquarters. For example, a lack of knowledge of the NRP negatively affected operations by allowing for inefficiency (gaps in activity, duplication of effort) that would not have occurred if the NRP were understood more widely and thoroughly.

The training program within FEMA should be considered at least partially to blame for these problems. Historically, training that has been developed has been rushed, ad hoc, and underdeveloped. Headquarters personnel have failed to support, approve, and certify the training doctrine and standard operating procedures (SOPs) needed to develop curriculum for fully training FEMA personnel to meet the requirements of the mission.

Recommendations
A. FEMA and other Federal agencies need to develop sufficient, effective training within various areas of expertise. This should be initiated with a training needs assessment, identifying the requirements to prepare staff for service in catastrophic disasters.

Once the need is documented, agencies should develop quality training to meet the need. Training programs should be designed for long-term benefit, investing the time and effort to provide the desired benefits. Design should not be rushed for the sake of faster implementation.

B. Training programs should emphasize standardization and accountability. Regarding the NRP and many other areas, training needs standardization; otherwise, staff possess different levels of awareness of various aspects of the response and government processes or programs. This situation leads to inconsistency that hampers operations and hurts the credibility of the entire response organization.

A consistent training program needs to be integrated with credentialing that is based on mission and areas of responsibility. This is essential to the goal of the training, which is to ensure that a person who has been trained is qualified to serve.

C. The training life cycle should incorporate practice through event exercises, rather than reliance primarily on textbook courses. Practice through exercises is the better approach.
Use of exercises can be resource-intensive. Therefore, agencies should be encouraged to leverage other agencies’ training programs/exercises. Joint use of training or exercises has two benefits. First, the government gets more value from the investment in an exercise by having it serve the needs of multiple programs. Second, joint exercises provide opportunities for personnel to interact across agency lines and build familiarity that is useful in future disasters.

D. Training results need to be evaluated based on the quality of the training product rather than the number of personnel trained, as is currently the practice. The best way to improve training programs for disasters is to set targets for the quality of training and then measure whether those quality targets are being achieved.

Cross-References

Staffing is a management process that underlies many aspects of the initial response. References to Staffing issues are contained in the following other Focus Areas of this report:

- The Medical breakout includes a recommendation regarding expectations management for medical staff in pre-event staging, to avoid damage to participant morale (Recommendation 1.C).

- The Medical breakout includes a recommendation to consider whether the security needs of a team should be part of the staffing of the team or should be separate under ESF-13 (Recommendation 8.A).

- The Medical breakout includes a recommendation that Federal contractors provide their own resources and staff to support health services for their own employees (Recommendation 8.C).

- The Continuity of Government breakout includes a recommendation for the formation of standing Continuity of Government teams (Recommendation 1.A).

- The Continuity of Government breakout includes a recommendation for Public Assistance staffing in the field as part of Liaison Teams (Recommendation 1.B).

- The Logistics breakout includes a recommendation to expand Logistics staffing to meet surge demand for Contracting Officer Technical Representative (COTR) work, or otherwise meet the need for sufficient COTRs to support the mission (Recommendation 13.A).

- The Logistics breakout includes a recommendation for expanded Security staff to travel with critical commodities so that they are not diverted en route (Recommendation 10.A).
• Similarly, the Post-Landfall Evacuation breakout includes a recommendation for expanded Security presence at evacuation collection points (Recommendation 5.A).

• The Parish Liaisons breakout includes specific recommendations on the use, training, and composition of liaison teams (Topics 1, 2, and 4).

• The Parish Liaisons breakout includes a recommendation on the use of firefighters in field response to catastrophic or extremely large disasters (Recommendation 5.A).

• Sufficient and adequate training, both for existing human resources and new staff/teams proposed in this report, is a theme that is repeated in many recommendations. Training is mentioned among the recommendations in Continuity of Government, Logistics, Medical, and Mortuary Affairs.

Participants Present
The Section here was developed initially as a subtopic within the Initial Response breakout. The Logistics Section of this report lists the participants in the Initial Response breakout, though not all of them may have contributed to this subtopic.
INITIAL RESPONSE ACTION REQUEST PROCESS

Background
In the State of Louisiana, requests for federal or state support in a disaster were generated at the Parish by the means of a computer program known as E-Team. The request was transmitted electronically to the State EOC. In some cases the requests were made by phone or fax to the State EOC receptionist who in turn entered the request into E-Team. The request was forwarded to an Operations Specialist who reviewed the request for accuracy, legitimacy, and adherence to the Emergency Operations Plan (EOP).

The Operations Officer then reviewed the request and assigned it to a specific State agency to perform the function. If the request was beyond the capability of the State, it was forwarded to FEMA on an Action Request Form (ARF). The State delivered a signed hard copy to FEMA by hand or fax.

Requests received by the FEMA Operations Section in the State EOC were logged manually in a word processing document or spreadsheet, checked for eligibility and faxed to the RRCC for processing.

At the RRCC, the request was again logged in on a separate spreadsheet, analyzed for eligibility, and sourced for the best method of acquiring the assistance. If the request was best met by a Mission Assignment, it was forwarded to the Mission Assignment Coordinator who completed a Mission Assignment in the E-Caps program. If it was to be procured by contract or was in stock, the ARF was forwarded to Logistics.

Logistics received the forwarded ARFs at Resource Support. The Resource Support section signed off on the 60-1 Forms which were then logged and sent to Contracting.

Findings

1. **BETTER TRACKING OF REQUESTS IS ESSENTIAL**

   **Discussion**
   Action Tracking, while talked about in several documents relating to logistics or Mission Assignments, has never been fully adopted by DHS/FEMA. Action Tracking has never been defined, and doctrine guiding how it is accomplished has not been issued.

   The Action Request process used for Katrina was plagued with problems in tracking individual requests. Requests were tracked on multiple paper forms at different stages, which is inefficient. With each remote location keeping a separate log with no visibility at other locations, there was duplication of efforts and requests/orders. In addition, using a word processing or spreadsheet to log requests is problematic
because only one user at a time can make entries in the log. With a fast-paced response that has numerous requests coming in, one person cannot keep up.

The inability to create the documents electronically, complete with a system log, resulted in lost requirements. That deficiency also made it impossible to crosscheck entries with the remote locations that were submitting data to Logistics.

The ad hoc system utilized during Katrina is not compatible with E-Caps for Mission Assignments nor 40-1s. Therefore, it is not possible to forward data to another section (Logistics or Contracting) for processing, and there is no way to create other related documents (e.g., a 60-1 [a letter requisition form] or a Mission Assignment task order). The ad hoc system also cannot create a log with a numbering system that can assist in tracking the request.

There was no way for Logistics to check on the status after an order went to Contracting. The Contracting Officers were from FEMA, GSA, TSA, DOD, DOT, local hires and others. The staff rotated frequently and orders were not kept in a disciplined sequence. Orders were not prioritized properly and some were not ordered for some six weeks into the event. This caused duplicate requests for the same items to be put into the system.

Receiving could not identify which goods matched up with which order because copies of the orders never got to Receiving. Additionally, credit card orders were purchased and picked up by the credit card holder and never went through the Receiving Officer.

The impact of the ad hoc approach used during Katrina was that some orders were unfilled, unchecked or misdirected. The problems impacted both Operations and Logistics, which each Section tried to resolve as the disaster was ongoing.

**Within FEMA Operations.** In order to create a complete picture of what was requested and the status of requests received from the State, especially in the light of congressional requests for ARFs, Operations contracted to develop a database and provide data entry to recreate ARFs in a system that was cross referenced to E-Team, the EOC log, the RRCC log and the JFO log. The contract was not awarded until several weeks into the disaster. It specified the need for a server-based tracking tool, to allow access by multiple users. The Operations Section worked with the contractor to document a process for request tracking that the database needed to support – a process that was specific to the response to Katrina in Louisiana.

**Within Logistics.** Logistics and the Comptroller Section created an electronic system three months into Katrina to try to improve their tracking of requests. Under this system:
- A request is received in Resource Support and logged in
- The request is scanned and given to Contracting
Action Request Process

- Contracting orders the requested item(s) and ties the order to a funding number in NEMIS
- The order is cross referenced to a log number in the system, which allows the Receiving Officer to review the logged and scanned request for accountability
- Users can view the log to check on the status, (e.g., Due In data, Order data, etc.)
- When received, the item gets to the proper individual and the log is closed
- Logistics is pursuing enhancements to the system to track priority of requests

Recommendations
FEMA needs to take a comprehensive look at the entire Request/Procurement process. The existing ARF is inadequate and needs to be redesigned.5

A. The Action Tracking Process needs to be fully developed. Doctrine must be written, and training must be developed to implement the function in Operations and Logistics. The process must provide for a uniform, unified request process. It also needs to log, track, perform error trapping, and provide easy preparation for requestors.

B. The Mission Tasking Order should be incorporated into the ARF. This recommendation should be implemented through the development of a Web-based database program. The program must allow multiple users to have simultaneous access to different requests. It must be accessible quickly in a disaster, meaning that it should exist outside of the FEMA firewall.

The system also needs to have a structured log of request activity. Such a log would be valuable so long as it allowed the user to create reports based on parameters such as Agency, Mission Assignment Number, Contract Number, and Cost.

Having such a system would allow Operations to move requests to Logistics electronically, without confusion about multiple identification numbers for a request. With visibility into Status and Logistics actions for all users, lost requests and duplicate requests would be minimized, and ultimately the citizens impacted by disasters would receive better services.

5 The DMORT/Medical combined breakout at the Hotwash echoed the need for ARF visibility. In the beginning they had problems within their own operation on basics like how to write an ARF. Yet when ARFs were written the information could not be viewed at a higher level. They concluded that the process needs to be revamped and revisited for others to have visibility on the situation. E-Team requests had the same problem.
2. **HUMAN RESOURCES ISSUES IN THE ACTION REQUEST PROCESS MUST BE ADDRESSED**

**Discussion**

Agencies other than FEMA used representatives in management positions with no signatory authority or delegation of authority, which was a problem. It created bottlenecks in the process, as work could not proceed without appropriate approvals. This problem was most severe with the State of Louisiana. The State did not designate authorized requestors early on. As a result, anyone in state government who wanted to make a request could and did.

Requests were delayed by this unclear authority in the State. There was no formal understanding of who is authorized to make a request and who is delegated the authority to sign a mission assignment that involves a State cost share.

The absence of training on applicable laws and DHS/FEMA policy led to ineligible requests being developed at the local level and submitted to FEMA by the State. State personnel are not trained on preparation of the requests. There is no uniform way to make a request, nor is there a uniform way to track requests and provide information back to State/local personnel on the status of a request.

**Recommendations**

A. Policy changes need to support signatory authority being in the necessary positions in a disaster response organization, particularly for Other Federal Agencies and States. The appropriate Position Descriptions should include the need for signatory authority since this authority is a necessary precondition of being effective in that position.

   To implement these policies, early in a disaster State and Federal agencies must designate the person(s) who are authorized to make requests on behalf of that agency.

B. FEMA needs to lead an effort to finalize and disseminate ARF submission protocols, and train people on the submission of ARFs. The time spent developing an ineligible request is lost time that could be spent serving the needs of disaster victims. The agency has developed a course entitled Mission Assignment for Managers that targets the Regional Interagency Steering Committee (RISC) audience of state and federal agencies that would respond to an incident. This course is designed to be conducted at the Regional level during one of its RISC meetings.
3. **FEMA SHOULD BE AUTHORIZED TO ASSIGN MISSIONS TO THE AMERICAN RED CROSS**

**Discussion**
In the past, FEMA issued Mission Assignments to Red Cross to activate them under their ESF-6 mission only. Several years ago the decision was made at Headquarters that the agency could not mission assign Red Cross as they were not a Federal agency even though they were chartered by Congress.

The American Red Cross authority to perform disaster services was formalized when the organization was chartered by the Congress of the United States in 1905. Among other provisions, this charter charged the American Red Cross

> “to continue and carry on a system of national and international relief in time of peace and apply the same in mitigating the sufferings caused by pestilence, famine, fire, floods, and other great national calamities, and to devise and carry on measures for preventing the same”.

> -U.S. Congress, act of January 5, 1905, as amended, 36 U.S.C.

As a result, FEMA went for several years with no published guidance on how to activate ESF-6 and continued to do Mission Assignments. When guidance was issued, it was to discontinue the use of missions and activate Red Cross by the use of invitation travel. So instead of one master document that would cover the activation of every Red Cross responder assigned to the ESF-6 function, FEMA has to do a separate process of invitational travel for each individual assigned. The administrative requirements associated with issuing one invitational travel (and during the Katrina response we had dozens) is prohibitive in a response situation. Policy (44CFR) needs to be changed to address this problem.

**Recommendations**
A. There is a specific need for clarification of the activation and tasking process for Mass Care. A change to 44CFR should be made, allowing DHS/FEMA to Mission Assign the American Red Cross. If FEMA can use the same mechanism to activate ESF-6 as we would to activate any other ESF, it will provide dramatic improvements in the processing overhead (time and effort) needed to activate the Red Cross.

**Cross-References**
Other breakout sessions at the Initial Response Hotwash had discussions that relate to the Action Request Process topic. A cross reference is provided here.

- The Logistics breakout includes a recommendation for coordinating (even if after-the-fact) acquisitions made outside of the normal JFO/RRCC process (Recommendation 5.A).
Participants Present
This report section was developed initially as a subtopic within the Initial Response breakout. The Logistics Section of this report lists the participants in the Initial Response breakout, though not all of them may have contributed to this subtopic.
POST-LANDFALL EVACUATION

Background

The participants in this hotwash breakout session identified four major subtopics that could be considered to be “evacuation”.

1. Pre-landfall evacuation of the general public
2. Pre-landfall evacuation of special needs populations
3. Post-landfall evacuation of the general public
4. Post-landfall evacuation of special needs populations

The discussion at this hotwash only focused on subtopic 3, the post-landfall evacuation of the general public following the flooding of New Orleans.⁶

Although the post-landfall evacuation of New Orleans was accomplished using air, water, road, and rail assets, the majority of the evacuations out of the city were accomplished through ground transport and flights out of Louis Armstrong International Airport (Airport Code: MSY). Accordingly, the focus of this discussion is on ground and air transportation and how the post-landfall evacuation mission was accomplished.

During Hurricane Katrina, the top priority for evacuation was the Superdome, a shelter of last resort, which was sheltering approximately 25,000 pre-landfall and post-landfall evacuees. Significant numbers of evacuees also congregated at the Ernest N. Morial Convention Center in New Orleans, as well as in St. Bernard Parish across from Algiers Point following the onset of severe flooding in the area. State collection points for persons needing evacuation assistance were pre-identified but additional “emergency” sites arose at locations such as the I-10 Causeway site and the Algiers Point site. The attached map (Figure 1) shows the non-medical collection points, bus route, and holding areas used for non-medical evacuees.

From September 1-3, over 65,000 personnel were evacuated from the Superdome, Convention Center, the I-10 Causeway, and Algiers Point. The people that were evacuated from these points were taken by bus to facilities out-of-state or to MSY and flown out-of-state. In nine days of operations (through September 9), there were approximately 26,000 people evacuated from MSY. This number includes medical and non-medical evacuees (both planned and unplanned) from multiple sources.

The destinations were coordinated by FEMA Headquarters with the assistance of governors and emergency managers in the receiving states. JTF-Katrina (West) Liaison (LNO) Teams were used to control buses at Mile Marker 209 (MM209). All contracted

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⁶ The group recommends that the other three subtopics should be the focus of separate follow-on sessions. Results from the other sessions should be compared and integrated with these evacuation discussion results to ensure a coordinated and comprehensive evacuation is planned and executed.
buses were told to report to MM209 and check in with the JTF-Katrina (West) LNO. When buses were convoyed, they had a Louisiana State Highway Patrol car in the front and back of each convoy for security reasons and to control the flow of the convoy.

Findings

1. A SINGLE OVERARCHING COMMAND AND CONTROL ELEMENT FOR ALL EVACUATIONS NEEDS TO BE ESTABLISHED

Discussion

Evacuations (three parts: non-medical planned, non-medical unplanned, and medical) were running parallel and relatively well except for times when the systems overlapped, unplanned demands stressed the system, or another agency was utilizing the same facilities. An example is that many medical evacuees were taken to MSY for air transport as part of the NDMS (National Disaster Medical System). Buses, coordinated by JTF-Katrina (West), were evacuating personnel out-of-state as well as sending others to MSY for air evacuation out-of-state. At the same time the search and rescue helicopters were delivering personnel to MSY, all of which required medical screening to determine victims’ transportability.

The overcrowding at MSY was exacerbated by the hundreds of other well-intentioned people bringing evacuees to the airport in buses, vans, and cars. The unplanned buses were arriving at the airport causing major congestion both outside and inside the airport terminal. At one point there were 50 buses that arrived at the airport with no State Police escort. At this time, it was discovered that those who were taking bus loads of evacuees to the airport were not coordinating with JTF-Katrina (West). Once identified, these buses were told to go to I-10 MM209 in order to control the transportation flow and avoid overcrowding in the airport. Some of these evacuees were transferred to commercial buses and taken to out-of-state shelters.

The Urban Search and Rescue (US&R) center at Zephyr Field was sending people to the airport. This caused multiple challenges, including limited ramp space and back up of fixed wing aircraft. It was uncertain who directed those aircraft to MSY, but the airport was not prepared to handle these personnel or the DMAT team that followed.

Recommendations

A. Establish a centralized evacuation coordination center or cell (ECC) for a comprehensive and coordinated evacuation. The ECC would be operational for pre-landfall and post-landfall evacuations. The ECC would have representatives from Federal, state, and local entities. The benefit of the ECC would be to coordinate state and federal efforts, establishing evacuation priorities, and ensuring that bottle-necks such as that which occurred at MSY would be reduced or eliminated.

B. The ECC must have oversight over evacuation of the public by all means. Ground transportation is the most effective means of transportation; however with long
distances air and rail need to be strongly considered. Water-based transportation is very dependent on location but it is a mode that should also be considered if feasible.

Air evacuation, medical evacuation, US&R, and ground evacuation were all separately coordinated entities. Each was accomplishing the evacuation mission, but in some cases these separate actions were not coordinated, causing major overcrowding problems. There was a need for coordination of collection points, departure times, arrival times, and evacuee support logistics.

C. A list of all collection points that are active during an evacuation needs to be developed early in the evacuation. The list needs to include not only sites that are planned but also unplanned emergent sites. This must get onto a common operating picture to ensure widest dissemination.

During Hurricane Katrina, State collection points were pre-identified but additional “emergency” sites arose at locations such as the I-10 causeway site and the Algiers Point site. A complete list of all collection points would allow tactical planners supporting the evacuation to take all public needs into account and deploy their support assets more effectively.

2. ESTABLISH A FEDERAL PLAN FOR MULTI-STATE EVACUATIONS IN THE EVENT OF A CATASTROPHIC DISASTER

Discussion
Evacuation planning and processes are traditionally undertaken by state and local governments. The Federal government has neither generic nor specific evacuation plans. In the case of the Hurricane Katrina post-landfall evacuation, the local governments had a plan but did not implement it, and the State did not have a plan.

Despite the absence of existing plans, the Federal government and receiving states were able to move approximately 65,000 evacuees within a few days. Although this was a very positive achievement, the public expectation was for an even faster evacuation. Hurricane Katrina has presented the need for a national focus on evacuation and sheltering. In order to expedite the post-event evacuation process, evacuees unfortunately must have limited or no input in regard to their shelter destination.

Recommendations
A. FEMA must develop a Federal evacuation planning mechanism in order to expedite multi-state evacuations resulting from catastrophic disasters. FEMA Headquarters must establish guidance for the Federal evacuation planning process. FEMA Regions would undertake the planning effort, incorporating specific regional and state characteristics in developing a concept of operations for a multi-state evacuation. A fundamental component of the Federal Regional
evacuation plans would be the ECC concept.

B. The Federal evacuation planning effort must be supported by databases with shelter locations and capacity, preferably in a Geographic Information System (GIS). State and local Emergency Operations Plans (EOPs) and shelter plans identify sites to be used in the event of an emergency within their jurisdiction. In order to meet the needs of catastrophic disasters like Hurricane Katrina, states and local governments must also identify sites that could be used to house out-of-state evacuees. It would be the responsibility of the state and local governments to establish their own lists, and a master list would ultimately be coordinated by FEMA and EMAC. The operational benefit of this recommendation would be to have a baseline list of shelters that could be used in a catastrophic disaster.

C. In order to improve processes at the shelters and the logistics of transport to the proper shelter sites, a capacity tracking system should be required for all sites identified. During the Hurricane Katrina post-landfall evacuation, states maintained their shelter lists. A uniform approach to shelter capacity tracking would ensure that all sites are collecting the proper information. FEMA would ultimately be responsible for establishing guidance for a shelter capacity tracking system, and the states would be responsible for the implementation.

3. A CONSISTENT COMMUNICATIONS SYSTEM FOR EVACUATIONS NEEDS TO BE ESTABLISHED

Discussion
During Hurricane Katrina, catastrophic communications failures caused confusion during the post-landfall evacuation operation. While it is understood that not all responders will have access to communications, it is important to have communications between each Command and Control node in order to create a common operating picture.

Recommendation
A. FEMA needs to develop a communications suite that operates independent of normal communications infrastructure and is able to be moved into disaster locations. This communications suite would be regularly used in exercises and staged with other response resources. This communications suite would allow for Command and Control elements to operate on common system without having to rely on existing communications infrastructure, which failed during Hurricane Katrina.
4. **AIRPORTS NEED TO BE INCLUDED IN EVACUATION PLANNING AT ALL LEVELS**

**Discussion**

On August 27, the Louis Armstrong International Airport (MSY) put its emergency program in place. TSA screeners remained in place to make sure people were screened for departures prior to landfall. The TSA staff remained at the airport through the storm, with the majority of them leaving to join their families on the Wednesday after landfall.

Approximately 800 passengers that had airline tickets were stranded in the airport for two days when their flights were cancelled. On August 31, 2005, commercial airliners came in to evacuate only their passengers. The airlines agreed to evacuate additional persons if seats were available.

Airport management and staff were operating a skeleton crew, and were not provided resources or support from the city or state necessary to facilitate such a large scale evacuation. The JTF-Katrina (West) team, Louisiana National Guard and additional military elements restored function to the airport for the evacuations.

On September 1, unplanned evacuees began arriving at MSY. US&R were transporting evacuees via air assets to the Superdome and to the airport. The Federal air marshals were responsible for the ground handling of aircraft. However, due to the damage to communications infrastructure, the emergency response command element had no contact with the tower to know what aircraft were arriving or departing.

Up to this point in time, the pace of evacuation through the airport was very meager. After all, the vast majority of evacuees at the airport were not ticket-holding passengers. A plan was developed to conduct an air evacuation and begun on the morning of September 2.

As part of the plan, DOD and civilian contract aircraft (from commercial carriers) began evacuating the public, through coordination with FEMA Headquarters and US Department of Transportation. Most of the assets used in the evacuation were DOD aircraft.

The airport had to temporarily suspend evacuation operations on September 2 because of the massive influx of evacuees at the airport. Nonetheless, operations soon resumed. The pace of air evacuations was very heavy over the ensuing four days.

The last departing flight for evacuees was on September 9 and normal flights resumed on September 13. The U.S. Forest Service had established a base camp on the tarmac between Concourses A and B, precluding the resumption of expanded air operations. In total, the airport had over 23,000 ambulatory and approximately 3,000 medical patients that had to be processed.
Recommendations

A. Airports should be mandated by the FAA to have plans for large scale evacuations and emergencies. Under current FAA regulations, airport emergency plans are required to develop plans and to exercise them twice per year. However, the airport emergency plans do not address procedures for this type of mass evacuation scenario.

The operational benefit of the airport plans would be a greater level of preparedness and the establishment of standard operating procedures (SOPs) within the airport for a mass evacuation of this type. These plans and SOPs should be aligned with the State and local evacuation plans.

B. States and local governments must include airports in their evacuation plans. A possible funding mechanism through FEMA is the Emergency Management Performance Grant (EMPG) program.

Of utmost importance in this planning would be the assumption that the airport would serve not only as a departure point for evacuees, but as a destination point for supplies. The plan will ultimately include strategies for conducting both missions simultaneously.

The operational benefit of this would be the establishment of SOPs for coordinating a mass evacuation effort using airports. These plans and SOPs should be aligned with the airport emergency and evacuation plans.

C. FAA disaster manifesting rules must be established. During the Hurricane Katrina evacuations from MSY, flight manifesting was started by the JTF-Katrina (West) Liaison Officers at the airport. Later, they were augmented by a wide variety of personnel which included TSA, Air Marshals, and Air Force Tanker Airlift Control Element (TALCE). There was no standard form or guidance available, so manifests were improvised. Assembling a manifest prior to departure did not delay flights out of New Orleans, chiefly because difficulties in loading passengers onto the planes with no jetways created delays that allowed ample time for manifesting. Nevertheless, manifests were a cumbersome task because these were unplanned flights with unplanned passengers. Reportedly, neither airport passengers nor bus passengers were properly manifested.

The benefit of establishing disaster manifesting rules is two-fold. The first is simply to create and maintain an accurate record of the names of people evacuated, the departure point, the destination, and dates of travel. The second is to make sure that planes intending to depart for evacuation are not delayed by a failure to follow manifesting rules to the letter (this problem did not come to pass during Katrina, but the potential might exist in future disasters). Waivers should be available to ensure that manifesting does not delay emergency flights in a disaster.
D. Develop, fund, and stage airport operation and support cadre which includes all resources that are needed to run an airport. Examples of resources needed in order to conduct the airport evacuation operation are:

- Personnel (e.g., medical, ground crews, TSA, physical security)
- Food supplies (e.g., MREs and hot meals)
- Support items (e.g., light sticks)

FEMA, in conjunction with the State and local entities, including the airport, would be responsible for determining a funding mechanism through which the cadre could be established and maintained. The benefit of such a cadre would be to streamline the process of maintaining operations in an airport in the absence of support crews.

5. PHYSICAL SECURITY/LAW ENFORCEMENT

**Discussion**

Given that the airport was not a fundamental part of evacuation or shelter plans for the State or City of New Orleans, it was unprepared for the crowds and resource strains presented in the aftermath of Hurricane Katrina. No food, water, or other necessary supplies were staged at the airport. Collection points such as the Superdome and the Convention Center also had volatile situations, marked by severe resource strains and large populations.

Given the combination of large crowds and a lack of resources, security was of the utmost importance in maintaining order at all evacuee sites. In the immediate response to Hurricane Katrina, security at MSY and at collection points was limited. Order was not achieved until the arrival of Louisiana National Guard and United States Army assets.

**Recommendation**

A. Disaster response policies at State and Federal levels should allow State National Guard assets or Department of Defense assets to be made quickly available for ensuring physical security at all collection points, modes of transportation, and destinations in post-landfall evacuation. When local law enforcement is overburdened, these military entities must ensure crowd management along with perimeter security so that order is achieved. In order to achieve rapid security of the collection points and other sites, the military assets should be pre-positioned at the known sites as possible. The operational benefit of this security is the establishment and maintenance of order so that other missions can be accomplished without incident.

**References (if available or appropriate)**

New Orleans Evacuation Key Locations
**Participants Present**

Dan Beaty, DHS/TSA  
Lieutenant Colonel (LTC) Sherry Brannan, National Guard  
Brigadier General (BG) Mark A. Graham, U.S. Army North (ARNORTH)/5th Army  
Captain (CPT) Tom Burrell, U.S. Army North (ARNORTH)/5th Army  
Jarrett Devine, DHS/FEMA  
Sean Fontenot, IEM  
Mark Gallagher, DHS/FEMA  
Carl Haaland, DHS/TSA  
Rob Klipp, DHS/TSA  
Lorie LaFon, DHS/FEMA  
Ted Monette, DHS/FEMA  
Curt Musgrave, DHS/FEMA  
Commander Tom Scheidel, U.S. Public Health Service  
Sidra Sebastian, DHS/FEMA Local Hire  
Mara Mowery, DHS/FEMA: Facilitator  
Jessica Diez, IEM: Recorder
INITIAL HEALTH AND MEDICAL RESPONSE

Background
The after-action report was generated by a small number of HHS, DHS/NDMS and FEMA Operations staff that was actively engaged with the ESF-8 response during the first two weeks following Hurricane Katrina. The participants focused on major cross-cutting issues involving all three organizations. There are individual after-action reviews that are being conducted on selected aspects of the response (e.g., NDMS patient movement, HHS/PHS integration, FMS coordination, NDMS team operations). These were not reviewed as part of this report because of they will be addressed in the more focused and thorough after-action reviews.

This section contains 24 separate recommendations in eight functional areas of the response. While each of these is important, the key 10 recommendations are summarized below and need to be prioritized in the corrective action process. A more substantive discussion of each recommendation can be found in the Findings and Discussion section of the report.

1.A. HHS and NDMS must coordinate better in the pre-staging of federal assets.
1.B. The Federal Medical Station caches and operational plans must be completed and exercised prior to the next deployment.
2.A. Develop a single unified medical logistics supply chain for all ESF 8 federal partner agencies providing services.
2.B. HHS must develop a standardized primary care clinic logistics package to support the typical primary care missions that follow most disasters.
2.F. ESF-8 must develop agreements in advance of the next disaster with ground and helicopter evacuation assets to bring them quickly to the response.
4.A. A dedicated ESF-8 RNA/MNA should be conducted for all disasters.
6.A. FEMA and HHS OGC must work together to clearly identify, in advance of the next disaster, how Stafford Act funding will support ALL of the ESF-8 functions in the NRP.
7.A. Purchase, operationalize and exercise a “turn key”, non-DoD national field hospital asset.
8.C. Federal contractors must be held accountable for supporting their employees with health services when working in a disaster environment. It is not an ESF-8 responsibility to support non-federal responders.
9.A. A strategy for rebuilding critical medical infrastructure following a catastrophic disaster must be developed by leveraging all Federal resources including CDL, SBA, HHS, USDA, and FEMA, and can be provided to communities as an integrated package.

Findings

1. PRE-DISASTER PHASE MEDICAL RESOURCE MANAGEMENT

Discussion
Health and Human Services (HHS) and Department of Homeland Security (DHS/FEMA) mobilized and moved personnel from HHS and NDMS in advance of the storm. These included a Rapid Needs Assessment team, the HHS Secretary’s Emergency Response Team and National Disaster Medical System Teams (Disaster Mortuary Operational Response Team (DMORT), Disaster Medical Assistance Team (DMAT), Veterinary Medical Assistance Team (VMAT). Additional Federal medical assets were deployed into Louisiana, Mississippi and Texas in the pre-storm period which included Federal Medical Stations (FMS), NDMS medical caches, and NDMS Management Support Teams. The HHS and NDMS independent chains of command deployed these pre-staged personnel and supplies.

Recommendations
A. HHS and NDMS must coordinate better in the pre-staging of federal assets. A unified command must be established for ESF-8 prior to the storm that allows NDMS and HHS to integrate and leverage the capabilities of the Federal health and medical assets. This needs to be accomplished by collocation of the NDMS and HHS command centers at the national level.
B. The Federal Medical Station caches and operational plans must be completed and exercised prior to the next deployment. The plan must include re-supply, food, water, and sanitation issues. Storage of these assets throughout the country will also help to expedite their availability in the field.
C. Most Federal medical responders leave an active professional practice to support a Federal response through NDMS or HHS. They have strong expectations of using their professional skills during activation. Most pre-staging events do not result in full utilization of an individual’s professional skills which can breed disillusionment and frustration with the overall deployment. HHS and NDMS must better manage expectations of federal responders in pre-staging missions to address possibility of inactive waiting periods.
D. FEMA has developed time-phased deployment lists (TPDL) for hurricanes. It was not clear what medical resources were considered in this protocol or whether the lists were used in the Katrina response. It is unlikely that the lists contain some of the newer Federal medical assets like the FMS. FEMA and HHS should reassess the utility and comprehensiveness of the TPDL for hurricanes.
2. **PHARMACEUTICALS AND MEDICAL EQUIPMENT SUPPLIES**

**Discussion**

A Reception, Staging and Storage area (RSS) was set up for medical supplies and pharmaceutical consistent with the State’s Strategic National Stockpile (SNS) plan. A CDC technical advisory team arrived prior to the storm to support this RSS. CDC provided many of the supplies, drugs and vaccines through this system. NDMS used its usual FEMA logistics function. Critical shortages of oxygen and other life-saving medications/services and re-supply were problematic for NDMS teams at the airport and the HHS teams providing care in special needs shelters. DoD had its own medical logistics function operational in the response.

Supplies were a problem also. The state plan called for using reefer trucks for the deceased. The state could not identify contractors to get the supplies that we needed to do this. [Medical/DMORT]

**Recommendations**

A. HHS should develop a single unified medical logistics supply chain for all ESF-8 federal partner agencies providing services. Medical logistics is a unique logistics function with which NDMS and HHS OPHEP have had limited experience. CDC, in light of its SNS program, has developed the staff and expertise needed to manage a large response. HHS, as the lead agency for ESF-8 must bring together the support agencies that provide direct services in a response and develop an overall medical concept of operations to best utilize the strengths and resources of the partner agencies.

B. Supporting primary care, ambulatory clinic services is requested after most disasters. DMAT operations provide this service early on, but these missions are often transitioned to HHS responders. HHS does not have a standardized primary care clinic logistics package to support these operations. One must be developed.

In addition, a national, mobile healthcare clinic capability should be developed that can be quickly brought into an area to allow a platform for local and Federal health providers to serve the primary care needs of the impacted community.

C. ESF-8 must develop a mechanism in advance of the next disaster to bring oxygen supplies to the response. Restrictions on oxygen transportation limit its ready availability in a disaster area. There must be a mobile, Federal oxygen generation system available to bring to the disaster site to support the local response community and the Federal medical responders.

D. Scheduled pharmaceuticals are needed in disaster medical response. These controlled drugs require careful regulation and monitoring. Such drugs are often transferred from one responders group to another (i.e. NDMS to HHS, DoD to NDMS) during a response. An improved system of managing controlled pharmaceuticals in the field and across agencies needs to be developed and
exercised to address DEA licensing regulations.

E. Federal medical disaster responders are often faced with providing care to chronic health issues as well as acute conditions brought about by the disaster. There were several situations in the response where FEMA OGC determined that certain services (e.g., refilling chronic medications) were not allowable services under Stafford Act funding. FEMA OGC must determine in advance of the next disaster the “allowable services” that can be provided by Federal medical responders. A FEMA OGC opinion should be developed and provided to all of the ESF-8 partner agencies to allow the agencies to train their responding professionals.

F. ESF-8 relies upon local responders to transport disaster victims from “ground zero” to medical care. Neither FEMA nor HHS have pre-established contracts/agreements with ground and helicopter patient evacuation assets to support these efforts. This seriously limits the timeliness of ESF-8 assistance in direct patient evacuation from a disaster zone which was evident in this response. ESF-8 must develop agreements in advance of the next disaster with ground and helicopter evacuation assets to bring them quickly to the response.

3. SPECIAL NEEDS SHELTERS

Discussion
Special needs shelters were established by the State and supported with federal staffing to accommodate the medically fragile. There was a proactive staging and setup of a Federal Medical Station to care for special needs patients in Alexandria, LA (Rapides Parish) and at the Louisiana State University (LSU) campus in Baton Rouge. The State’s Department of Health and Hospitals declined the offer for the shelter in Alexandria. Medical staff were redirected to other special needs shelters throughout the State. NDMS teams also supported staffing in Special Needs Shelters in the early days following the storm.

There was State coordination through the State Emergency Operations Center (EOC) with Federal ESF-8 staff and the Nursing Home Association to prioritize and guide decision making. Getting clear information on the status of nursing home evacuations was problematic due to infrequent communications between the nursing home organizations and the operations center. The Federal and State ESF-8 staff were heavily focused on hospital evacuation. Many RFIs for Nursing Home emergency response support were resolved via coordination by email with the FEMA Region VI Regional Response Coordination Center (RRCC) and/or ESF-8 EOC State Liaison officers.

Recommendations
A. The Federal role in care for medically fragile homebound or long term care institutionalized patients must be clarified. Federal ESF-8 cares for patients that evacuate from hospitals through the NDMS patient forward movement system. Many states have systems of care for the homebound medically fragile. HHS must
plan with states in advance of the next disaster how to integrate FMS resources to support State plans for caring for the displaced, medically fragile individuals.

B. Persons with mental illness constitute a special population that is not well addressed in sheltering plans following a disaster. These individuals are often displaced from their usual sources of care, support and medications. These individuals can become very disruptive in a shelter of any type, and are often transferred from general shelters to special needs shelters. ESF-8 must develop a strategy to help address this special population in the shelter environment. SAMSHA must be tasked with developing the recommended approaches and identifying needed resources.

C. HHS and States should review evacuation and sheltering plans associated with nursing homes and long-term acute care systems (LTACS) to ensure that ground/air transport and destination locations are coordinated. HHS’s Center for Medicare and Medicaid and State review agencies must work with these institutions in disaster planning to ensure their plans are realistic and do not compete with other facility evacuation plans in the event of a regional evacuation.

4. RAPID NEED ASSESSMENT (RNA) AND MEDICAL NEEDS ASSESSMENT (MNA)

Discussion
ESF-8 personnel were deployed to Baton Rouge to assist the State in conducting a rapid needs assessment known as a Medical Needs Assessment. The State declined to have this team conduct the assessment. The FEMA Rapid Needs Assessment did not have an ESF-8 component. Facility self-reporting was utilized as an alternative source of assessment data in the early phase of the response. A separate public health and medical assessment was not conducted until the end of the first week.

Compounding the needs assessment difficulties was the fact that initially officials on a higher level (State and Federal) had problems with dealing with estimates and projections on the dead and/or injured, and making decisions based on those numbers. They did not want to deal with projections, but rather with actual numbers. The Hurricane Pam Workshop resulted in a good base of information for projections of this particular disaster, yet officials remained against the use of projections. This reluctance slowed the response, and by the time the State agreed to use the projections, days had been lost.

Recommendations
A dedicated ESF-8 RNA/MNA should be conducted for all disasters. Medical RNA were conducted in Mississippi for Hurricane Katrina and in Louisiana for Hurricane Rita. The process has proved beneficial in these other locations. The general FEMA RNA system is not an adequate assessment for early health and medical planning. NDMS and HHS should work together to develop and integrated early assessment process that can be conducted with the State. The Medical RNA approach used in Florida during the 2004 hurricane season would be an excellent starting point for developing this assessment system.
5. **EMAC**

**Discussion**
The State limited its use of EMAC for medical support due to the logistical requirements of supporting health professionals coming into the state. The State did not have the resources to coordinate lodging, transportation, security, and supplies for these resources. Consequently, the State looked to the Federal ESF-8 resources because these resources came self-contained and self-supporting.

**Recommendations**
A. FEMA and/or NEMA must develop a concept of operations for logistically supporting EMAC resources that have been requested. There are international models for coordination and support for volunteer health and medical disaster response groups that could be useful for this purpose, such as the Humanitarian Information Center and Humanitarian Operations Center. The State attempted to develop such an entity during the response, but it was not used significantly to support EMAC health and medical assets. Developing this resource (either through Federal or NGO resources) is critical for States to maximize support though the EMAC mechanism.

6. **FUNDING RESOURCES FOR FEDERAL HEALTH AND MEDICAL RESPONSE**

**Discussion**
In addition to the Stafford Act disaster declaration, the Secretary of HHS declared a Public Health Emergency for Louisiana. This declaration created confusion for some FEMA officials regarding the funding authority of HHS to support parts of the overall response.

FEMA’s interpretation of authorized use of Stafford Act funding for some ESF-8 functions defined in the NRP was significantly different than in prior responses. These OGC interpretations created significant delays and consternation for the ESF-8 partners in completing the response.

For example, Stafford Act funding for Family Assistance Center support to the families of storm victims changed significantly from previous mass fatality events, thereby causing a delay in providing services.

**Recommendations**
A. FEMA and HHS OGC must work together to clearly identify, in advance of the next disaster, how Stafford Act funding will support *all* of the ESF-8 functions in the NRP. ESF-8 operations staff should conduct a focused tabletop exercise with FEMA and HHS OGC to test the process for funding the “usual” activities that ESF-8 is asked to perform in a disaster response. If the exercise reveals that “new” agreements are needed (such as for the Family Assistance Center or Victim...
Identification Center), then they should be developed in advance of the next response.

B. FEMA OGC needs to definitively answer the question of whether local healthcare providers can bill for professional services when working from a clinic that was provided to them through Stafford Act funding (e.g., PA provided trailer, loaned NDMS mobile clinic, FEMA purchased field hospital). Limiting the revenue generating ability of health systems delays the reconstitution of the health care infrastructure.

C. Continuity of Government definition of critical infrastructure needs to consider inclusion of public health and medical infrastructure. As such, health care infrastructure must be prioritized at the same level as law enforcement, public utilities and fire protection.

D. FEMA and HHS must reach a common understanding of the authorities of HHS brought about by a DHHS declaration of the Public Health Emergency in advance of the next response. Debating the statutory authority of HHS to pay for portions of the response, in the midst of the response, is distracting and non-productive. HHS and DHS OGC need establish workable guidelines for all disasters.

7. FIELD HOSPITALS

Discussion
Military field hospitals were requested and deployed from several sources. DoD, the usual source for these assets, moved a fleet medical hospital, two EMEDs, and a combat support hospital. These requests were complicated by delays in approval and competing operational priorities for DoD. HHS Federal Medical Stations were proactively made available to care for low acuity patients, but were immature in concept of operations and completeness of supplies. While the FMS was considered in the planning as a field medical asset, this is an overstatement of its current capability. FMS were pre-engaged at federal sites in anticipation of the State’s needs, though not used by the State at one of two locations. Underutilization of resources or personnel resulted.

Recommendations
Purchase, operationalize and exercise a “turn key”, non-DoD national field hospital asset (staff, shelter, equipment, supplies, beds, water, food, and fuel). This asset should be supported and exercised by all of the NDMS partner agencies (HHS, DHS, DoD, DVA)

8. FORCE PROTECTION (SECURITY, MEDICAL CARE) FOR RESPONDERS

Discussion
Security issues delayed services and threatened some federal medical response activities. Federal Protective Service (FPS) was not able to meet the security needs of NDMS teams which slowed the response. For example, there was a base camp at the airport in New Orleans for support only to the federal workers there (to include
NDMS), not for evacuees. This became a significant security issue because there was not enough food, water, or toilets to serve the workers and victims.

In addition, the targeting of medical care to different patient groups – federal responders, non-federal responders, contract responders, and disaster victims – is a process that could be improved. In some cases, care is restricted that perhaps should be liberalized. In other cases, targeted care is being abused by non-target audiences who interfere with the ability to meet the prescribed mission.

**Recommendations**

A. All ESF-8 response teams must reassess their security protocols and consider embedding security within the teams. This is an issue that must be addressed at the national level within DHS and HHS. If ESF-13 is not adequately resourced to support the Federal response community, then the Federal responders will need to ensure their teams have this resource built into the force protection policies of the teams or department.

B. HHS should explore expanding Federal Employee Occupational Health (FEOH) authority in a disaster response to allow them to also provide care to disaster victims and non-federal responders. FEOH is often in the field with the Federal responders, and is often the only healthcare available in these areas. It needs to have broader statutory authority to help meet the needs of the overall Federal response in these extraordinary circumstances.

C. Federal ESF-8 resources are sometimes maintained in a disaster response area to support the responder community (Federal, State, local, and private contractors). Because Federal ESF-8 medical providers are the only source of care available, it is assumed that they have a responsibility for care for all responders, including those who are there as employees of Federal contractors in the response. This is not the role of ESF-8. Federal contractors must be held accountable for supporting their employees with health services.

9. **SUPPORTING OPERATIONAL COSTS OF LOCAL HEALTH CARE PROVIDERS**

**Discussion**

This issue applies to a longer term response challenge, but is added here at the request of the Deputy FCO. In a catastrophic disaster that completely destroys the medical care infrastructure of an area, there are many complexities in reconstituting the health care system. Initially health care is replaced with direct federal assistance as has been done in St. Bernard, Plaquemines, Orleans and Cameron Parishes. Rebuilding the healthcare system with local medical providers to resume services presents a significant challenge due to the restrictions in use of Stafford Act funding. FEMA Public Assistance (PA) can be used to replace temporary and permanent medical facilities, and to equip these facilities. But because much of the health care infrastructure in this country is a private, for-profit delivery model, many practices are not eligible for PA. Therefore, when these private practices and hospitals are the
only critical medical infrastructure in the area (as in St. Bernard Parish), there is no way for Stafford Act funds to be used to support rebuilding the health care system.

Even when buildings and equipment can be replaced through FEMA PA, there is still a serious limitation in funding to get the practices up and running. Stafford Act funding cannot be used for operational funding for the period of time necessary for these medical practices to become self-sufficient (which happens only over time as an area is repopulated). Therefore, health professionals cannot be paid, which results in health professionals moving out of the area to find generative employment.

Community Disaster Loans (CDL) and Small Business Association (SBA) loans may provide some modest assistance, but have been insufficient in supporting the efforts to operationalize medical practices in the affected Parishes to date. There is a program (HRSA) though HHS that can support operational funding for community health centers, but there is limited flexibility and timeliness in this program’s ability to accommodate needs immediately following a disaster. In addition, HHS has a program (CMS) to support maximizing reimbursement for patient services through Medicaid and Medicare. Unfortunately, these enhanced revenue streams take time to implement, and do not provide immediate operational funding.

**Recommendations**

A. HHS and FEMA must agree that medical care is part of the critical infrastructure of a community that must be supported and reconstituted following a catastrophic disaster with the same priority as electricity, fire protection, law enforcement, etc. In addition, a strategy for achieving this must be developed by leveraging all Federal resources that can be provided to communities as an integrated package for healthcare infrastructure recovery. The package should include CDL, SBA, HHS, USDA, and FEMA.

**Participants Present**

Jean Bennett, HHS/OPHEP Regional Emergency Coordinator  
Dana L. Hall, NDMS Emergency Coordinator  
Joan Harding, NDMS Emergency Coordinator  
Lorie LaFon, DHS/FEMA Emergency Services Branch Chief  
Tom Scheidel, HHS CMS Program Analysis  
Andrew Stevermer, HHS/OPHEP Regional Emergency Coordinator  

Amy Courville, IEM: Facilitator  
Shirlene White, DHS/FEMA Local Hire: Recorder
CONTINUITY OF GOVERNMENT

Background

In response to the effects of Hurricane Katrina, FEMA engaged in a number of actions that related to maintaining the continuity of government in several parishes in Southeastern Louisiana—especially in New Orleans. The initial FEMA response to Hurricane Katrina in New Orleans included the deployment of three separate teams with staggered arrivals. The first team included some members of the Emergency Response Team – Advance Element (ERT-A) team from FEMA Region VI that was redirected to New Orleans. The second team that arrived was the FEMA Parish Liaison team, and the third was the Principal Federal Official (PFO) team that eventually led the New Orleans Area Field Office (AFO) operation. All of these teams served to support and maintain the continuity of governments in southeastern Louisiana following Hurricane Katrina.

On August 30, the first FEMA team arrived at the Superdome in New Orleans. This team was sent to establish a Unified Command, make contact with the highly affected parishes, and set up a base of operations for FEMA. On September 3, 2005, the first team met with Mayor’s office representatives, other city leaders, and emergency managers. At this meeting, the city leaders expressed that they wanted to leave the city and requested FEMA’s assistance in planning and executing an evacuation of all government workers.

On September 4, FEMA team members began assisting the city government in developing their evacuation strategy; this strategy was phased in order to maintain levels of support during the evacuation. The FEMA team began developing and implementing a strategy to meet the City’s request, focusing on the backfill of essential government positions in New Orleans. In order to backfill these positions, the FEMA team members placed a Emergency Management Assistance Compact (EMAC) request for workers. The EMAC request was filled by staff from around the nation, who provided strong support to the city government, especially in the Emergency Operations Center (EOC).

The FEMA Parish Liaison teams arrived in Orleans Parish (and other southeastern parishes) on September 4 and began coordinating the delivery of essential commodities and services to the City of New Orleans. By September 5, the city government’s position seemed to be changing, and it became clear that a total exit strategy would not be employed. By September 6, the FEMA Parish Liaison teams had begun standard emergency response operations.

During a September 6 meeting between city leaders and FEMA Parish Liaison Team members, the city officials expressed that they were planning to remain in the city and continue to function as a government rather than evacuate as they had initially planned. The factors that led to this change in position are not completely clear. However, some suggest that the contributing factors may include the beginning commodity flow and a decrease in the general population due to post-landfall evacuations lessening the need for
emergency services. At this meeting, city officials also presented their monetary needs in order to continue to function.

Additionally on September 6, a Public Assistance (PA) Project Worksheet was written for Emergency Protective Measures for the City of New Orleans in the amount of $102 million. This was obligated in approximately three days and served to greatly bolster the confidence of the city government in its ability to continue functioning.

On September 7, the PFO Cell commenced operations in New Orleans in Red October and expanded the support of the City of New Orleans. Beginning on September 13, data gathering and assessment methodologies began to be developed in the PFO Planning Cell, including the Security, Water, Electricity, Academia, and Telecommunications (SWEAT) and Emergency Support Function (ESF) assessment models. These methods were subsequently turned over to the Mayor’s office and effectively employed in the city government’s decision making. FEMA ESF representatives helped to develop the data for these models and to train the city government workers on these methodologies.

Findings

1. **DEPLOY GOVERNMENTAL STABILITY ASSESSMENT TEAMS DURING THE IMMEDIATE DISASTER RESPONSE**

**Discussion**

A number of lessons were learned from the FEMA team members’ experiences in New Orleans following Katrina specifically related to the continuity of local governments. These lessons lead to associated recommendations for the increased effectiveness and strength of FEMA’s response operations.

The FEMA teams in New Orleans learned that the instability of government after a catastrophic event—in which the officials themselves are victims—can realistically result in the complete disintegration of local government. The teams also reported that it cannot be assumed that local officials have working knowledge of FEMA programs, especially Public Assistance (PA). Furthermore, FEMA recognizes the critical importance of EMAC in situations where continuity of government may be compromised and the benefits that they provided during the Hurricane Katrina response.

**Recommendations**

A. The level of governmental stability should be assessed early on in a disaster operation, and, moreover this assessment should be done by a FEMA team specifically trained in the assessment of government stability. This team should be equipped with a well-developed, off-the-shelf assessment tool. The tool should incorporate two features in its design:

   - Ease of implementation similar to the SWEAT model, which had intuitive categories and avoided specialized language.
Granularity similar to the ESF model, which provides good coverage of the different aspects of disaster impacts and can focus an assessment on a specific problem.

The assessment benefits overall response operations by providing decision makers with information to factor into allocation of resources, prioritization, and repopulation of impacted areas.

B. Program specialists, particularly those who are knowledgeable in PA, should be included on initial FEMA Liaison Teams. FEMA cannot assume that local officials have working knowledge of FEMA programs and how those programs can help stabilize government operations.

C. FEMA must coordinate with EMAC on the establishment of Civil Affairs teams or teams specifically trained in continuity of government operations which are prepared to support government after a catastrophic disaster. EMAC is critically important in situations where continuity of government may be compromised.

2. NEED CONTINUITY OF OPERATIONS (COOP) AND CONTINUITY OF GOVERNMENT (COG) PLANNING FOR ALL JURISDICTIONS, SPECIFICALLY LARGE, URBAN AREAS

Discussion
There was no continuity of operations (COOP) or continuity of government (COG) plan used in the Orleans Emergency Operations Center in the days following Katrina. There are now federal grant programs that are tied to the development and maintenance of such plans at the local level, as an attempt to spur continuity planning. But these incentives have only recently been put in place.

Recommendations
A. DHS/FEMA should stress Continuity of Operations (COOP) and Continuity of Government (COG) planning across the country, possibly incorporating this as part of the NRP/NIMS for both catastrophic natural disasters and major terrorist events.

3. NEED TO INTEGRATE STATE PRESENCE INTO CONTINUITY OF GOVERNMENT AT THE LOCAL LEVEL

Discussion
The Federal government cannot consistently rely on State governments to maintain continuity of government after a catastrophic event.

Recommendations
A. FEMA must develop strategies to rapidly integrate a State presence into disaster assessment and response. Specific methods for getting this integration require further consideration.
4. **ESTABLISH A SYSTEM FOR IMMEDIATE FUNDS FOR GOVERNMENTS AND SURGE HOUSING FOR CRITICAL GOVERNMENT EMPLOYEES**

**Discussion**
During a major catastrophic disaster situation that threatens continuity of government, providing support to city/parish personnel is critical to the maintaining governmental operation. The support includes up-front monetary support, as would be expected. It also includes critical needs commodities and surge housing and working space capacities to support city operations.

**Recommendations**
A. FEMA needs to have a standardized implementation for Immediate Needs Funding after a catastrophic event.

B. FEMA should work to design a good system for surge housing and working area capabilities specifically for these workers, especially in areas where the use of cruise ships is not a feasible option. The operational benefit of this recommendation is that meeting the needs of the local government worker is an investment that pays for itself many times over because it frees that worker up to do his job effectively, which helps dozens and dozens of other victims.

**Participants Present**
Lee Champagne, DHS/FEMA
Sean Fontenot, IEM
Dorothy Hamory, DHS/FEMA
Tom Majusiak, DHS/FEMA
Ted Monette, DHS/FEMA
Curt Musgrave, DHS/FEMA

Keith Alleman, IEM: Facilitator
Mary Gaston, IEM: Recorder
Background

The Disaster Mortuary Operational Response Team (DMORT) is a voluntary group of medical and forensic personnel who have formed a response team under the guidance of the National Disaster Medical System (NDMS). There are ten regional DMORT teams across the country. A DMORT usually includes a mix of medical examiners, coroners, pathologists, forensic anthropologists, medical records technicians, fingerprint technicians, forensic odontologists, dental assistants, radiologists, funeral directors, mental health professionals and support personnel. DMORT responsibilities include providing victim identification, temporary morgue facilities, processing, preparation and disposition of human remains. FEMA maintains two Disaster Portable Morgue Units (DPMUs) to support DMORT operations.

In past disasters the level of DMORT recovery efforts has varied based on the demands of state officials. DMORT does not deploy until the State or a county/parish requests DMORT services. As victims are located, a retrieval team is dispatched for recovery. For this mission, a DMORT retrieval team consisted of four to eight individuals and a volunteer chaplain to ensure appropriate care and respect for the deceased. There were approximately ten to twelve DMORT recovery teams split out among three locations: NASA Michoud, Belle Chasse and Orleans Parish. At the retrieval site, DMORT collects information to aid in identification, including the location of the victim, documents associated with the victim, and personal effects.

During the year prior to Hurricane Katrina, DMORT supported the Louisiana Department of Homeland Security and Emergency Preparedness (LOHSEP) by serving in an advisory role to LOHSEP during the catastrophic hurricane planning sessions (Hurricane Pam workshops). DMORT worked with the medical group at the first Hurricane Pam session and developed a Mass Fatality Plan for inclusion in the overall catastrophic plan.

As Hurricane Katrina approached landfall, Region VI NDMS/DMORT Representatives began working with Louisiana Health and Hospital officials and State Emergency Management officials the morning of August 28th to prepare for this catastrophic response. Early discussion focused on the plan to follow. DMORT representatives advocated using the Mass Fatality Plan from the Hurricane Pam workshops even though it had not been formally adopted, because of its high quality. However, instead of using the Hurricane Pam product as a guide, LOHSEP decided to rely on their old State plan that was still in place.7

Multiple issues came together that necessitated the formation of a Task Force to support mortuary operations in the early days after Hurricane Katrina in Louisiana. The Task

7 The old State plan is called the “Mass Fatality Task Force Plan,” though it is not in any way related to the Task Force that was organized during Katrina response.
Force mission was to provide operational and logistical support for DMORT in the recovery, collection and identification of disaster victims who died as a result of the storm, and reunify the deceased with family members or release the human remains (HR) to the State for final interment.

Findings

1. USE OF TASK FORCE IN RELATION TO MANAGEMENT SUPPORT TEAM

Discussion
DMORT operations were supported by an NDMS Management Support Team (MST). The MST structure, which was used regularly when NDMS was a part of HHS, manages personnel, finance and logistical requirements of DMORT, Disaster Medical Assistance Teams (DMAT) and Veterinary Medical Assistance Teams (VMAT). During Katrina, the MST became overwhelmed with communication, equipment, supply, and force protection issues within the medical support needs. The DMORT needs could not and were not being met by the traditional MST support system.

On September 3, a Task Force (TF) was formed to unify command and streamline logistical support at the direction of the FEMA night shift Operations Section Chief. The structure of the Task Force is shown in the Figure on Page 69.

The Task Force used Incident Action Planning (IAP) consistent with the Incident Command System. Coordination and support increased dramatically after the Task Force formation and implementation.

The Task Force also improved logistical coordination. The melding of DMORT with FEMA logistics eliminated a layer of bureaucracy between end user and supplier. By removing DMORT from the MST, requests for supplies went directly into the logistics system and freed the MST to concentrate on DMAT and VMATs.

Recommendations
A. The Task Force organizational structure should be adopted for future disasters. The Task Force concept should be made policy in a manner that is flexible enough to support the mission whether a disaster is large or small.

The Task Force should not be formed in support of the MST, but rather in support of the mission. The Task Force allowed operational control of the mortuary mission objectives to rest with the subject matter experts while providing needed logistical and planning support. The DMORT Incident Commander should work in concert with the State Medical Examiner, functioning as the subject matter experts.

The MST should primarily have a support role where needed for missions in the
field, not an organizational control and direction role. Instead, the MST should rely on regional command to direct and execute the mission. There are some response divisions in FEMA such as US&R that have an Incident Support Team (IST) which is internal and is staffed with personnel who have a technical background. However, NDMS does not have that internal expertise, meaning that NDMS management support teams are not likely to have the expertise to serve in a command role.

(1) In order for the Task Force concept to be effective, operational control must rest within the Task Force itself; otherwise, the Task Force will be unable to react quickly enough to address the issues that it needs to address to meet the mission. This point is consistent with the ICS principle of decision-making being vested in the lowest level of authority possible.

(2) For catastrophic and very large disasters, the Task Force should be supported by a dedicated Regional Emergency Coordinator (EC). During Katrina the EC, working as the Task Force Leader, was able to continue efforts focused on coordination, education and advocacy on behalf of the state related specifically to mortuary affairs. Typically, an EC could be responsible for DMORT and DMAT or VMAT missions, and therefore “split” between more than one mission objective. For example, working a DMAT and VMAT issue at the same time could compromise the EC’s focus and possibly overwhelm the decision making ability on large scale disaster responses.

(3) The Task Force should include a Contracting Officer with purchasing capability (i.e. credit card) and sufficient funding ($100,000 or more), who has mission expertise and ownership of this responsibility. Such a position on the Task Force will further streamline logistical support and allow productive operations to commence more quickly in support of impacted disaster communities.

(4) The Task Force should be embedded at the JFO. Being located at the JFO provides access to decision-makers and senior-level management. Therefore, NDMS Headquarters became more confident with actions/decisions being made within the DMORT Task Force.

By operating as a Task Force, the DMORT operation was able to anticipate problems and notify IA, PA, and OGC that something is a problem (i.e., reinterment, private churches vs. public, and the Stafford Act) in a timely manner. The Task Force structure allowed DMORT to use forward reaching, forward thinking planning. This type of organizational structure will enable DMORT to be proactive in handling problems during future disasters as well.

B. The Incident Action Planning process needs to be maintained as an integral part of operations tasking. The primary success of DMORT during Hurricane Katrina
was the use of the IAP to manage work. Action planning meetings allowed the proper allocation of resources to complete the stated task. The TF leader and Region 6 DMORT IC could see when a task was not being completed when it repeatedly showed up in the IAP, and they either dedicated additional resources toward the accomplishment or revisited the task with the responsible elements to find out why it was not accomplished. The building and security screening of a fence around the Regional Morgue location is a prime example.
The Regional Emergency Coordinator (EC) was named the Task Force Leader, but only acted as the coordinating element facing inward and outward with the State and ESFs. The DMORT Incident Commander drove the operations as the Subject Matter Expert.
2. CLARIFY APPROPRIATE LIMITS ON THE FEDERAL ESF-8 ROLE

Discussion

Although there are some areas where statutes, authorities, and funding streams need to be adjusted to fit an expanded federal role in a catastrophic event, there are also areas where the limits of federal involvement should be clarified. In this event, there were multiple instances where needs arose that the State was capable of providing and should have been addressing. Federal assistance on those issues should be in an advisory capacity.

Recommendations

A. Although Federal personnel can support a Victim Identification Center, it is recommended that States be encouraged to incorporate the concept into their plans and that centers be primarily a State responsibility in future disasters. The State is the more appropriate entity to direct a Victim Identification Center because the decisions that are made sometimes involve local sensitivities, such as whether to relocate remains. In addition, the federal resources available to do that work are not sufficient anyway.

B. Policy should be clarified that the Victim Identification Center serves a particular, limited purpose. Some stakeholders wanted it to be a mental health facility or an assistance center for survivors of the disaster. Such integration would detract from the center’s primary mission. Even FEMA initially thought that a Family Assistance Center was designed to function like a DRC, which it is not.

C. Reinterment policy, procedures, and limits/criteria need to be clarified. The FEMA Individual Assistance and Public Assistance programs should be responsible for crafting clear guidance. The advice and clarifications being provided verbally out of the JFO were not consistent or clear, which wasted time and engendered frustration.

D. Once a clear set of rules has been agreed upon, NDMS needs to develop fact sheets on disinterment/reinterment policy in disasters. During the Katrina response, Parish officials provided inconsistent and contradictory information to the public. For example, some indicated that HHS could provide all reinterments by treating the situation as a public health issue, while other officials contradicted that claim. There is no way to provide a foolproof guarantee against false information reaching the media. However, such problems could be discouraged by making a clear, correct, consistent message available to all the players.

E. Some stakeholders wanted spiritual care for the deceased, such as praying over deceased bodies. It is the position of the authors of this section that such spiritual care is not a federal function, and that a position on the issue should be established in policy such as the NRP. A Family Assistance Center would be in a position to offer that service if the family desired it, but it would be appropriate
for this service to be offered by volunteer partner agencies.

F. States must be urged to develop a burial plan in a mass casualty event. In Katrina a burial plan was requested from the State on September 5, but the State never put one in place. The Hurricane Pam workshop had led to the creation of a plan in which a portion provided for a temporary burial process, but a plan for Katrina was not developed.

3. SEARCH AND RECOVERY

Discussion
Although the search for victims and the recovery of remains are not traditionally within the scope of DMORT activities, in this disaster DMORT was tasked to assist in these processes. The Task Force developed a plan, assigned assets, and performed the task until September 17, when the work was taken over by other parties.

The search and recovery effort was delayed by a major change of plans during the mission. On September 4 a plan was formulated in which search and recovery would be executed by the Army 82nd Airborne, US&R, DMORT, Wildlife and Fisheries, and 54th Quartermasters. Then DoD said that only their mortuary unit could be involved handling bodies. The mortuary teams that worked with DMORT members included the Army’s 49th and 54th Mortuary Affairs teams. Orders supposedly came down from The Secretary of Defense. Furthermore, the DoD resources that could be provided were only made available for a very limited time before they were redeployed elsewhere. The plan had to be adjusted and resources stretched more thinly to accommodate, creating delays in executing the work.

Recommendations
A. NDMS needs to develop and incorporate a search and recovery potential by developing national, system-wide standards and policies for recovery of human remains involving all hazards (e.g., HazMat, structural collapse experts and cadaver dog program). These standards need to be supported by funding and proper training of personnel.

DMORT Strike Teams performed admirably given the austere conditions and the fact that this is not a task for which they have planned or trained. Nonetheless, the Teams could have been much more effective if they had appropriate training and the benefit of planning. Therefore, NDMS must anticipate the need or requirement to be a part of victim recovery regardless of State capability when dealing with human remains. DMORT needs to be able to participate in cases where there is no state mass casualty plan in place.

B. Memoranda of Understanding/Agreement need to be established between NTSB, FBI, USAR and DoD to clearly define what they can contribute to a search and recovery mission, and the limits or conditions of their involvement. During the Hurricane Pam workshops in 2004, participants came to a common understanding
of how the search and recovery operation would be supported by various agencies. Within DMORT there was an expectation that agencies would respond to a real event as described at the Pam workshops.

During Katrina the Task Force discovered that the informal consensus that was reached at Pam had never been formalized, and the Department of Defense placed restrictions on their activities that had not been an issue in the Pam workshops. DoD personnel were not allowed to have direct contact with human remains, nor were they to be left with remains without other personnel present. The DoD restrictions seriously hampered recovery efforts because more non-DoD personnel were needed to recover each victim. This decision was made despite executive branch regulations allowing for DoD support in civil emergencies that includes “Recovery, identification, registration, and disposal of the dead.”

An MOU that clearly outlined agency roles in search and recovery would improve the response to future catastrophic events by allowing all agencies to anticipate the scope of their involvement in the mission, develop a cadre of personnel trained to their role, and activate/mobilize the right number of staff. Personnel from different agencies would also be able to come together and form an integrated operation more quickly, with less time lost to resolving interagency issues.

4. NATIONAL GUARD PERSONNEL NEED FLEXIBILITY

Discussion
During the disaster, DMORT worked extensively with personnel from Louisiana National Guard and with guardsmen from other states. Some of these guardsmen were placed into active duty specifically for this disaster, which is known as “Title 32” status. Other guard units were already active for military purposes (which is known as “Title 10” status) and when they transitioned into support for Katrina response, they remained under Title 10 status.

The National Guard has regulations that govern the limits of what things the Guard can do. Those regulations are different for those serving in Title 32 versus Title 10 status. For example, a Guard unit activated by a governor under Title 32 can provide civil law enforcement within the U.S., but a Guard unit activated federally under Title 10 cannot. During Katrina these differences proved difficult for DMORT to understand and made working with the National Guard less efficient than it could have been.

Recommendations
A. The confusing demarcation between Title 32 and Title 10 guardsmen working in a disaster should be addressed. One option is that the distinction could be made seamless by moving Title 10 personnel to Title 32 status (or giving governors the power to confer upon Title 10 personnel the authorities of Title 32 personnel, for

8 32 CFR 185.4.e.4.(iv). July 1, 2005.
the duration of a disaster response). Another option is that the distinction could be made clearer by having personnel operate under completely different names.

DMORT recognizes that any specific solution would have to take appropriate military policy into account and be undertaken after careful consideration for all implications (e.g., posse comitatus).

5. COMMUNICATIONS CAPABILITY IS NEEDED FOR WORKER SAFETY

Discussion
Communications were very difficult in southeast Louisiana following Katrina. DMORT personnel found that personal cell phones were the only relatively consistent, reliable equipment for communication.

Recommendations
A. Teams always need to be deployed with an ability to communicate. Different technology options should be explored and a solution pursued that allows teams to move into an environment where the entire communications and power infrastructure has been compromised and still communicate effectively.

Equipment needs to be part of a cache, purchased and maintained in a state of readiness for rapid deployment. Personnel need to be trained so that they are not hampered trying to use whatever is provided. Distribution of the communications cache would become part of the process of mobilizing a team prior to deployment. The approach should be geared toward having personnel arrive in the area of operations already equipped and ready to communicate, to save time in the critical early hours and days following a disaster.

Providing a communications capability not only is essential to command and control in future disasters, it also is critical to the welfare of response personnel. Moving an entire team into an austere environment without communication capability is a life safety issue.

Participants Present
Todd Ellis, DMORT 6 Commander
Chuck Smith, NDMS/DMORT
Amy Taylor, DHS/FEMA

Mara Mowery, DHS/FEMA: Facilitator
Jessica Diez, IEM: Recorder
MEDICAL / MORTUARY JOINT BREAKOUT

Background
The Medical and Mortuary Affairs breakout sessions were combined for the first hour of discussion. The results of that hour of joint discussion are presented below. Some issues from here that were repeated in the separate Medical or Mortuary Affairs sessions were removed here for the sake of brevity. The remaining issues are identified as affecting either Medical or DMORT or both.

Findings

1. **COMMUNICATIONS CAPABILITY MUST BE IMPROVED**

   **Discussion**
   Communications between the people in the field, the EOC, RRCC and HQ were difficult. This was a battle early on because no cell phones worked, there was no access to e-mail, PDAs (Blackberries, mostly) worked intermittently and wireless services were inconsistent. Initially almost all medical personnel were at the State EOC where they coordinated medical and mortuary response. Problems with communications arose when resources couldn’t get to where they were needed and expected. The 800 MHz system failed. At times HHS resources were moving but the ERT-A at the EOC did not inform anyone involved in the medical and mortuary response.

   A lot of communication went through the RRCC. Through the RRCC, medical team personnel at the State EOC knew what resources were coming, but they could not communicate with personnel in the field. [Medical]

   Due to a lack of communications, it was not possible to communicate requests quickly and reliably enough to support the mission objectives. It was also not possible to gain the situational awareness needed to plan operations adequately. Despite the communications problems experienced in the Katrina response, it does not appear that there is an office or agency taking the lead role in addressing the problem – there are no committees set up to do this.[Medical/DMORT]

   Communication with the MST was a problem. Orders for supplies were frequently overridden or cancelled even though they were needed. [Medical]

2. **STATES NEED TO ESTABLISH MASS CASUALTY PLANS**

   **Discussion**
   The State of Louisiana lacked an adequate Mass Casualty plan and this spawned a number of problems in ramping up the medical and mortuary response. No plans were
in place stemming from the Hurricane Pam scenario. The state deployed Dr. Cataldie on August 28. He came to the table essentially with a blank slate—people would offer suggestions, put them on paper, and the group would implement them. But the State did not play an active role in participatory decisionmaking. DMORT recognized early on that, in effect, they were in this alone. When DMORT/NDMS asked for a Mass Casualty plan, the State could come up with only a rudimentary three-page plan that did not reflect the coordinated planning progress that had been made over the previous year through the Hurricane Pam work. [Medical/DMORT]

DMORT started writing a catastrophic mass fatality plan on August 31, and on September 3 it was finalized for 5000+ fatalities. The State then adopted this plan that the federal partners had drafted.

From the RRCC perspective another serious challenge was the difficulty of organizing a call center with a limited focus. NDMS helped establish a call center that very quickly was getting phone calls from all over the country simply because the word spread that the call center was a phone line that was operational. The center was receiving calls regarding rescue needs and at the same time it was receiving competing calls from volunteers offering to assist in various ways. It was difficult to focus on the one type of call that the center was established for, while also finding a way to properly respond to the other types of calls that were coming in. [Medical]

**Recommendation**

A. States need to establish robust mass casualty plans. This need is amplified in the discussion above, as well as in the Medical and Mortuary Affairs sections of this report.

3. **STATES NEED TO UNDERTAKE THEIR RESPONSIBILITIES**

**Discussion**

The State representative for mortuary operations has not been effective. Decision-making has been lacking. He had no support staff and made no visible effort to acquire any additional help or support for continuing operations.

**Recommendation**

A. Training programs need to be developed and implemented to ensure that states understand the scope of their responsibilities versus federal responsibilities. In the Katrina response, federal partners eventually assumed hands-on work that should have been assumed by the State. For example, the State did not make a proactive effort to marshal volunteers to assist, except at the Family Assistance Center. Training on State and local approaches to having surge capacity would be valuable for the future. [Medical/DMORT]

B. States need to find a way to manage volunteers. There were lots of people upset because they spent years setting up relationships with the State to help out in
disasters and the State never called on them to assist. The State could not handle it. [Medical]

4. **CLARIFY THE ABILITY OF FEDERAL GOVERNMENT TO ACT WHEN A STATE IS COMPROMISED**

**Discussion**
The severity of Hurricane Katrina raised the possibility that in a future catastrophic disaster, it is possible that actions may need to be taken to protect lives and property, but the State is so severely impacted that they cannot provide a request for assistance through normal channels.

**Recommendation**
A. The Catastrophic Incident Annex to the National Response Plan should outline how to address a situation that is so catastrophic that the state is not positioned to serve in its normal role as an effective responder and link between local needs and federal response assets. The Annex also must address the possibility that a State might be in a position to act but is failing to do so, and what Federal response is appropriate in that situation.

5. **ADOPT THE RRCC STAFFING PATTERN FOR KATRINA AS A BEST PRACTICE**

**Discussion**
The experience of ESF-8 was that it was very effective to have NDMS, ESF-8, and a CDC liaison together in the RRCC during the initial response to Hurricane Katrina.

**Recommendation**
A. NDMS, ESF-8, and CDC should liaison together in the RRCC in future disasters. This approach to staffing the RRCC for medical support should be incorporated into guidance, operating procedures, and training as a “best practice.” [Medical]

**Participants Present**
Jean Bennett, DHHS/ESF-8 EC  
Todd Ellis, NDMS/DMORT 6 Commander  
Dana Hall, FEMA/NDMS EC  
Joan Harding, FEMA/NDMS EC  
Lorie LaFon, DHS/FEMA  
Tom Scheidel, DHHS  
Chuck Smith, NDMS/DMORT 6  
Andy Stevermer, DHHS/ESF-8 EC  
Amy Taylor, FEMA/NDMS EC

Amy Courville, IEM: Facilitator  
Jessica Diez, IEM: Recorder
The following table presents a draft chronology of the initial period of Katrina response.

<table>
<thead>
<tr>
<th>Date</th>
<th>Event or Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/26/2005</td>
<td>At 1130 CDT, Katrina is upgraded to a Category 2 hurricane. Louisiana Governor declares a state of emergency for Public Assistance which extends though Sunday, 09/25/2005 unless terminated sooner.</td>
</tr>
<tr>
<td>08/27/2005</td>
<td>Hurricane Katrina is upgraded to a Category 3 and is located in the Gulf of Mexico</td>
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<tr>
<td></td>
<td>Louisiana receives a pre-landfall emergency declaration, FEMA-3212-EM-LA, for Public Assistance Cat A &amp; B for Allen, Avoyelles, Beauregard, Bienville, Bossier, Caddo, Caldwell, Claiborne, Catahoula, Concordia, De Soto, East Baton Rouge, East Carroll, East Feliciana, Evangeline, Franklin, Grant, Jackson, LaSalle, Lincoln, Livingston, Madison, Morehouse, Natchitoches, Pointe Coupee, Ouachita, Rapides, Red River, Richland, Sabine, St. Helena, St. Landry, Tensas, Union, Vernon, Webster, West Carroll, West Feliciana, and Winn Parishes.</td>
</tr>
<tr>
<td></td>
<td>Louisiana EOC activates at Level 1, 0730 CDT. FEMA-State Liaison is activated.</td>
</tr>
<tr>
<td></td>
<td>St. Charles Parish issues a mandatory evacuation effective at 0900 CDT. St. Bernard, Lafourche, and Plaquemines Parishes also institute mandatory evacuations during the day.</td>
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<tr>
<td></td>
<td>A Hurricane Watch is put in effect for the Southeastern coast of Louisiana and is extended westward to Intracoastal City, Louisiana and eastward to the Florida-Alabama border.</td>
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<tr>
<td></td>
<td>Regional Response Coordination Center (RRCC) VI activates at Level I. All ESFs except ESF-13 are activated, plus DOD/DCR and USCG, as of 1100 CDT.</td>
</tr>
<tr>
<td></td>
<td>Two Urban Search and Rescue Light Task Forces, one Full Task Force and a 20 person Incident Support Team (IST) are scheduled to arrive in Shreveport, LA.</td>
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<tr>
<td></td>
<td>FEMA-1601-DR-LA JFO staff evacuates from New Orleans to Baton Rouge. At 1600 CDT, Louisiana begins contra-flow for evacuation on portions of I-10, I-12, I-55, and I-59. Fifteen general population shelters are open, plus eight Special Need Shelters. 1,500 LA National Guard troops are mobilized.</td>
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<td>FEMA ERT-A and RNA teams deploy to Baton Rouge. A FEMA State Liaison is in place at the Louisiana EOC.</td>
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<td>FEMA HQ activates Barksdale AFB as a Mobilization Center. Denton MERS deploys to Barksdale AFB. Resources pre-staged at Camp Beauregard Operational Staging Area (Rapides Parish): 30 trailers of water, 17 trailers of ice, 15 trailers of MREs and 6 trailers of tarps.</td>
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| 08/28/2005 | Katrina is upgraded to a Category 4, then to a Category 5 hurricane with maximum sustained winds near 160 mph.  
Entire NDMS is on alert (approximately 3600 persons).  
A Tropical Storm Warning is issued from Destin, Florida, eastward to Indian Pass, Florida, and from Intracoastal City, Louisiana, westward to Cameron, Louisiana, at 0400 CDT.  
The following additional parishes issue mandatory evacuations by 1600: Assumption, Orleans, St. James, St. Johns, Tangipahoa, Terrebonne, and Washington (manufactured homes only). Ascension, Cameron and Jefferson Parishes issued precautionary evacuations.  
In Orleans Parish, 48 general population shelters are open and seven Special Needs Shelters. The Superdome opens as a Special Needs and overflow shelter and as of 1600 CDT has a population of 25,000 general population evacuees, 400 special needs evacuees, and nearly 50 critically ill patients.  
New Orleans (Orleans Parish) and Baton Rouge (East Baton Rouge Parish) Airports are closed.  
Contra-flow on I-10 in Mississippi has stopped as of 1600 CDT.  
Individual Assistance (IA) has identified six PDA teams.  
The federal Disaster Mortuary Operational Response Team (DMORT) begins to meet with State officials to put in place and coordinate a mass fatality plan to address the potential consequences of the hurricane. The State deployed a representative for medical and mass casualty issues.  
The Emergency Response Team – Support Capability (ERT-S) establishes a debris hotline.  
A two-person Ice Track Team, a Power Planning and Response Team (PRT) and a DTOS unit with a Logistics Support Team are scheduled to arrive at Camp Beauregard OSA.  
A Disaster Medical Assistance Team (DMAT) from Houston moves to Baton Rouge and then redeploys to the Superdome to assist shelter occupants.                                                                                                                                                                                                                                                   |
| 08/29/2005 | At 0610 CDT Hurricane Katrina makes landfall near Buras-Triumph (Plaquemines Parish), Louisiana, as a Category 4 hurricane with winds of 140 mph.  
FEMA-1603-DR-LA is declared for Hurricane Katrina, authorizing Individual Assistance for 31 parishes and Public Assistance for all 64 parishes; three parishes are made eligible to apply for assistance under the Hazard Mitigation Grant Program.  
Amendment #1 to FEMA-3212-EM-LA adds Acadia, Calcasieu, Cameron, Iberia, Iberville, Jefferson Davis, and West Baton Rouge Parishes for PA, Category B. Amendment also adds Ascension, Assumption, Jefferson, Lafourche, Orleans, Plaquemines, St. Bernard, St. Charles, St. James, St. John, St. Tammany, Tangipahoa, Terrebonne and Washington Parishes for PA Categories A and B.  
As of 1800 CDT, 966,085 customers (residential, industrial and commercial) are without power in Louisiana.                                                                                                                                                                                                                                                            |
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<td>08/29/2005</td>
<td>Four USAR teams report being in route from Shreveport to Baton Rouge. 38 NDMS teams, consisting 947 personnel, deploy to Baton Rouge. The Louisiana Superdome as of 1600 CDT is reported to have a population of approximately 13,000 general population evacuees, 400 Special Needs evacuees, and 45-50 critically ill patients. There are 11 General Population Shelters and nine Special Needs Shelters open with a total population of 31,123. Food supplies are staged at East Baton Rouge Parish, St. Martinsville Parish, and Jefferson Parish. As of 1800 CDT Lakefront, Mobile Downtown, Mobile Regional, Baton Rouge Metro, Gulfport-Biloxi Regional, and New Orleans International airports are closed. Waterford Nuclear Power Plant (St. Charles Parish) shuts down in mode four. Water supplies total 35 trailers at Louisiana Superdome and 10 at Camp Beauregard. MRE supplies total 17 trailers loaded at Camp Beauregard. Air pack supplies total 40 trailers in transit from Camp Beauregard. Generator supplies total 6 trailers.</td>
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<td>08/30/2005</td>
<td>Widespread flooding exists on surface streets in Orleans, St. Bernard, Jefferson, and Plaquemines Parishes. Breaches in three places on the levee system on Lake Pontchartrain side begin to inundate New Orleans. I-10 is closed from the Mississippi line to I-55 at LaPlace, Louisiana. There is severe damage to the Twin Spans Bridge between New Orleans and Slidell. The Lake Pontchartrain Causeway Bridge is closed. A FEMA ERT-A contingent arrives at the Superdome, charged with establishing a presence, implementing Unified Command, and reaching out to all severely affected Parishes. At 1600 CDT, 890,294 customers are reported to be without power in Louisiana (this includes utility, cooperatives, and municipal power). Colonial Pipeline and Plantation Pipeline are not operating due to loss of power at key pump stations in LA and MS. Three US&amp;R teams reach New Orleans. 112 general population shelters and nine special needs shelters are open, with population of 21,108. Superdome at 1600 CDT reports a population of 10,000 general population evacuees, 432 special needs evacuees, and 45-50 critically ill patients. The Louisiana Offshore Oil Platform (LOOP) is not operating due to loss of power. New Orleans International Airport has one runway open for emergency relief only. USACE makes plans to fill CONEX boxes with sand and gravel and drop them into the levee breaches. Plans are assessed to air drop MREs to victims stranded on rooftops. Total of nine trailer loads of water and five trailer loads of MREs are shipped to the Superdome.</td>
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<td>08/30/2005</td>
<td>12,893 Tele-registrations are received for IA Waterford Nuclear Power plant sustained no damage, post disaster preparations have started to clear the facility for a restart. State of Texas reports 17 evacuation shelters housing 3,247 LA evacuees.</td>
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<td>FEMA-State Agreement is signed for LA-1603. A 250 bed facility is opened at Louisiana State University and reports 100 patients. Buses begin transporting evacuees from Superdome to the Astrodome in Houston, TX. Fifteen US&amp;R teams are in New Orleans. Commercial planes begin arriving at New Orleans International Airport to pick up the companies’ own stranded ticketed passengers. Federal Reserve Bank in New Orleans is running on backup generators; Colonial Pipeline has contracted for 28 generators from various areas; Plantation Pipeline is planning operation from Baton Rouge to Alabama state line.</td>
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<td>08/31/2005</td>
<td>As of 1600 CDT, 863,652 customers are reported to be out of electrical power. Four satellite communications vehicles placed at Superdome, Covington, Baton Rouge FEMA IOF and the State of Louisiana EOC. Plantation Pipeline states operations from Baton Rouge to the AL state line are occurring at reduced capacity. DMORT begins writing a catastrophic mass casualty plan for Katrina in Louisiana. Louisiana submits an application to operate Disaster Food Stamp Program. Louisiana contracts with a consultant to provide training on ICS and the NRP (date is approximate) USS Bataan, a self-sustaining rescue/hospital ship, is positioned off the coast of New Orleans to be used for evacuation and temporary patient care.</td>
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<td>09/01/2005</td>
<td>Amendment #1 to FEMA-1603-DR-LA authorizes PA CAT C-G for 22 parishes, at 100% of total eligible costs for a 60 day period. Unplanned evacuees begin arriving at Louis Armstrong International Airport in Kenner. ESF-13 activates and an FBI liaison reports to the RRCC. At 1700 CDT it is reported that 3,000 evacuees have been relocated to Astrodome in Houston TX; additional sites are added in San Antonio and Dallas. Colonial Pipeline has restored power to some pump stations, operating 750K barrels a day. Plantation Pipeline is operating at 25% capacity. Capline has restored one critical pump station. As of 1100 CDT, 780,795 customers are reported to be without electricity. 106,322 customers are without telephone service. Hurricane Katrina Transitional Housing operations begin.</td>
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<td>Logistics establishes a Unified Logistics Cell with the State. Logistics sets up 500-bed billeting with showers at JFO location.</td>
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<td>09/02/2005</td>
<td>FEMA-3215-EM-AR is declared for Arkansas to provide Public Assistance Category B to shelter evacuees from Louisiana. FEMA-3216-EM-TX declared for Texas to provide PA Category B to shelter evacuees from Louisiana. A Mission Assignment is issued to USACE for debris cleanup. 248 shelters throughout LA are open, with 62,460 persons. No fuel orders are being filled because of contractual obligations. Industrial Travel Trailer program starts. At the airport, flights of evacuees begin to depart, using a plan developed the previous day and a mix of military planes and contracts with commercial air carriers. Eight DMATS and three strike teams are deployed to impacted areas. As of 1600 CDT, 731,758 customers are reported without electrical power. 939,123 customers are without phone service. A contract with Amtrak is approved to provide a train, with twelve cars, to go from Baton Rouge to New Orleans to assist in evacuations. Upon arrival the train is to take 600 passengers twice a day from New Orleans to Lafayette, LA. Buses are then meant to take the evacuees from Lafayette to Dallas. 120 sandbags of 3,000 lb. each are placed in the 17th Street Canal levee breach. In addition, sheet pilings are installed to stabilize the levee. Of the sixteen nursing homes in New Orleans area, nine are completely evacuated, five partially evacuated, and two are of uncertain status. Disaster Food Stamp Program begins. The FCO directs the establishment of Parish Liaison Teams for the hardest hit parishes.</td>
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<td>1.1 million barrels of diesel fuel have been shipped to New Orleans. All hospitals in New Orleans have been evacuated. 6,500 survivors have been rescued by air, 2,500 by boat. DMORT completes its catastrophic mass casualty plan for Katrina in Louisiana. The plan is designed around the assumption of 5,000+ fatalities. DMORT forms a Task Force to direct and coordinate operations. A FEMA team meets with New Orleans Mayor’s Office representatives, other city leaders, and emergency managers. At this meeting, the city leaders express that they want to leave the city and request FEMA’s assistance in planning and executing an evacuation of all government workers. As of 1200 CDT 668,861 customers are reported out of power. 881,703 customers are without phone service. As of 0600 CDT there are 142 shelters, with a population of 45,477 people, in Louisiana. Nine special needs shelters are sheltering 919 people. Capline begins operations on a reduced schedule.</td>
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<td>A Principal Federal Official (PFO) cell for all states impacted by Hurricane Katrina is established in Baton Rouge.</td>
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<td>Amendment #2 to DR-1603-LA is approved, with Public Assistance (Categories C-G) for Ascension, Assumption, East Baton Rouge, Iberia, Iberville, Jefferson, Lafourche, Livingston, Orleans Plaquemines, St. Bernard, St. Charles, St. Helena, St. James, St. John, St. Martin, St. Mary, St. Tammany, Tangipahoa, Terrebonne, Washington, and West Baton Rouge Parishes. The Joint Task Force reports that the estimated total of evacuees within the 13 parishes of Southeast Louisiana is between 60,000 and 80,000. Texas shelter resources are exhausted; evacuees rerouted to other states in Region VI and across the US. Sheet piling operation to close off canal at 17\textsuperscript{th} St. has been completed. Sandbagging continues. The DMORT Task Force helps formulate a plan for human remains search and recovery, using military and civilian government personnel. FEMA team assists New Orleans government in the development of a phased evacuation strategy for city workers. As of 1800 CDT, 620,000 customers are out of electrical power. Combined United Kingdom/United States airlift is being coordinated by the NRCC to bring 1400 tons of MREs in support of Joint Task Force Katrina. The contracted Amtrak 12 car train is put on hold until it can be determined where the evacuees will be placed. Sweep Teams for Katrina are initiated. Eight Parish Liaison Teams embed at the hardest hit parishes in southeast Louisiana (Orleans, Jefferson, St Bernard, Plaquemines, St Tammany, Washington, Lafourche, and St. Charles) FEMA/State Agreement 1603-DR-LA signed.</td>
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<td>09/04/2005</td>
<td>State of Oklahoma receives Emergency Declaration to shelter evacuees from Louisiana. Medical Needs Assessment is completed in St Bernard Parish and required medical supplies are delivered. General search and rescue is completed in New Orleans by S&amp;R. $2000 debit card preparations are made for those evacuees who are registered for assistance. USCG has rescued a total of 6,990 survivors by air operations and a total of 10,950 by boat ops. By this date the New Orleans city government’s position seems to be changing, and it becomes clear that a total exit strategy for city workers would not be employed. As of 1200 CDT there are 586,121 customers out of power. PPI process is initiated manually for Katrina.</td>
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<td>09/05/2005</td>
<td>All previously reported crude oil and product pipelines are operating at some capacity. The Louisiana Offshore Oil Platform is operating at 50% capacity. The Plantation pipeline is operating at full capacity, The Colonial pipeline is operating at 75%. The Capline pipeline is fully operational. US agrees to accept offer of aid from outside the US for the Katrina affected area. DMORT requests that the State develop and provide a burial plan for mass fatalities.</td>
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<td>09/06/2005</td>
<td>FEMA authorizes Expedited Assistance (EA) for Hurricane Katrina for 30 days. DRCs open in Monroe (Ouachita Parish) and in Shreveport (Caddo &amp; Bossier Parishes). USACE runs out of generators. $1 billion is allocated to USACE for debris removal. Unwatering efforts have begun at 17th St. levee, New Orleans. Detailed Search and Rescue efforts begin by US&amp;R. A Public Assistance (PA) Project Worksheet is written for Emergency Protective Measures for the City of New Orleans in the amount of $102 million. During a meeting with FEMA Parish Liaison Team members, New Orleans city officials say that they plan to remain in the city and continue to function as a government rather than evacuate as they had initially planned. Entergy (electric company) reports crews have returned to the center of New Orleans to assess restoration efforts. State of LA reports 59 dead.</td>
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<td>09/07/2005</td>
<td>Approximately 10,000 people remain in the New Orleans metropolitan area. A mandatory post-landfall evacuation order was issued for New Orleans, but it proves difficult to enforce. Many remain in their homes because of concerns over leaving pets. 825 buses are currently in use, down from the initial 1,115. USCG forces continue to aggressively pursue all S&amp;R and evacuation efforts and the number of rescues is steadily decreasing. Entergy reports extensive damage to its natural gas distribution which has affected service to many of Entergy’s 147,000 natural gas customers in New Orleans. As of 1330 CDT, Louisiana has issued 120,435 EBT Cards with a total benefit amount of $44.7M in support of the Disaster Food Stamp Program. The first PA Program Obligation occurs. The Principal Federal Official (PFO) Cell commences operations, in New Orleans in the Red October.</td>
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<td>09/08/2005</td>
<td>The transition from the RRCC to the JFO is delayed because of communications and logistics issues.</td>
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<td>09/08/2005</td>
<td>DRC opens in Plaquemine (Iberville Parish). Approximately 60% of New Orleans (Orleans Parish) remains under water. Unwatering efforts continue at 17th St. and other locations. 468,152 customers remain without power, as reported by the Louisiana Public Service Commission (LAPSC). 516,526 customers (previously served) are without phone service. Entergy (electric company) restores power to some downtown New Orleans locations. Entergy (electric company) reports at the peak a total of 660 transmission line-miles, 263 substations and 1,560 distribution feeders were out of service. Currently there are 42 transmission lines and 34 substations out of service. The USNS Comfort, a military floating hospital, arrives in New Orleans. First information newsletter for evacuees is ready for distribution in all shelters by External Affairs, awaiting approval. Six flights leave New Orleans Airport with 585 evacuees and 59 pets. Natural gas system has been restored in Algiers area. A temporary flight restriction is in effect to prevent overflights of the morgue site at St. Gabriel.</td>
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<td>09/09/2005</td>
<td>DRC opens in Lafayette (Lafayette Parish). The estimate to unwater New Orleans is revised to 24-40 days. The London Avenue levee breach is closed. The breach on the Inner Harbor Navigational Canal is closed. The last evacuation flight leaves Louis Armstrong International Airport in Kenner. Approximately 26,000 persons were evacuated through the airport. FEMA obligates funds for the $102 million Project Worksheet for Emergency Protective Measures for the City of New Orleans (approximate date). 431,194 customers remain without power, as reported by the LAPSC at 2000 CDT. 431,194 customers are without phone service. USCG reports 7,721 persons have been rescued by air; additional flights have ended.</td>
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<td>09/10/2005</td>
<td>DRC opens in Alexandria (Rapides Parish). S&amp;R operations move to Phase II. USACE identifies 23 levee breaks to date. Five have been filled. 1,085 and 2,825 travel trailers from Cumberland, MD and Selma, AL, respectively have been shipped to Harahan Federal Distribution Center Disaster Housing Staging Area. New Orleans International Airport (MSY) is fully operational but not opened for commercial flights. 396,889 customers remain without power, as reported by the LAPSC. 493,669 customers are without phone service.</td>
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<td>09/11/2005</td>
<td>First evacuees moved to Commercial Travel Trailer (Kemper William’s Park—St. Mary Parish). Curbside debris removal starts in Ascension Parish. Air evacuations out of New Orleans Airport have ended. Land evacuations continue.</td>
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<td>09/12/2005</td>
<td>Search and Rescue operations are expanding to outlying parishes. The 911 response operations have been assumed by the New Orleans Police Dept Department (NODP). Air rescues have ceased and water transportation support is being provided by NOPD. Operations officially transfer from the RRCC to the JFO. FEMA staff assigned to DR-1603-LA total 2,231. As of 0700 CDT, RRCC changes to alert level II with an Operations and Planning cell in addition to representatives from ESFs 1, 6, 7, and 8. As of 0600 CDT, 344,850 customers remain without power. 1.6 million gallons of spilled oil have been recovered from nine active removal sites. DOD Aerial Mosquito Abatement Mission begins. US 11 bridge south of Slidell opens to essential personnel. ARC reports 299 shelters open with a population of 57,982.</td>
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<td>09/13/2005</td>
<td>Preliminary Damage Assessments for PA are completed. Limited commercial passenger flights begin at New Orleans Louis Armstrong International Airport. ESF-9 has evacuated 6,561 persons. An additional 1,848 persons have been located, but are refusing evacuation. Interstate-10 is passable east to the 610/I-10 split. I-10 Twin spans are destroyed. DOD forces have completed the Hasty S&amp;R mission. USACE has debris missions in 15 jurisdictions, including 12 parishes and three cities. The PFO Planning cell begins developing data gathering and assessment methodologies that evolve into the SWEAT and ESF assessment models. DMORT and Human Remains Retrieval operations are mission ready pending determinations of final contract status.</td>
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<td>09/14/2005</td>
<td>DRCs open in Minden (Webster Parish) and Belle Chasse (Plaquemines Parish). The breach is closed at Bellevue and contractor is working to close breaches at Shell Pipeline and Sunrise PS.</td>
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<td>09/14/2005</td>
<td>Lake Charles bus staging area closes. ESF-4 is supporting and managing two travel trailer staging areas in Texarkana, TX and Baton Rouge. There are a total of fifteen base camps supporting emergency responders in LA. Entergy New Orleans (electric company) reports Algiers area 70% restored, Central business District 35% restored, French Quarter 10% restored; uptown area has no power nor estimate of restoration.</td>
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<td>09/15/2005</td>
<td>DRCs open in Baton Rouge (East Baton Rouge Parish) and in Bogalusa (Washington Parish) Mayor of New Orleans announces plan to begin the process of re-entry to the city. Search and Rescue completes primary searches in Jefferson, Orleans and St. Bernard Parishes Cruise ship arrives at Conoco-Phillips in Chalmette to provide shelter space. Evacuees of Hurricane Katrina have been added to the Center for Disease Control list for the high risk flu category. 250 million gallons of potable water have been delivered to date. Water supply delivered into parishes now exceeds demand. The motor ship Scotia Prince is docked at the Chalmette Pier slip, Chalmette. The vessel will berth St. Bernard Parish intra-governmental first responders. 41 families have been leased in travel trailers as temporary housing. Another 1,500 mobile homes are in route from the manufacturer. USCG has removed approximately 2M gallons of oil for Plaquemines, St. Bernard and Terrebonne Parishes.</td>
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<td>09/16/2005</td>
<td>A DRC opens in Bogalusa (Washington Parish). ARC reports 738 shelters open with a population of 120,159. EPA and LA Department of Health and Hospitals, Office of public Works, Drinking Water Program has completed a review of 451 of 632 water systems in affected areas. 268 are fully operational and have their “Boil water Advisories” lifted. The remaining 184 facilities remain under a “Boil Water Advisory”. RNA teams have determined that at least 125,000 structures were damaged. Further assessments are planned. Benefits associated with the Disaster Food Stamp Program cards total $103,150,503. 2,643 household pets have been rescued. Entergy (Gas company) has restored service to 25,900 (17%) customers.</td>
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<td>09/17/2005</td>
<td>DRCs open in Hillcrest Baptist Church in Franklin (Washington Parish) and in Marksville (Avoyelles Parish). Second breach at London Avenue Canal is closed. Filling the back of breach northeast of Mirabeau Bridge is now underway, to improve integrity of repair.</td>
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<td>09/17/2005</td>
<td>Training ship arrives in New Orleans to provide shelter space. DMORT ends participation directly in search and recovery of human remains, as that work is assumed by other parties. All roads to New Orleans remain closed to the public. Emergency vehicles and business owners with proper credentials are allowed. State of LA has estimated 186,000 displaced students due to disaster. The 82nd Airborne has transitioned all requirements and responsibilities for the Convention Center and Touro Hospital of ESF-8, ESF-13, and FEMA Logistics.</td>
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