United States Government Accountability Office

GAO

Testimony before the Senate Homeland Security and Governmental Affairs Committee

For Release on Delivery
Expected at 9:30 a.m. EST
March 8, 2006

HURRICANE KATRINA

GAO's Preliminary Observations Regarding Preparedness, Response, and Recovery

Statement of David M. Walker
Comptroller General of the United States

March 8, 2006

HURRICANE KATRINA:

GAO's Preliminary Observations Regarding Preparedness, Response, and Recovery

GAO Accountability · Integrity · Reliability

Highlights

Highlights of GAO-06-442T, a testimony before the Senate Homeland Security and Governmental Affairs Committee

Why GAO Did This Study

The size and strength of Hurricane Katrina resulted in one of the largest natural disasters in our nation's history. Hurricane Katrina raised major questions about our nation's readiness and ability to respond to catastrophic disasters. Hurricane Rita increased demands on an already stressed response and recovery effort by all levels of government. The two hurricanes provided a sobering picture of the overwhelming strains on response and recovery if there are back-to-back catastrophic disasters in the same area. GAO has a large body of ongoing work on a range of issues relating to all phases of the preparation, response, recovery, and rebuilding efforts related to Hurricanes Katrina and Rita.

What GAO Recommends

Today, we are making several recommendations to help reform the nation's emergency preparedness, response, and recovery system. For example, these include clarifying the roles and responsibilities of key federal officials, clarifying various aspects of the National Response Plan, and strengthening planning and response capabilities.

www.gao.gov/cgi-bin/getrpt?GAO-06-442T.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Norman J. Rabkin at (202) 512-8777 or rabkinn@gao.gov.

What GAO Found

Significant government and private resources were mobilized to respond to the hurricanes. However, these capabilities were clearly overwhelmed and there was widespread dissatisfaction with the results. Many of the lessons emerging from Hurricanes Katrina and Rita are similar to those we identified more than a decade ago, in the aftermath of Hurricane Andrew in 1992, which leveled much of South Florida. Four major issues have emerged from our preliminary work:

- The preparation and response to Hurricane Katrina are similar to lessons learned from past catastrophic disasters. These include the critical importance of (1) clearly defining and communicating leadership roles, responsibilities, and lines of authority for catastrophic response in advance of such events, (2) clarifying the procedures for activating the National Response Plan and applying them to emerging catastrophic disasters, (3) conducting strong advance planning and robust training and exercise programs, and (4) strengthening response and recovery capabilities for a catastrophic disaster.

- A risk management decision making approach is vital to develop the nation's capabilities and expertise to respond to a catastrophic disaster. Given the likely costs, Congress should consider using such an approach in deciding how best to invest in specific capabilities for a catastrophic disaster.

- Because of FEMA's mission performance during Hurricane Katrina, concerns have been raised regarding the agency's organizational placement, including whether it should be disbanded and functions moved to other agencies, remain within the Department of Homeland Security, or become an independent agency. However, other factors such as leadership and resources may be more important to FEMA's future success than organizational placement.

- Lastly, the federal government will be a major partner in the longer-term rebuilding of the Gulf Coast, supporting state and local efforts. The federal role in rebuilding will be particularly important for transportation and health infrastructures and federal facilities. In addition, federal programs will face financial difficulties and there is uncertainty about catastrophic losses affecting the availability and affordability of insurance. Long term rebuilding raises issues concerning the need for consensus on what rebuilding should be done, who will pay for what, and what oversight is needed to ensure federal funds are spent for their intended purposes.

Madame Chairman and Members of the Committee:

I appreciate the opportunity to participate in today's hearing to discuss our work stemming from the catastrophic hurricanes in the Gulf Coast last fall. GAO has a large body of ongoing work on a range of issues relating to all phases of the preparation, response, recovery, and rebuilding efforts related to Hurricanes Katrina and Rita. We currently have nearly 40 different engagements underway. Consequently, my remarks today are preliminary, but well grounded in the work we have done to-date as well as our completed work on prior disasters and catastrophes. We also recently provided to this committee a summary of the views of several groups regarding potential changes to the national emergency response system. In the coming months, we will provide Congress with more detailed findings, and a comprehensive summary of what went well and why, what did not go well and why, and what specific changes, if any, are called for in this nation's emergency preparedness, response, and recovery system. In addition, based on the work reflected in our recent testimony before the committee on fraud and abuse related to the Individuals and Households Program, we plan to issue recommendations to FEMA intended to strengthen fraud prevention controls over the process for applying for disaster benefits, including validating an individual's identity and damaged property address.[1]

Hurricane Katrina was one of the largest natural disasters in our nation's history; its size and strength will have long standing effects for years to come. It exacted terrible human costs with the loss of significant numbers of lives and resulted in billions of dollars in property damage. The fact that Hurricane Rita followed closely on the heels of Hurricane Katrina only added to the destruction and suffering. It also increased demands of an already stressed response and recovery effort by all levels of government, especially in Louisiana. Moreover, the two hurricanes provided a sobering picture of the overwhelming strains on disaster response and recovery if there are back-to-back catastrophic disasters in the same area.

Significant local, state, and federal resources were mobilized to respond to the Hurricane Katrina disaster, along with significant participation from charitable and private sector organizations. However, the capabilities of several federal, state, and local agencies were clearly overwhelmed,

[1]GAO, *Expedited Assistance for Victims of Hurricanes Katrina and Rita: FEMA's Control Weaknesses Exposed the Government to Significant Fraud and Abuse.* GAO-06-403T. (Washington: D.C.: February 13, 2006).

especially in Louisiana. Therefore, there was widespread dissatisfaction with the level of preparedness and the collective response. As events unfolded in the immediate aftermath and ensuing days after Hurricane Katrina's final landfall, responders at all levels of government—many victims themselves—encountered significant breakdowns in vital areas such as emergency communications as well as obtaining essential supplies and equipment.

The causes of these breakdowns must be well understood and addressed in order to strengthen the nation's ability to prepare for, respond to, and recover from major catastrophic events in the future—whether natural or man-made. Unfortunately, many of the lessons emerging from Hurricanes Katrina and Rita are similar to those we identified more than a decade ago, in the aftermath of Hurricane Andrew in 1992, which leveled much of South Florida. The experience of Hurricane Andrew raised questions about whether and how national disaster response efforts had incorporated lessons from experiences with Hurricane Hugo in 1989. All critical players must do much more to learn from past mistakes and actually implement recommendations that address prior deficiencies in preparing for and responding to catastrophic disasters. However, these actions will not be cost-free—posing a range of challenges in determining the priority of various action steps and how they will be funded.

GAO staff have visited areas most affected by Hurricanes Katrina and Rita—Alabama, Louisiana, Mississippi, and Texas. They have interviewed officials and analyzed information from the various involved federal agencies such as the Department of Homeland Security's Federal Emergency Management Agency (FEMA) and the Department of Defense (DOD); state and local organizations, including state emergency management agencies; state adjutant generals; local officials; and representatives from nongovernmental agencies. I have personally toured southern Mississippi, southern Louisiana, and the city of New Orleans. I also have had discussions with many governmental and other officials, including the governors of Alabama, Mississippi, Louisiana, and Texas; the mayor of New Orleans; the principal federal official on the scene; the joint task force commander of active duty forces, and the federal coordinator for federal support for the Gulf Coast's recovery and rebuilding. Additionally, we have closely followed the hearings conducted by this Committee, the House's Select Committee to Investigate the Preparation for and Response to Hurricane Katrina, and other Congressional committees on Hurricane Katrina issues. We have studied the House Select Committee report and are carefully reviewing the recently issued White House report on lessons learned from the federal response to

Hurricane Katrina. Finally, we discussed our preliminary observations with the Deputy Secretary of the Department of Homeland Security.

In addition, we have done a great deal of work on prior disasters. In 1993, we conducted several reviews examining the federal response to Hurricane Andrew. The reviews focused on the unique challenges involved in responding to "catastrophic disasters."[2] These reviews defined "catastrophic disasters" as a subset of other disasters requiring federal assistance. Unlike the bulk of the disasters requiring FEMA to respond, catastrophic disasters can overwhelm the ability of state, local and voluntary agencies to adequately provide victims with essential services, such as food and water, within 12 to 24 hours. These prior GAO reports focused on improving the immediate response to catastrophic disasters, and we made various recommendations within this context. We recommended that, in a catastrophic disaster, (1) a single individual directly responsible and accountable to the President should be designated to act as the central focal point to lead and coordinate the overall federal response when a catastrophic disaster has happened or is imminent, (2) FEMA should immediately establish a disaster unit to independently assess damage and estimate response needs following a catastrophic disaster, and (3) FEMA should enhance the capacity of state and local governments to respond to catastrophic disasters by (a) continuing to give them increasing flexibility to match grant funding with individual response needs, (b) upgrading training and exercises for catastrophic disaster response, and (c) assessing each state's preparedness for catastrophic disaster response. We also recommended that Congress should consider (1) giving FEMA and other federal agencies explicit authority to take actions to prepare for catastrophic disasters when there is warning and (2) removing statutory restrictions on DOD's authority to activate Reserve units for catastrophic disaster relief.

Unfortunately, some of these recommendations were not adopted or in effect when Hurricane Katrina hit the Gulf Coast. We continue to believe, for the most part, these recommendations are still viable, as we discuss later in this testimony. For example, current DOD strategy calls for reliance on the reserve components (National Guard and reserves) for civil support missions. Modifying statutory restrictions to allow for the use

[2]See, for example, GAO, *Disaster Management: Improving the Nation's Response to Catastrophic Disasters*, GAO-93-186 (Washington, D.C.: July 23, 1993) and GAO, *Disaster Management: Recent Disasters Demonstrate the Need to Improve the Nation's Response Strategy*, GAO-93-46 (Washington, D.C.: May 25, 1993).

of the reserves for catastrophic disasters would provide greater access to Reserve units in the event they are needed for future responses.

Other work we have conducted related to disaster preparedness and management has involved programs to prevent or mitigate disasters or to improve the capabilities and readiness of first responders. We have identified needed improvements in a number of areas, including preparedness for "all-hazards," balancing efforts to prepare for emergency incidents resulting from terrorism and natural disasters or man-made accidents; support for training, exercises, evaluations, and disseminating lessons learned to first responders; and interoperable communications for first responders. Similarly, our work on response to disasters has identified a number of problems, such as the lack of clarity of various federal, state, and local roles in coordinating the response and medical and public health response capabilities.

Today, I will cover several major areas based on our preliminary work related to the 2005 hurricane season. In summary:

- Four key themes underpin many of the challenges encountered in the response to Hurricane Katrina and are similar to lessons learned from past catastrophic disasters. These include the central importance of (1) clearly defining and communicating leadership roles, responsibilities, and lines of authority for response in advance of a catastrophic disaster, (2) clarifying the procedures for activating the National Response Plan and applying them to emerging catastrophic disasters, (3) conducting strong advance planning and robust training and exercise programs, and (4) strengthening response and recovery capabilities for a catastrophic disaster.

- It is vital to have in place a risk management decision making approach to develop federal capabilities and the expertise to use them to respond to a catastrophic disaster. Given the likely costs, Congress should consider using such an approach in deciding how best to invest in specific capabilities for a catastrophic disaster.

- Because of FEMA's mission performance during Hurricane Katrina, concerns have been raised regarding the agency's organizational placement, including whether it should be disbanded and functions moved to other agencies, remain within the Department of Homeland Security, or again become an independent agency. Importantly, other factors, such as the experience and training of FEMA leadership and the adequacy of its resources may be more important to FEMA's future success than its organizational placement.

- Lastly, the federal government will be a major partner in the longer-term rebuilding of the Gulf Coast because of the widespread damage and economic impact. In support of state and local efforts, the federal role in rebuilding will be particularly important for transportation and health care infrastructures and federal facilities. In addition, federal programs will face financial difficulties and there is uncertainty concerning the impact of catastrophic disasters on the availability and affordability of insurance. Long term rebuilding raises issues concerning the need for consensus on what rebuilding should be done, where and based on what standards, who will pay for what, and what oversight is needed to ensure federal funds are spent prudently and for their intended purposes.

Background

There are several federal legislative and executive provisions that support preparation for and response to emergency situations. The Robert T. Stafford Disaster Relief and Emergency Assistance Act (the Stafford Act)[3] primarily establishes the programs and processes for the federal government to provide major disaster and emergency assistance to states, local governments, tribal nations, individuals, and qualified private nonprofit organizations. FEMA has responsibility for administering the provisions of the Stafford Act.

Upon a governor's request, the President can declare an "emergency" or a "major disaster" under the Stafford Act, which triggers specific types of federal relief. The Stafford Act defines an emergency as any occasion or instance for which, in the determination of the President, federal assistance is needed to supplement state and local efforts and capabilities to save lives and to protect property and public health and safety, or to lessen or avert the threat of a catastrophe in any part of the United States. Under an emergency declaration, the federal government has authority to engage in various emergency response activities, debris removal, temporary housing assistance, and the distribution of medicine, food, and other consumables. The Stafford Act places a $5 million limit on federal emergency assistance, but the President may exceed the limit, followed by a report to Congress.

The Stafford Act defines a "major disaster" as any natural catastrophe or, regardless of cause, any fire, flood, or explosion, in any part of the United States, which the President determines causes damage of sufficient

[3]42 U.S.C. §§ 5121-5206.

severity and magnitude to warrant major disaster assistance under the Stafford Act to supplement the efforts and available resources of states, local governments, and disaster relief organizations in alleviating damage, loss, hardship, or suffering. Under a major disaster declaration, the federal government has the authority to engage in the same activities authorized under an emergency declaration, but without the $5 million ceiling. In addition, major disaster assistance includes a variety of assistance not available in the context of an emergency. For example, in a major disaster, the federal government may provide unemployment assistance, food coupons to low-income households, and repair, restoration and replacement of certain damaged facilities, among other things.

For Hurricane Katrina, the President issued emergency declarations under the Stafford Act for Louisiana on August 27, 2005 and Mississippi and Alabama on August 28, 2005. The President made major disaster declarations for Florida on August 28, 2005, and Louisiana, Mississippi, and Alabama on August 29, 2005, the same day that Hurricane Katrina made final landfall in the affected states.

The Homeland Security Act of 2002[4] required the newly established DHS to develop a comprehensive National Incident Management System (NIMS) and a comprehensive National Response Plan (NRP). NIMS is intended to provide a consistent framework for incident management at all jurisdictional levels regardless of the cause, size, or complexity of the situation and to define the roles and responsibilities of federal, state, and local governments, and various first responder disciplines at each level during an emergency event. NIMS established the Incident Command System (ICS) as a standard incident management organization with five functional areas—command, operations, planning, logistics, and finance/administration—for management of all major incidents. It also prescribes interoperable communications systems and preparedness before an incident happens, including planning, training, and exercises.

The Homeland Security Act of 2002 also required DHS to consolidate existing federal government emergency response plans into a single, coordinated national response plan. In December 2004, DHS issued the National Response Plan (NRP), intended to be an all-discipline, all-hazards plan establishing a single, comprehensive framework for the management of domestic incidents where federal involvement is necessary. It is to

[4]Pub. L. No. 107-296, 116 Stat. 2135 (2002).

operate within the framework of NIMS. The NRP only applies to incidents of national significance, defined as an actual or potential high-impact event that requires a coordinated and effective response by an appropriate combination of federal, state, local, tribal, nongovernmental, and/or private-sector entities in order to save lives and minimize damage, and provide the basis for long-term community recovery and mitigation activities. The NRP does not apply to the majority of incidents occurring each year that are handled by local jurisdictions or agencies through established authorities and existing plans under the planning assumption that incidents are typically managed at the lowest possible geographic, organizational, and jurisdictional level.

The NRP states that the Secretary of Homeland Security, as the principal federal official for domestic incident management, designates incidents of national significance, pursuant to the criteria in Homeland Security Presidential Directive 5 (HSPD-5). HSPD-5 requires one or more of the following to qualify as an incident of national significance: (1) a federal department or agency acting under its own authority has requested the assistance of the Secretary of Homeland Security, (2) the resources of state and local authorities are overwhelmed and federal assistance has been requested by the appropriate state and local authorities,[5] (3) more than one federal department or agency has become substantially involved in responding to an incident, or (4) the Secretary of Homeland Security has been directed to assume responsibility for managing a domestic incident by the President.

The Secretary of Homeland Security provides overall coordination for incidents of national significance. Under the NRP, a principal federal official (PFO) is to be personally designated by the Secretary of Homeland Security for a particular incident and is to be the primary point of contact and provide local situational awareness for the secretary. Under the NRP, the PFO is to coordinate the activities of the senior federal law enforcement official for the incident, the federal coordinating officer (FCO) who manages and coordinates federal resource support activities related to Stafford Act disasters and emergencies, and other federal officials involved in incident management activities acting under their own authorities. The PFO does not have directive authority over these officials, but is to play a coordinating function under the NRP. The Stafford Act

[5]The NRP notes that major disasters and emergencies under the Stafford Act are examples of this criterion.

requires that a FCO be appointed to coordinate relief for major disasters and emergencies declared by the President. The FCO retains this coordination authority notwithstanding the appointment of a PFO under the NRP.

The NRP can be partially or fully implemented in anticipation of or in response to an incident of national significance. The NRP base plan includes planning assumptions, roles and responsibilities, concept of operations, and incident management actions. Annexes (i.e. appendixes) to the NRP provide more detailed information on emergency support functions such as transportation and communications and functional processes and administrative requirements such as financial management and international coordination. Incident annexes address contingency or hazard situations that require specialized application of the NRP for incidents of national significance.

The Catastrophic Incident Annex of the NRP references "catastrophic incidents." The NRP defines a catastrophic incident as any natural or manmade incident, including terrorism, resulting in extraordinary levels of mass casualties, damage, or disruption severely affecting the population, infrastructure, environment, economy, national morale, and/or government functions. A catastrophic incident could result in sustained national impacts over a prolonged period of time; almost immediately exceeds resources normally available to state, local, tribal, and private-sector authorities in the impacted area; and significantly interrupts governmental operations and emergency services to such an extent that national security could be threatened.

The Catastrophic Incident Annex describes an accelerated, proactive national response to catastrophic incidents. The annex establishes protocols to pre-identify and rapidly deploy key essential resources that are expected to be urgently needed or required to save lives and contain incidents. Expedited assistance can be provided in one or more areas, such as mass care, housing, human services, urban search and rescue, and public health and medical support.

A draft of a more detailed and operationally specific Catastrophic Incident Supplement for the NRP's Catastrophic Incident Annex had not been approved at the time of Hurricane Katrina, although the NRP's 120-day schedule for implementing the supplement had passed. The draft supplement is intended to provide the operational framework for implementing the annex. The draft supplement, for example, includes operations to be carried out by local, state, and federal responders;

detailed execution schedules and implementation strategies; functional capability overviews (such as coverage for transportation support); and key responsibilities of federal departments and agencies. The draft supplement language says it is designed for catastrophic incidents that occur with little or no notice, without an opportunity for advance planning and positioning of resources. The Secretary of Homeland Security is to make a catastrophic incident designation to activate the provisions of the Catastrophic Incident Annex. Otherwise, the basic provisions of the NRP will apply to the incident. The Secretary of Homeland Security declared Hurricane Katrina an incident of national significance on August 30, 2005, but never declared it a catastrophic incident.

I will now turn to the four major topics I identified at the beginning of my testimony.

Leadership, Planning, Exercises, and Capabilities Underpin Catastrophic Preparation, Response, and Recovery

Four key themes, based on our preliminary work, underpin many of the challenges encountered in the response to Hurricane Katrina and reflect certain lessons learned from past catastrophes. These are generally consistent with the themes I highlighted in a statement to the House Select Committee.[6] They include the central importance of (1) clearly defining and communicating leadership roles, responsibilities, and lines of authority for the response at all levels in advance of a catastrophic disaster, (2) clarifying the procedures for activating the National Response Plan and applying them to emerging catastrophic disasters, (3) conducting strong advance planning and robust training and exercise programs to test these plans in advance of a real disaster, and (4) strengthening response and recovery capabilities for a catastrophic disaster, including those such as emergency communications, continuity of essential government services, and logistics and distribution systems underpinning citizen safety and security. They have been among the topics covered in this committee's hearings and were also highlighted among the many factors in the House Select Committee report and the White House report.

[6]GAO, *Statement by Comptroller General David M. Walker on GAO's Preliminary Observations Regarding Preparedness and Response to Hurricanes Katrina and Rita*, GAO-06-365R (Washington, D.C.: February 1, 2006).

Leadership Roles, Responsibilities, and Lines of Authority Must Be Clearly Defined and Communicated in Advance of Catastrophic Disasters

In the event of a catastrophic disaster, the leadership roles, responsibilities, and lines of authority for the response at all levels must be clearly defined and effectively communicated in order to facilitate rapid and effective decision making, especially in preparing for and in the early hours and days after the disaster. During incidents of national significance, including catastrophic disasters, the overall coordination of federal incident management activities is executed through the Secretary of Homeland Security. Other federal departments and agencies are to cooperate with the secretary in the secretary's domestic incident management role.

There are three key roles in the management of a catastrophic disaster. First, the Secretary of Homeland Security provides strategic, national leadership. The Secretary of Homeland Security is to act as a focal point for natural and manmade crises and emergency planning under the provisions of the Homeland Security Act. In addition, HSPD-5, signed by the President, also names the secretary as the principal federal official for domestic incident management. This is consistent with our recommendation in 1993 that a single individual directly responsible and accountable to the President should be designated to act as the central focal point to lead and coordinate the overall federal response in the event of a catastrophic disaster.[7] At the time of our recommendation in 1993, FEMA was an independent agency. President Clinton elevated the FEMA director to cabinet status in 1996. Subsequent passage of the Homeland Security Act established the DHS secretary as the cabinet-level focal point for natural and manmade crises and emergency planning. We view this as a strategic role to coordinate federal activities and policy from a national standpoint and be directly responsible and accountable to the President.

The second key role is the principal federal official (PFO) whom the Secretary of Homeland Security designates to be the secretary's representative under the NRP structure and to coordinate the federal response at an operational level. The third role is that of a federal coordinating officer (FCO) which, under the Stafford Act, is to coordinate relief for major disasters and emergencies declared by the President.

The Secretary of Homeland Security initially designated the head of FEMA as the PFO, who appointed separate FCOs for Alabama, Louisiana, and Mississippi for Hurricane Katrina. However, it appeared there were

[7] GAO-93-46 summarizes GAO work in 1993 that contains this recommendation.

shifting roles and responsibilities of the players in all 3 of these roles. Our initial field work indicated this resulted in disjointed efforts of many federal agencies involved in the response, a myriad of approaches and processes for requesting and providing assistance, and confusion about who should be advised of requests and what resources would be provided within specific time frames.

The House Select Committee also found difficulties with roles and responsibilities, including federal officials' unfamiliarity with their roles and responsibilities under the NRP and NIMS. The White House has made numerous recommendations, including revising the NRP to address situations that render state and local governments incapable of an effective response, giving the PFO the authority to execute responsibilities and coordinate federal response assets, and requiring agencies to develop integrated operational plans, procedures, and capabilities for their support to the base NRP and the NRP's emergency support functions and support annexes.

Consistent with the provisions of the Homeland Security Act and the Stafford Act, we recommend that DHS clarify and communicate the roles of the secretary, the PFO, and the FCO. If legislative changes are considered, the roles and responsibilities should be clarified accordingly.

Procedures for Activating the NRP and Applying It to Emerging Catastrophic Disasters Should Be Clarified

The NRP distinguishes between incidents that require DHS coordination, termed Incidents of National Significance, and the majority of incidents occurring each year, such as snow storms, that are handled by responsible jurisdictions or agencies through other established authorities and plans. However, the NRP is not clear regarding what triggers an incident of national significance. To illustrate this ambiguity, the NRP's Planning Assumptions provide that "all presidentially-declared disasters and emergencies under the Stafford Act are considered Incidents of National Significance," indicating that they do not need to be declared as such by the Secretary of Homeland Security. Elsewhere, the NRP suggest that the Secretary must formally declare an incident of national significance in consultation with other department and agencies, as appropriate.

The question of how and when an event becomes an incident of national significance was also raised in the White House report on the federal response to Hurricane Katrina. According to the White House report, the NRP did not make clear whether the secretary must formally declare an incident of national significance or, alternatively, whether such an incident is automatically triggered when one or more of the HSPD-5 criteria

(discussed on page 7) are satisfied, including when the President declares a disaster or emergency under the Stafford Act. In addition, the White House report questioned whether an event becomes an incident of national significance simply by satisfying an HSPD-5 criterion, or whether additional considerations apply. The White House report observed that since the NRP was adopted in December 2004, many parts of the NRP had been used to various degrees and magnitudes for thirty declared Stafford Act events to coordinate Federal assistance. Yet, the Secretary of Homeland Security had never formally declared an Incident of National Significance until Tuesday, August 30, 2005, after Hurricane Katrina made final landfall.

We agree that the process and operational consequences of declaring an incident of national significance should be further defined and clarified. Without such clarification of the NRP, confusion will persist regarding DHS's activation of the NRP. We therefore recommend that DHS clarify the NRP regarding whether the Secretary of Homeland Security must formally declare an incident of national significance to activate the NRP, and, if not, whether the secretary must take any specific actions when the President, in effect, activates the NRP by declaring a Stafford Act emergency or major disaster.

In addition, we believe that the NRP's provisions regarding the proactive response of the federal government to emerging catastrophic incidents should be clarified. As I stated earlier, the NRP includes a Catastrophic Incident Annex that describes an accelerated, proactive national response to catastrophic incidents and establishes protocols to pre-identify and rapidly deploy essential resources that are expected to be urgently needed to save lives and contain incidents. At the time of Hurricane Katrina, a draft of a more detailed and operationally specific Catastrophic Incident Supplement to the annex had not been approved. Under the language of the draft supplement, the annex would only apply to no-notice or short-notice catastrophic incidents, not incidents that may evolve or mature to catastrophic magnitude, which could be the case with strengthening hurricanes.

Because it is possible to respond to incidents maturing to catastrophic magnitude in a more proactive manner than surprise catastrophic incidents, it does not make sense to exclude evolving catastrophic incidents from the scope of the annex's coverage. The White House report on the federal response to Hurricane Katrina also questioned this exclusion. As the White House report states, "Ultimately, when a catastrophic incident occurs, regardless of whether the catastrophe has been a warned or is a surprise event, the Federal government should not

rely on the traditional layered approach and instead should proactively provide, or 'push,' its capabilities and assistance directly to those in need."

A proactive approach to catastrophic disasters when there is warning is also in keeping with recommendations we made in 1993 following Hurricane Andrew. At that time, from an administrative perspective, we recommended that FEMA improve its catastrophic disaster response capability by using existing authority to aggressively respond to catastrophic disasters, assessing the extent of the damage, and then advising state and local officials of identified needs and the federal resources available to address them. From a legislative standpoint, we recommended that Congress should consider giving federal agencies explicit authority to take actions to prepare for catastrophic disasters when there is warning. We continue to believe that actions such as these are warranted.

Planning, Training, and Exercises Can Aid Preparation for Catastrophic Disasters

Madame Chairman, to increase the ability of the nation to prepare for, respond to, and recover from catastrophic disasters such as Hurricane Katrina, there should be strong advance planning, both within and among responder organizations, as well as robust training and exercise programs to test these plans in advance of a real disaster. By their very nature, catastrophic disasters involve extraordinary levels of mass casualties, damage, or disruption that likely will immediately overwhelm state and local responders, circumstances that make sound planning for catastrophic events all the more crucial. Our previous work on Hurricane Andrew highlighted the importance of such plans to focus specifically on catastrophic disasters.

Our initial review of the NRP base plan and its supporting catastrophic annex as well as lessons based on Hurricane Katrina suggest that planning must be strengthened to implement their provisions. Therefore, we recommend that these documents should be supported and supplemented by more detailed and robust operational implementation plans. Such operational plans should, for example, further define and leverage any military capabilities as might be needed in a catastrophic disaster. Prior catastrophic disasters and the actual experience of Hurricane Katrina show that DOD is likely to contribute substantial support to state and local authorities, including search and rescue assets, evacuation assistance, provision of supplies, damage assessment assets, and possibly helping to ensure public safety. More detailed planning would provide greater visibility and understanding of the types of support DOD will be expected to provide following a catastrophic event, including the types of assistance

and capabilities that might be provided, what might be done proactively and in response to specific requests, and how the efforts of the active duty and National Guard would be integrated. We will be making several recommendations to DOD to enhance its planning and response for future events, in the areas of identifying specific active duty and National Guard capabilities that would likely be available to respond to a catastrophe, and integrating the active duty and National Guard response including Guard units within and outside of the affected state. Planning also must explicitly consider the need for, and management of, the contractor community.

In addition, regular training and periodic exercises provide a valuable way to test emergency management plans. In our previous work on Hurricanes Andrew and Hugo, we identified the need for the federal government to upgrade training and exercises for state and local governments specifically geared towards catastrophic disaster response. Hurricane Katrina demonstrated the potential benefits of applying lessons learned from training exercises and experiences with actual hurricanes as well as the dangers of ignoring them. During our initial fieldwork, we found examples of how an incomplete understanding of NRP and NIMS roles and responsibilities could lead to misunderstandings, problems, and delays. For example, we were told in Louisiana that in one city there did not appear to be clarity in roles and responsibilities, with officials not knowing what federal agencies were responsible for. In one example in Mississippi, we were told that county and city officials were not implementing NIMS due to a lack of understanding of its provisions.

A November 2005 report by DHS's Office of Inspector General (OIG) on the April 2005 "Top Officials 3 Exercise" noted that the exercise highlighted—at all levels of government—a fundamental lack of understanding regarding the principles and protocols set forth in the NRP and NIMS, including confusion over the different roles and responsibilities performed by the PFO and FCO. The report recommended that DHS continue to train and exercise NRP and NIMS at all levels of government and develop operating procedures that clearly define individual and organizational roles and responsibilities under the NRP. We would see this training and exercising effort as recognizing the role of joint decision making and not result in a centralized, top-down process.

The 2004 "Hurricane Pam" planning exercise illustrates the benefits and consequences of applying and not applying lessons learned from training exercises and experiences with actual hurricanes for future catastrophic disasters. This catastrophic hurricane exercise, sponsored by FEMA, was to develop a response and recovery plan for a major hurricane that floods

New Orleans and the surrounding parishes and to identify any issues that could not be resolved based on current capabilities. The weather scenario involved a slow moving category 3 hurricane sustaining 120 mph winds at landfall and generating a storm surge that inundated New Orleans under 15 to 20 feet of water. In addition to widespread flooding, the exercise posed impacts of extensive evacuations and the resulting need to shelter thousands of individuals left homeless after the storm, disposing of tons of debris, and recreating school systems. We were told in Louisiana that the exercise anticipated many of the events transpiring as the result of Hurricane Katrina. The Hurricane Pam exercise and other planning activities resulted in some action, but others were incomplete. For example, efforts to finalize agreements with hospital and university officials to create temporary medical operations staging areas around the state did occur. Louisiana revised its contraflow evacuation plan. However, plans for evacuating those with special needs and post-landfall care and evacuation had not been finalized by the time Hurricane Katrina made landfall. The House Select Committee also noted that the Hurricane Pam exercise reflected recognition by all levels of government of the dangers of a category 4 or 5 hurricane striking New Orleans.

The White House has made several recommendations regarding planning and exercises to improve the response to catastrophic disasters such as Hurricane Katrina. For example, the White House recommends that all federal departments and agencies should develop emergency plans and a response capability. Other White House recommendations are intended to strengthen training, exercises, and lessons learned. To illustrate, recommendations cover (1) strengthening Homeland Security Council coordination of federal emergency training, exercises, and lessons learned, (2) DHS conducting state and local officials' training and exercises, and (3) DHS establishing a national exercise and evaluation program. The White House also recommended development of a comprehensive homeland security professional development and education program.

We recommend that DHS provide strong oversight of federal, state, and local planning, training, and exercises to ensure such activities fully support preparedness, response, and recovery responsibilities at a jurisdictional and regional basis. This should also include applying lessons learned from actual major and catastrophic disasters. We will soon be starting work examining DHS's catastrophic planning initiatives, including Hurricane Pam, in order to help identify more specific recommendations.

Emergency Management Capabilities Require Greater Emphasis for Catastrophic Response and Recovery

The experience with Hurricanes Katrina and Rita highlights critical emergency management capabilities that must be ramped up from normal disaster management levels. Our preliminary work suggests that while many organizations provided significant support in these areas during the response and recovery efforts, several key capabilities were not available when needed or with the quantity or quality needed. When catastrophic disaster occurs, significantly more capabilities—in terms of quantity and quality—are needed. Our work is beginning to identify many examples of where the lack of additional response or recovery capabilities, or the delay in getting these capabilities to where they were needed, caused extended suffering.

I want to emphasize that across these capabilities, streamlining, simplifying, and expediting decision making should quickly replace "business as usual" and the unquestioned following of long-standing policies and operating procedures. We were told of many examples where quick action could not occur as agencies followed procedures that required extensive, time-consuming processes, delaying the delivery of vital supplies and other assistance. When there is a catastrophic disaster, temporarily suspending certain rules and regulations may be necessary in order to expedite relief and recovery of the affected area, even if such a suspension requires legislation. The key is to recognize when flexibility is needed to meet response and recovery needs in a catastrophic disaster.

Continuity of essential government operations: Hurricane Katrina exposed difficulties in continuing essential government operations, particularly at the local level. In the devastated areas, local government infrastructure was destroyed and essential government employees, including many first responders, were evacuated or victimized by the storms. Local officials in Mississippi and Louisiana told us of cases where there was limited continuity of operations for public safety and service agencies because both structures and equipment were destroyed or too damaged to use. For example, one Mississippi county lost all of its public buildings located south of Interstate 10. We were also told criminal justice facilities in New Orleans and St Bernard parishes were disabled as both jurisdictions had to evacuate jails damaged by flood waters.

Emergency telecommunications: Agencies affected by a catastrophic disaster must first be operable, with sufficient communications to meet everyday internal and emergency communication requirements. Once operable, they then should have communications interoperability whereby public safety agencies (police, fire, EMS) and service agencies (public works, transportation, hospitals, etc.) can communicate within and across

agencies and jurisdictions in real time. The storms significantly damaged or destroyed communications infrastructure affecting public safety and security in Louisiana, Mississippi, and Alabama. This is an area where military capabilities can be utilized.

Our work on interoperable communications identified problem definition, performance goals and standards, and defining the roles of federal, state, local government and other entities as the three principal challenges to achieving effective interoperable communications for first responders. The single greatest barrier to addressing the decades-old problems of interoperable communications has been the lack of effective, collaborative, interdisciplinary, and intergovernmental planning. No one first-responder group or governmental agency can "fix" the interoperability problems that face the nation. We believe that our 2004 recommendations to the Secretary of DHS are still appropriate: (1) work with the Federal Communications Commission to develop a nationwide database of interoperable communications frequencies and a common nomenclature so that first responders from different disciplines and jurisdictions can quickly identify shared frequencies when arriving at the scene of an incident; (2) establish interoperability requirements whose achievement can be measured; and (3) through grants, encourage states to establish statewide bodies that will develop a comprehensive statewide interoperable communications plan and condition the purchase of new equipment on the adoption of such a plan.

Damage and needs assessment: Damage and needs assessment is the capability to immediately conduct damage assessments of infrastructure and to estimate services needed by disaster victims. The scope of the devastation and the flooding in the New Orleans area made a comprehensive damage assessment and estimate of services victims might need very difficult. Clearly, the military has significant capability through a range of reconnaissance aircraft and satellite imagery. However, while some capabilities were employed, there had been no advance planning among federal, state, and local responders as to how DOD would provide these capabilities in the event of a catastrophic disaster.

Logistics: Logistics is the capability to identify, dispatch, mobilize, and demobilize and to accurately track and record available critical resources throughout all incident management phases. Our early work indicates that logistics systems were often totally overwhelmed by Hurricane Katrina. The result was that critical resources apparently were not available, properly distributed, or provided in a timely manner. In addition, acquisition efforts, while noteworthy given the scope of Hurricane Katrina,

indicated agencies needed additional capabilities to (1) adequately anticipate requirements for needed goods and services, (2) clearly communicate responsibilities across agencies and jurisdictions, and (3) deploy sufficient numbers of personnel to provide contractor oversight.[8]

Evacuation: This capability involves evacuation to areas of safe refuge in response to a potential or actual dangerous environment. Our early work indicated that some evacuations were considered successful, but others encountered serious challenges, including evacuating special needs populations. Evacuating those in hospitals and nursing homes due to Hurricane Katrina posed a special challenge. For example, although the National Disaster Medical System (NDMS) is a mechanism through which the federal government can provide assistance with patient evacuations, NDMS has agreements with hospitals only and does not address the needs of nursing homes.[9]

Search and rescue: Search and rescue is the capability to coordinate and conduct urban search and rescue response efforts for all hazards. Search and rescue also requires a seamless transition from rescue to safe shelter. The Coast Guard, state and local agencies, and military assets rescued thousands in the aftermath of Hurricane Katrina. However, particularly in New Orleans, those rescued may have been taken to high ground where, because of flooding or roadway blockage, they spent hours or days without shelter, food, or water.

Mass care (housing and human services): This is the capability to provide immediate shelter, feeding centers, basic first aid, bulk distribution of needed items, and related services to persons affected by a large-scale incident, including special needs populations such as those with physical or mental disabilities that need additional attention. Charities and other organizations such as government agencies that provide human services, supported by various federal programs, helped meet the mass care needs of the hundreds of thousands of evacuees. However, because the American Red Cross does not establish shelters in

[8]GAO, *Hurricanes Katrina and Rita: Preliminary Observations on Contracting for Response and Recovery Efforts*, GAO-06-246T (Washington, D.C.: November 8, 2005).

[9]For additional information, see GAO, *Disaster Preparedness: Preliminary Observations on the Evacuation of Hospitals and Nursing Homes Due to Hurricanes*, GAO-06-443R (Washington, D.C.: February 16, 2006).

areas that might become flooded or in structures that could be compromised by strong winds, some Gulf Coast areas did not have sufficient shelter facilities.[10]

Volunteer management and donations: Volunteer management and donations is the capability to effectively manage and deploy volunteers and unsolicited donations. Federal and charity organization officials we spoke to indicated that because of the catastrophic nature of the storms, volunteers and donations, in some cases, were not well integrated into response and recovery activities. In addition, federal agencies involved in managing the international assistance were not prepared to coordinate, receive, distribute, or account for the assistance. Agency officials involved in the cash and in-kind assistance told us the agencies were not prepared to accept international assistance for use in the United States and, therefore, developed ad hoc processes to address this scenario. We will be making several recommendations to the Departments of Homeland Security, Defense, and State to improve preparedness in these areas.

Restoration of lifelines: Restoration of lifelines is the capability to manage clearing and restoration activities such as demolition, repair, reconstruction, and restoration of essential gas, electric, oil, communications, water, wastewater and sewer, transportation and transportation infrastructure, and other utilities. Because of the mass devastation, restoration is proceeding slowly.

Economic assistance and services: Economic assistance and services is the capability to meet the demands for cash assistance, human services programs, educational services, and family and child welfare services. Our preliminary work indicated that a number of federal and state programs provided assistance and services to eligible individuals and families before the catastrophic disaster. Significant ongoing assistance after the catastrophic disaster has also been required.

Secretary Chertoff has announced plans to emphasize several of these capabilities in the near term. For example, DHS will acquire a hardened set of communications capabilities, including equipment and specialized reconnaissance teams to improve awareness about conditions and events unfolding during a disaster. It was clear that DHS did not have adequate

[10]GAO, *Hurricanes Katrina and Rita: Provision of Charitable Assistance*, GAO-06-297T (Washington, D.C.: December 13, 2005).

situational awareness of how Hurricane Katrina-caused conditions were worsening and thus required additional federal response. As was noted during a hearing before this committee, technological advances should provide the capability to prevent or significantly reduce "the fog of war" during a catastrophe. The secretary also has announced plans for better logistics and debris removal capabilities.

The House Select Committee had findings in several of these areas, such as medical care and evacuations, communications, emergency shelter and temporary housing, and logistics and contracting systems. The White House devoted a large number of its recommendations to capabilities. For example, White House recommendations cover (1) developing a National Emergency Communications Strategy and a modern, flexible, and transparent logistics system, (2) reviewing and revising the NRP to ensure effective integration of all federal search and rescue assets during disaster response, (3) strengthening public health and medical command for federal disaster response, and (4) assigning responsibility for coordinating the provision of human services during disasters to the Department of Health and Human Services.

Addressing these four themes—leadership; the clarity of the NRP; advance planning, training, and exercises; and strengthening capabilities for catastrophic events—will require developing priorities and making trade-offs, given finite resources. A risk management framework could aid agency and congressional decision making on these issues.

Planning for a Catastrophic Disaster Calls for a Risk Management Approach

It is vital to have in place a risk management decision making approach to develop federal capabilities and the expertise to use them to respond to a catastrophic disaster. Given the likely costs, Congress should consider using such an approach in deciding whether and how to invest in specific capabilities for a catastrophic disaster.

Risk Management Is A Continuous Process

We have advocated a comprehensive risk management approach as a framework for decision making.[11] Risk involves three elements: (1) threat, the probability that a specific type of event will occur; (2) the vulnerability of people and specific assets to that particular event; and (3) the adverse consequences that would result from the particular event should it occur. Another closely related element is criticality, that is, the relative importance of the assets involved, such as equipment, facilities, and operations.

We define risk management as a continuous process of assessing risks, taking actions to reduce, where possible, the potential that an adverse event will occur; reducing vulnerabilities as appropriate; and putting steps in place to reduce the consequences of any event that does occur. Risk management addresses risks before mitigating actions have been applied, as well as risk that remains after countermeasures have been taken. A risk management framework links strategic goals to plans and budgets, assesses the value and risks of various courses of actions as a tool for setting priorities and allocating resources, and provides for the use of performance measures to assess outcomes and adjust future actions as needed. The goal of risk management is to integrate systematic concern for risk into the normal cycle of agency decision making and implementation.

Risk Management Can Aid in Investment Decisions for a Catastrophic Disaster

Risk management can be central to assessing the risk for catastrophic disasters. Our risk management framework calls for the management of risk based on careful analysis of all available risk information, identification of alternatives for reducing risks through preparation and response, selection among those alternatives, implementing choices, monitoring their implementation, and continually using new information to adjust and revise the assessments and actions as needed, all within available resources. As I mentioned earlier, we have identified several key capabilities that may be needed in the event of a catastrophic disaster such as emergency telecommunications, damage and needs assessment, and logistics. Given that resources are finite, the administration and Congress should consider using a risk management approach in deciding whether and how to invest in specific capabilities for a catastrophic disaster.

[11]A summary of GAO's risk management framework specifically related to homeland security and combating terrorism can be found in GAO, *Risk Management: Further Refinements Needed to Assess Risks and Prioritize Protective Measures at Ports and Other Critical Infrastructure*, GAO-06-91 (Washington, D.C.: December 15, 2005).

Some of the changes that the government will need to prepare for catastrophic disasters are relatively inexpensive. Establishing more robust surveillance and warning mechanisms should build on existing systems, with communication of known information a key feature. Developing more detailed plans for ramping up from a "normal" disaster to a catastrophic disaster where warranted will impose additional costs. Providing the needed training to ensure the readiness of first responders and exercising the catastrophic disaster plans are much more costly endeavors, as well as increasing the quantity and quality of the federal government's preparedness and response capabilities.

A catastrophic disaster may be anticipated based on past history and the expectation that there will be another catastrophic disaster. Expectations, based on a risk management approach, would call for building basic capabilities and contingency planning to leverage other resources in anticipation of a likely event. For example, a major earthquake in a major metropolitan area in California has occurred in the past, is expected to occur at some point in the future, and is likely to cause significant loss of life and extensive damage to critical infrastructure. Flooding along the Mississippi River also has occurred and would similarly cause widespread destruction and disrupt the transport of goods along this major waterway. Man-made catastrophic disasters that involve, for example, a nuclear power plant or liquefied natural gas installations could cause catastrophic damage and deaths across a wide area.

Specific Capabilities Can Be Identified

Developing preparedness for large-scale disasters is part of an overall national preparedness effort that should integrate and define what we need to do, where and based on what standards, how we should do it, and how well we should do it. DHS developed three documents to address these needs. The National Response Plan was designed to identify what needs to be done, the National Incident Management System describes how to manage what needs to be done in response to an emergency incident, and the National Preparedness Goal is designed to define how well we should do what needs to be done. Hurricane Katrina was the first major test of the NRP.

These three documents, considered as a group, can be one basis for risk analyses to assess the most productive and urgent investments in emergency preparedness and response capabilities. The National Preparedness Goal, whose development was required by Homeland Security Presidential Directive 8 (HSPD-8), is particularly important. DHS issued an interim version of the goal in March 2005 and an expanded draft

in December 2005. The December 2005 draft National Preparedness Goal defines both the 37 major capabilities that first responders should possess to prevent, respond, and recover from a wide range of major emergency incidents and the most critical tasks associated with these capabilities. These critical tasks are appropriately considered in risk analysis. An inability to effectively perform these tasks would, by definition, have a detrimental impact on effective prevention, response, and recovery capabilities.

To identify the needed capabilities, DHS used 15 National Planning Scenarios developed by the President's Homeland Security Council that included 12 terrorist attacks and 3 natural disasters—an earthquake, a hurricane, and a pandemic influenza outbreak. According to DHS, the planning scenarios are intended to illustrate the scope and magnitude of large-scale, catastrophic emergency events for which the nation needs to be prepared. Because no single jurisdiction or agency would be expected to perform every preparedness task or have every capability to the same degree, possession of critical capabilities could involve enhancing and maintaining local resources, ensuring access to regional and federal resources, or some combination of the two. Risk factors include population and population density, the presence of critical infrastructure and key resources, and location in high terrorist threat or high risk natural disaster areas. The National Preparedness Goal includes seven national priorities, including implementing the NIMS and NRP and expanding regional collaboration. Those seven priorities are incorporated into DHS's fiscal year 2006 homeland security grant guidance. The guidance also adds an eighth priority that emphasizes emergency operations and catastrophic planning.

In earlier work on the National Preparedness Goal, we observed that if properly planned and executed, the goal and its related products, such as program implementation plans and requirements, may help guide the development of realistic budget and resource plans for an all-hazards national preparedness program.[12] However, questions remain regarding what should be expected in terms of basic capabilities for most disasters compared to the expanded capabilities and mutual aid needed from other jurisdictions to meet the demands of a catastrophic disaster.

[12]GAO, *Homeland Security: DHS' Efforts to Enhance First Responders' All-Hazards Capabilities Continue to Evolve*, GAO-05-652 (Washington, D.C.: July 11, 2005).

HSPD-8 called for strengthening preparedness capabilities of federal, state, and local entities. However, guidance on implementing the National Preparedness Goal appears to have been targeted at state and urban area jurisdictions. It does not appear that similar attention has been paid to guidance for federal agencies and their progress in supporting the National Preparedness Goal's expectations. Consequently, we recommend that DHS should take the lead in strengthening guidance for federal agencies and monitoring their efforts to meet the National Preparedness Goal's provisions for federal agencies.

Our recommendation is consistent with those of the White House. The White House has recommended that future preparedness of the federal, state, and local authorities should be based on the risk, capabilities, and needs structure of the National Preparedness Goal. More specifically, the White House recommends that the National Preparedness Goal and its target capabilities list should be used, for example, in (1) defining required capabilities and what levels of those capabilities are needed, including those within the purview of the federal government, (2) developing mutual aid agreements and compacts informed by the National Preparedness Goal's requirements, and (3) developing strategies to meet required levels of capabilities that prioritize investments on the basis of risk. We have work underway to assess if the provisions of the National Preparedness Goal will aid catastrophic disaster preparedness and NRP implementation.

A Focus on Assessing Planning and Capabilities Will Be Critical

In our work on the National Preparedness Goal, we also observed that DHS's assessment and reporting implementation plan, intended to accurately identify the status of capabilities at the state, regional, and local levels, is vital for establishing a baseline and providing an ongoing feedback loop upon which decisions at multiple levels of government about preparedness needs will rest. Assessment of catastrophic disaster planning and capability needs will be a critical piece.

In the conference report to the Department of Homeland Security Fiscal Year 2006 Appropriations Act, the conferees directed DHS to report on the status of catastrophic planning, including mass evacuation planning in all 50 states and the 75 largest urban areas.[13] In addition, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users required the Secretary of Transportation and the Secretary of

[13]H. R. Rep. No. 109-241, at 68 (2006).

Homeland Security to jointly review and assess federal and state evacuation plans for catastrophic hurricanes impacting the Gulf Coast Region.[14]

In response, DHS launched a nationwide review of state, territorial, and urban area emergency and evacuation plans. In the first phase of the review, each state and territory and urban area was to certify the status of its emergency operations plans and identify when plans were last updated and exercised. According to the DHS report on the first phase's results, 56 states and territories and 72 urban areas responded. Fewer than half of those reporting might have adequate planning for a catastrophic disaster. Of those jurisdictions reporting that their base plan was consistent with federal guidance and voluntary standards, 42 percent of the states and territories and 36 percent of urban areas were confident that their plan was adequate to manage a catastrophe.[15] In a second phase of the review, peer review teams are to validate the self-assessments, determine requirements for planning assistance, collect best practices, and recommend corrective actions. DHS plans to complete these peer reviews by the end of April 2006 and report to the President and Congress before June 1, 2006. The White House has recommended DHS establish a program to measure and assess the effectiveness of preparedness capabilities on an annual basis and recommend appropriate adjustments to the National Preparedness Goal, capabilities, and yearly priorities for homeland security grants. We are currently examining evacuation planning and assistance, including the federal role in the emergency evacuation of transportation-disadvantaged populations—including the elderly, disabled, and low income individuals—and preparedness for the evacuation of hospitals and nursing homes.

Similar to DHS's overall national preparedness planning, no single state or area should be expected to have the same capability to prepare for a catastrophic disaster. The stand-up and sustaining of capabilities should be based on a risk assessment that would call for examining what vulnerabilities from a potential catastrophic disaster require attention and how they should be addressed within available resources and with contingency planning. Periodic assessments should determine if plans

[14]Pub. L. No. 109-59, 119 Stat. 1144, 1934 (2005).

[15]Department of Homeland Security, *Nationwide Plan Review Phase 1 Report* (Washington, D.C.: February 10, 2006).

remain viable, actual capabilities match planned capabilities, and if contingency planning still is appropriate.

I would suggest that before the Congress and the Administration embark on implementing the more expensive aspects of preparing for a catastrophic disaster, policymakers should discuss in a timely fashion and reach consensus on the following issues:

- What is known about the likelihood of a catastrophic disaster occurrence in specific areas of the nation? For example, what are the odds that more category 4 and 5 hurricanes will strike specific areas of the Gulf and East Coasts? How likely is it that California or other earthquake-prone areas will experience "the big one?" What are the chances that a nuclear plant will suffer an incident that results in massive radiation exposure?

- How vulnerable are the areas that would be affected by these catastrophic disasters and what would be the consequences, in terms of human life, economic impact, and other generally accepted measures?

- What are the costs and potential benefits of actions governments can take to mitigate the occurrence and consequences of these disasters? For example, in the case of catastrophic hurricanes, what are the costs and benefits of greater and more precise early warnings, better resourced and exercised evacuation plans, more pre-positioned equipment such as generators and water, more designated shelters and medical care resources, enhanced health care operations, and better mutual aid planning and specific agreements?

- Finally, based on all of the above, what are the most prudent courses of action for various levels of government and their partners, such as private industry and nongovernmental organizations, in preparing for and responding to catastrophic disasters?

These are not easily answered questions. However, given the enormous potential costs and the increasing demands on federal discretionary funding, these are some of the questions that policymakers should explicitly discuss, reach consensus, and periodically reassess as events and considerations change. If federal funds will be used to increase first responders' capabilities for catastrophic disasters, we suggest that the Congress require the use of risk management principles to assess state and urban area investments in capabilities to respond to a catastrophic disaster.

Organizational Placement Has Been Raised as a Key FEMA Performance Factor

Because of FEMA's mission performance during Hurricane Katrina, concerns have been raised regarding the agency's organizational placement, including whether it should be disbanded and functions moved to other agencies, remain within the Department of Homeland Security, or again become an independent agency. Importantly, other factors, such as the experience of and training provided to FEMA leadership and adequacy of resources may be more important to FEMA's future success than its organizational placement.

Factors Other Than Organizational Placement May Impact FEMA's Performance

Organizational changes, such as separating FEMA from DHS, are often viewed as a quick fix to address performance issues. Based on our institutional knowledge regarding organizational performance factors, organizational changes alone may not adequately address underlying systemic conditions that result in an organization's performance problem. Conditions underlying FEMA's performance during Hurricane Katrina could involve the experience and training of DHS or FEMA leadership; the clarity of FEMA's mission and related responsibilities and authorities to achieve mission performance expectations; the adequacy of its human, financial, and technological resources; and the effectiveness of planning, exercises, and related partnerships.

These factors have been highlighted, for example, by the House Select Committee which noted (1) senior officials were ill prepared due to their lack of experience and knowledge of the required roles and responsibilities prescribed by the NRP, (2) DHS and FEMA lacked adequately trained and experienced staff for the Katrina response, observing that FEMA had lost, since 2002, a number of its top disaster specialists, senior leaders, and experienced personnel, described as "FEMA brain drain," and that even before Hurricane Katrina, FEMA suffered from a lack of sufficiently trained procurement professionals, and (3) FEMA's logistics systems were unable to support large-scale logistical challenges. In addition, White House recommendations covered areas such as DHS expertise and experience, development of a national crisis communications system, and development of DHS regions that are fully staffed, trained, and equipped to manage and coordinate all preparedness activities and any emergency that may require a substantial federal response.

Factors such as the experience and training of leadership and the adequacy of resources can lead to performance difficulties pointed out in the House Select Committee, the White House report, and in testimony before this committee. These difficulties would not, we believe, be fixed

by simply moving FEMA to an independent status. Indeed, we know that many of lessons learned from Hurricane Katrina were acted on for Hurricane Rita, with a much better response effort, indicating that organizational change is not the primary key to success**.** Such factors, we believe, should be more carefully assessed and action taken where appropriate to strengthen any weaknesses in FEMA's leadership and resources.

Certain Criteria Could Be Used if a Change in FEMA's Organizational Placement is Considered

However, if an organizational change remains under consideration, our past work could be helpful. Before the formation of DHS, I testified before the House Select Committee on Homeland Security that reorganizations of government agencies frequently encounter start-up problems and unanticipated consequences and are unlikely to fully overcome obstacles and challenges, and may require additional modifications in the future.[16] I also presented specific criteria to evaluate whether individual agencies or programs should be included or excluded from the proposed department. Those criteria included, for example, mission relevancy, similar goals and objectives, leveraging the effectiveness of other agencies and programs or the new department as a whole, and gains in efficiency and effectiveness through eliminating duplications and overlaps. I also stated that Congress should consider not only the mission and roles that agencies fulfill today, but the mission and role that they should fulfill in the coming years.

Some of these criteria are appropriate today for discussing FEMA's future, and I would suggest that they might be useful if a change in FEMA's organizational placement is under consideration. For example, Congress might consider whether or how moving FEMA out of DHS would impact DHS's mission, as stated in the Homeland Security Act of 2002, of acting as a focal point for natural and manmade crises and emergency planning. DHS's Emergency Preparedness and Response Directorate—primarily FEMA—was to help ensure the effectiveness of emergency response providers to terrorist attacks, major disasters, and other emergencies. Removing FEMA from DHS might impact the ability of the department and its remaining components and FEMA itself in fully addressing the close links between preparedness, prevention, response, and recovery for all hazards.

[16]GAO, *Homeland Security: Critical Design and Implementation Issues*, GAO-02-957T (Washington, D.C.: July 17, 2002).

The dispersion of responsibility for all hazards preparedness and response across more than one federal agency was a problem we identified during the formation of DHS.[17] FEMA was established in 1979 to consolidate federal emergency preparedness mitigation, and response in a single federal agency. Its responsibilities were to include, among other things, the coordination of civil defense and civil emergency planning and the coordination of federal disaster relief. FEMA responded to a wide range of disasters, including floods, hurricanes, earthquakes, hazardous material accidents, nuclear accidents, and biological, chemical, and nuclear attacks.[18] However, when Congress created DHS, it separated FEMA's responsibilities for preparedness and response activities into two directorates. Responsibility for preparedness for terrorism disasters was placed in the department's Border and Transportation Security Directorate, which included FEMA's Office of National Preparedness. Other types of FEMA disaster preparedness and response efforts were transferred to the department's Emergency Preparedness and Response Directorate. In January 2003, we observed that this organizational arrangement would challenge FEMA in ensuring the effective coordination of preparedness and response efforts and enhancing the provision and management of disaster assistance for efficient and effective response.[19]

A division of responsibility remains under the recent DHS reorganization resulting from Secretary Chertoff's Second Stage Review (2SR), with preparedness efforts—including planning, training, exercising, and funding—consolidated into a Preparedness Directorate. FEMA reports directly to the Secretary of Homeland Security for response and recovery missions. Secretary Chertoff has explained the reorganization would focus FEMA on its historic mission of response and recovery.

If FEMA were to become independent of DHS, then a comprehensive approach to preparedness, response, and recovery may become even more difficult to maintain. The lack of a single department or agency with responsibility for preparedness, response, and recovery also could jeopardize clear federal leadership and assistance for state and local governments. These entities would have two primary points of contact,

[17]GAO, *Major Management Challenges and Program Risks: Department of Homeland Security*, GAO-03-102 (Washington, D.C.: January 2003).

[18]GAO-93-186.

[19]GAO-03-113.

two points of guidance and regulation, two points of funding opportunities, and two points of assistance and oversight. Nongovernmental and private sector partners in all hazards preparedness would be similarly affected.

Other organizational changes are also being considered. The White House report on lessons learned from Hurricane Katrina recommended keeping FEMA within DHS, but allows for other organizational changes, such as creating new positions and offices within DHS and transferring the National Disaster Medical System from DHS to the Department of Health and Human Services.

Lastly, I believe we should bear in mind that the Department of Homeland Security is only three years old this month. In my testimony on the formation of DHS in 2002, I stated that often it has taken many years for the consolidated functions in new departments to effectively build on their combined strengths.

Long Term Rebuilding Efforts Raise Issues for Congressional Consideration

Madame Chairman, the federal government will be a major partner in the longer-term rebuilding of the Gulf Coast because of the widespread damage and economic impact. In support of state and local efforts, the federal role in rebuilding will be particularly important for transportation and health infrastructures and federal facilities. In addition, federal programs will face financial difficulties and there is uncertainty concerning the impact of catastrophic disasters on the availability and affordability of insurance. Long term rebuilding raises issues concerning the need for consensus on what rebuilding should be done, where and based on what standards, who will pay for what, and what oversight is needed to ensure federal funds are spent for their intended purposes.

The Hurricanes' Destruction Resulted in Widespread Adverse Economic Disruptions

Hurricane Katrina destroyed considerable numbers of residential structures; consumer durable goods, such as motor vehicles, household furnishings, and appliances; and business structures and equipment, particularly in the energy and petrochemical industries. Hurricane Rita appears to have had a smaller impact on residential structures and consumer durable goods, and its damage to the energy industry may be as great as or greater than Hurricane Katrina's.

Some federal agencies have developed programs to initially identify and assess the recovery needs of the region. For example, the U.S. Environmental Protection Agency (EPA) and the Centers for Disease

Control and Prevention (CDC), created the Environmental Health Needs Assessment and Habitability Taskforce. This taskforce was charged with identifying the overarching environmental health issues faced by New Orleans to re-inhabit the city. According to the taskforce, the most striking feature of the Hurricane Katrina catastrophic disaster in New Orleans is the array of key environmental health and infrastructure factors affected all at once. All key environmental health and related services are being reestablished, and this work needs to be done in a very coordinated and well-planned way. Full restoration of drinking water systems and wastewater treatment systems will be delayed by the many disruptions in the distribution and collection systems and by the need for upgrade and repairs in older systems. The task force also noted timeline for debris treatment, disposal, containment, and transport, as well as for the testing of potentially contaminated soil, will also slow or accelerate the rate at which New Orleans can be re-inhabited.

The task force found that restoration of the city's housing infrastructure is its most complex issue. Housing is likely the most critical issue in re-inhabiting the city because of factors such as the large percentage of city housing that was flooded and may not be viable, as well as the large proportion of the city population that is displaced with some residents a significant distance away from New Orleans or not intending to return, according to the task force. EPA and other federal partners are continuing to assess and address environmental and health issues that will impact the recovery and rebuilding of the Gulf Coast.

The ongoing progress of recovery and rebuilding is being studied by several organizations. For example, the Brookings Institute created an index of economic and social indicators measuring the impact of rebuilding efforts in Orleans Parish, the New Orleans metropolitan area, Louisiana, and Mississippi. Brookings' February 1, 2006 report noted that over five months since Hurricane Katrina made landfall, New Orleans lacks enough essential services to support all of its returning residents and the area continues to lose workers. More specifically, the report observed that only 32 percent of the city's hospitals are open. Only 15 percent of the city's schools have reopened and some of those are reporting difficulty accommodating demand. Nearly 750,000 households remain displaced. Mortgage delinquency rates rose between the second and third quarters of 2005. In the state of Louisiana, nearly 1 in 4 mortgages is 30 days or more past due. Currently, the New Orleans metro area lost 42,000 people in its labor force between November and December, while the state of Louisiana lost over 100,000 people. Although the state of Louisiana created over 11,000 jobs between November and December, it lost over 100,000 people

in its labor force. Mississippi lost 2,000 jobs and about 2,000 of its labor force. According to the Brookings' analysis, the slow pace of recovery strongly suggests that the city and state will be unable to restore essential services on their own, and require direct federal assistance to do so.

Rebuilding Strategies Are Underway

In Louisiana and Mississippi, several efforts are underway to develop long-term rebuilding strategies in these states. In Louisiana, the governor and the mayor of New Orleans have charged different groups with guiding various aspects of the rebuilding efforts. Under the mayor, the Bring New Orleans Back Commission is intended to help New Orleans develop a "Master Plan" to include recommendations for rebuilding the city. The commission has issued several final reports, including those on urban planning, education, health and social services, and infrastructure. At the state level, the Louisiana Recovery Authority is the planning and coordinating body created by the Governor to assist in implementing the state's vision for the recovery of Louisiana. Working in collaboration with local, state and federal agencies, the authority serves to address short-term recovery needs and guide the long-term planning process.

In Mississippi, the Governor's Commission on Recovery, Rebuilding and Renewal was formed to develop a strategy for rebuilding the affected areas of Mississippi. Developed as an advisory body, the commission is intended to solicit the input of local leaders and facilitate decision making in their regions. In early January the commission released a report with numerous recommendations intended to guide Mississippi's post-Katrina rebuilding. The report recommends, for example, that local governments immediately adopt revised flood maps and begin assessing and revising their flood zone management ordinances and building requirements. In addition, the report suggests ways communities can tap into federal, state, and private funding sources to accomplish some of the report's goals.

On November 1, 2005, the President issued Executive Order 13390, which directed the creation of a central figure in the administration's efforts to support the Gulf Coast recovery and rebuilding phases.[20] Specifically, the President directed the Secretary of Homeland Security to establish within the department the position of Coordinator of Federal Support for the

[20]U.S. President (G.W. Bush), "Establishment of a Coordinator of Federal Support for the Recovery and Rebuilding of the Gulf Coast Region," E.O. 13390, Federal Register, vol. 70, Nov. 4, 2005, p. 67327-67328.

Recovery and Rebuilding of the Gulf Coast region. The federal coordinator, Donald Powell, is responsible for developing principles and goals and leading the development and monitoring of the implementation of specific federal support. The coordinator also serves as the focal point for managing information flow, requests for actions, and discussions with the Congress, state and local governments, the private sector, and community leaders.

Madame Chairman, we need to make sure that rebuilding in the Gulf Coast should not replace that which was built in the past to 20th century standards, but be built for the future and to 21st century standards. State and local officials will have the lead on determining the future needs of the Gulf Coast. However, the federal government should be a willing partner in the rebuilding strategies so we build better than before and in anticipation of future catastrophic events.

Now, I would like to turn to more specifically discuss rebuilding transportation and health infrastructures and federal facilities.

Transportation Infrastructure Was Significantly Damaged and Poses Major Cost and Funding Concerns

Transportation infrastructure destruction will have a considerable impact on federal programs. The hurricanes destroyed significant amounts of the region's transportation infrastructure. The largest transportation capital costs will be associated with reconstruction of highways and bridges—Hurricanes Katrina, Rita, and Wilma resulted in about $2.7 billion in needed repairs to roads on the federal-aid highway system. Hurricane Katrina resulted in the bulk of this cost, with about $2.1 billion in highway damage. Louisiana, Mississippi, and Florida suffered the vast majority of the highway damage. Federal Highway Administration (FHWA) officials said that because many roads have been submerged, determination of the full extent of highway damage will depend on the results of testing.

FHWA works with the states to develop these estimates, and funding for repair and reconstruction comes through FHWA's Emergency Relief Program. Under this program, states are reimbursed the cost of repairs and reconstruction of the existing highway facilities, and improvements are generally not allowed. However, bringing a facility up to current highway design standards is allowed. Only roads on the federal-aid highway system are eligible for funding. A large backlog of funding requests to this program existed prior to the hurricanes, about $650 million pre-Katrina, resulting in a total state demand for emergency funds of about $2.85 billion. In its fiscal year 2006 Defense Appropriations Act, Congress appropriated $2.75 billion to the FHWA Emergency Relief Program. These funds are available for both the 2005 hurricanes and other

emergency projects. We plan to review the FHWA Emergency Relief Program and related surface transportation financing issues that have arisen as a result of the hurricanes.

Transit systems in the region sustained considerable damage, especially in New Orleans, where most of the transit fleet was lost. This included three bus garages, an operations and maintenance facility, much of the trolley system, and a majority of the city's bus fleet. In addition, the population of Baton Rouge roughly doubled in a matter of days, which presented an unprecedented transit problem for that city. While no transit program comparable to the FHWA Emergency Relief Program exists, FEMA provided $47 million under a mission assignment to help provide basic transit services within and between Baton Rouge and New Orleans.

Ports in the region also suffered significant damage. The Port of New Orleans estimated reconstruction and relocation needs of $435 million to cover damages sustained from Hurricane Katrina, assuming $75 million would be funded by insurance claims or FEMA reimbursements. The remaining $360 million is unfunded. The Port of Gulfport was also hard hit, and while it is still developing estimates, according to the port director, reconstruction will likely total between $300 million and $400 million. Part of these costs will be covered by insurance and revenues from resumed port operations. According to officials from other ports in the region, they also sustained damage, though not of this magnitude. For example, the Port of Mobile sustained $28 million in damages, while other Louisiana ports, such as Port Fourchon and the Port of South Louisiana, estimate damages of $7 million and $2 million respectively. We have initiated a review of how ports mitigate their vulnerability to natural disasters, what lessons have been learned, and what the potential federal role may be in mitigating port vulnerability.

A number of railroads suffered damage from Hurricane Katrina. The large railroads have nearly completed repairs to their systems, while a number of smaller short lines are in the process of repairing lines. These costs are currently borne by the railroads themselves, and the Department of Transportation does not have estimates of the damages. However, a financial statement from the CSX railroad estimated damages from Hurricane Katrina to that railroad's assets at over $40 million.

Numerous airports in the region were affected by the hurricanes. The Federal Aviation Administration (FAA) estimates that about $100 million will be needed from the Airport Improvement Program to pay for damage.

In addition, FAA estimated that its facilities sustained about $41 million in damage, for a total of $141 million.

Health Care Infrastructure Was Significantly Damaged

The health care infrastructure in the New Orleans area, including emergency, hospital and clinic facilities, was significantly damaged by Hurricane Katrina. The city is struggling to restore some capacity to meet the immediate needs of the population currently there. Moreover, numerous decisions that will need to be made on how to rebuild the health care system. The decisions are complicated by several factors, including the need to improve efficiency by moving away from New Orleans hospital-centric system and uncertainty about how many people will return to New Orleans and where they will settle.

The damage inflicted by Hurricane Katrina on the New Orleans health system was severe. In particular, the Medical Center of Louisiana at New Orleans (MCLNO), which included Charity and University Hospitals, was forced to close its doors. MCLNO operated the only Level I trauma unit along the Gulf Coast. With its closure, the closest Level I trauma units are in Shreveport, Louisiana, Houston, Texas, and Birmingham, Alabama.[21] In addition, MCLNO provided more than 25,000 inpatient admissions, over 300,000 clinic visits and 135,000 emergency visits in fiscal year 2004. It was the primary safety net hospital for many local residents, and about half of its patients were uninsured and about one-third were covered by Medicaid. Under the Stafford Act, Charity Hospital is eligible for federal funds to repair Hurricane Katrina related damage. These funds, administered under FEMA's Public Assistance Program, would be available to defray a portion of the cost to rebuild or repair Charity Hospital. FEMA and Louisiana State University, which owns Charity Hospital, have prepared estimates of the cost to repair the hospital that differ considerably in their assumptions and conclusions, and no decision has been made as to whether to rebuild or repair the facility.

Other health services in New Orleans were also severely damaged, including hospitals, emergency services, and safety net clinics.

- **Hospitals:** The number of staffed hospital beds in the City of New Orleans was about 80 percent less in February 2006 than before Hurricane Katrina, according to figures submitted daily by

[21]MCLNO announced plans to re-establish Level I trauma unit in the New Orleans area working in conjunction with another facility.

hospitals to an internet database about their bed capacity.[22] Of the nine acute care hospitals in the city prior to Katrina, only 3 had re-opened at a capacity of approximately 456 staffed beds as of February 22, 2006.

- **Emergency Care:** Increasing demand has been reported at the open emergency departments and has led to slow unloading of patients from ambulances and to patients being housed in the emergency department because beds were not available. For example, according to data reported by hospitals on February 22, 2006, wait times for emergency medical services (EMS) vehicles to offload stable patients into emergency departments varied from no wait to as long as 2 hours at two facilities, and 38 patients had been admitted and were housed in the emergency department.

- **Safety Net Clinics:** More than three-fourths of the safety net clinics in the New Orleans area were closed, and many of those that were open had limited capacity, according to data gathered by officials at the Louisiana Department of Health and Hospitals (DHH). For example, prior to Katrina, 90 clinics were in operation, including 70 various clinics run by MCLNO, with the remainder federally qualified health centers, mental health or addictive disorder clinics, or other specialty clinics. Post-hurricane, 19 clinics were operating according to DHH figures, generally operating at less than 50 percent of pre-Katrina capacity.

In addition to the severe damage sustained by health facilities, maintaining and attracting the workforce is also a serious issue for local officials. An estimated 3,200 physicians lived in the metropolitan area before Hurricane Katrina, with 2,664 of those physicians residing in New Orleans itself, according to DHH figures. We were unable to obtain an estimate of how many physicians are currently in New Orleans. Hospital officials said they faced a shortage of support staff, such as food service or janitorial workers, who were unable to return due to a lack of housing or were being offered higher wages at hotels and restaurants.

As the city struggles to restore the health system in New Orleans, long-term decisions on how to rebuild it are affected by questions about whether the health system should be rebuilt to its pre-Katrina

[22]The internet database is called "GNOEMS" and was developed by the Greater New Orleans Healthcare Taskforce with the assistance of the U.S. Public Health Service.

configuration and uncertainties about the returning population. Some health policy researchers have noted that the pre-Katrina health system in New Orleans needed improvement. Some local officials have also suggested that the health care situation prior to the hurricane was less than ideal and the city has a chance to rebuild a better system. Also, uncertainty about how quickly the population would return to New Orleans, as well as who would return and where people will settle, poses difficult challenges for local officials to plan the restoration of health services, such as how much capacity will be required and where to locate services.

Over the long term, building a new health care system will be vital to attract people back to New Orleans and ensure its recovery. State, local and federal governments all have important roles to play in the recovery process. At the state and local levels, commissions to plan for the future health care system have been established, and one has completed its work. The Bring New Orleans Back Commission issued recommendations shifting the focus, to the degree possible, toward ambulatory care, wellness and preventive medicine, health promotion and chronic disease prevention and away from institutional care; maintaining a university teaching hospital in New Orleans; and building capacity for electronic medical records. The commission also noted the difficulty of doing effective planning without reliable information on the population and what segments of the population will return. The Louisiana Recovery Authority included one task force dedicated to health care issues. The NRP also gives the Department of Health and Human Services a support role under long-term community recovery and mitigation to enable community recovery from the long-term consequences of a large-scale incident. We will be following HHS' efforts to fulfill this role in the coming months.

Federal Facilities Were Damaged or Destroyed

Several federal agencies had their facilities damaged or destroyed by the hurricanes and may face significant costs to repair or replace them, although these costs are relatively small in relation to those I just discussed. The Department of Veterans Affairs (VA) estimated damage to its medical centers in New Orleans and Biloxi at $170 million and $50.7 million respectively. VA's Gulfport hospital complex suffered catastrophic damage and will not be rebuilt since VA had already planned to close it. The National Aeronautics and Space Administration estimated the cost of facility repair at the Stennis Space Center in Mississippi and Michoud Assembly Facility in New Orleans at $84 million and $69 million respectively. The General Services Administration estimated the cost of repairing its owned and leased facilities and leasing alternative space at $60 million. The U.S. Postal Service estimated the cost of facility repair

from Hurricane Katrina at $57 million. The Department of Interior estimated damage to facilities, which includes damages to buildings, phone systems, electrical systems, and information technology systems among other things, at about $41 million. In addition, there was damage to military bases and to shipyard repair facilities.

Federal Flood Insurance Program Faces Record Claims and Financial Difficulties

The federal flood insurance program faces major financial difficulties challenges as the Gulf Coast recovers. The program is essentially bankrupt. FEMA officials estimate that Hurricanes Katrina and Rita will result in flood insurance claims of about $23 billion, far surpassing the total amount of claims paid in the entire history of the National Flood Insurance Program (NFIP) through 2004.

These storms have presented, among other challenges for the NFIP, the need to adjust a record number of claims, many for properties that were inaccessible for weeks after the flooding occurred, and the need to borrow funds from the U.S. Treasury to pay the settlements due to policyholders. Almost 87,000 loss claims totaling over $8 billion were paid for Hurricane Katrina claims in Alabama, Florida, Mississippi, and Louisiana through November 30, 2005. By comparison, in 2004, the previous record year, the NFIP paid about $1.95 billion in claims on flood events, including Hurricanes Charley, Frances, Ivan, and Jeanne that caused major damage in Florida and other East Coast and Gulf Coast states. Though numbers are not finalized, a FEMA official said that by the end of December, 2005, more than 70 percent of claims for Hurricanes Katrina, Rita, and Wilma had been paid totaling more than $11 billion.

The amount paid per claim for flood damage in Hurricane Katrina ranged from a high of $130,281 in Mississippi to a low of $17,727 per claim in Florida. In Louisiana, where more than three fourths of the claims were filed, the average amount paid per claim was $92,549. A FEMA official noted that claims for total losses were paid quickly, so the average amount paid per claim may be less when all claims are settled. The average amount paid per claim for damage from Hurricane Rita was $52,185 in Louisiana and $24,489 in Texas.

The magnitude and severity of the flood losses from Hurricanes Katrina and Rita overwhelmed the ability of the NFIP to absorb the costs of paying claims, providing an illustration of the extent to which the federal government is exposed to claims coverage in catastrophic loss years. As of March 1, 2006, FEMA's authority to borrow from the U.S. Treasury was increased from $1.5 billion prior to the 2004 hurricane season to

$18.5 billion through fiscal year 2008. While no determinations have been made about whether the NFIP will repay any of the debt, it is unlikely that the program could generate sufficient revenues to cover the enormous losses.

Until the 2004 hurricane season, FEMA had exercised its borrowing authority three times in the last decade when losses exceeded available fund balances. In each instance, FEMA repaid the funds with interest. According to FEMA officials, as of August 31, 2005, FEMA had outstanding borrowing of $225 million with cash on hand totaling $289 million. FEMA had substantially repaid the borrowing it had undertaken to pay losses incurred for the 2004 hurricane season that, until Hurricane Katrina struck, was the worst hurricane season on record for the NFIP. FEMA's current debt with the U.S. Treasury is almost entirely for payment from flood events that occurred in 2005. We currently have work underway examining the challenges facing the NFIP and options for improving the program.

Flood maps are the foundation of the NFIP. They identify the areas at risk of flooding, and accurate, updated flood maps are a critical component for devastated communities in Mississippi and Louisiana, in particular, for making decisions about where and how to rebuild. Thus, new maps for these areas need to be expedited and completed as soon as possible.

As of January 2006, FEMA had not yet fully implemented provisions of the Flood Insurance Reform Act of 2004, including establishing a regulatory appeals process for claimants and establishing minimum education and training requirements for insurance agents who sell NFIP policies. These reforms should also be completed expeditiously, and we have recommended that FEMA develop documented plans with milestones for implementing the reforms required by the 2004 legislation.

The Small Business Administration's Disaster Loan Program Also Faces Financial Concerns

We have initiated work to identify and assess the factors that have affected the Small Business Administration's (SBA) ability to respond to disaster victims through its disaster loan program in a timely manner. As the primary federal lender to disaster victims, including individual homeowners, renters, and businesses, SBA's ability to process and disburse loans in a timely manner is critical to the recovery of the Gulf Coast region. As of February 25, 2006, SBA had mailed out more than 1.6 million loan applications, received over 337,800 completed applications, processed more than 230,900 applications, and disbursed about $426.8 million in disaster loan funds. Although SBA's current goal is to process

loan applications within seven to 21 days, as of February 25, 2006, SBA faced a backlog of about 103,300 applications in loan processing pending a final decision, and the average age of these applications is about 94 days. At the average rate SBA processed loans during the past month, it will take the agency 51 days to process its current backlog. However, this figure will be further affected by the number of new loan applications that are being received daily. SBA also faces a backlog of more than 37,100 loan applications that have been approved but have not been closed or fully disbursed. As a result, disaster victims in the Gulf Region have not been receiving timely assistance in recovering from this disaster and rebuilding their lives.

Based on our preliminary analysis of SBA's disaster loan origination process, we have identified several factors that have affected SBA's ability to provide a timely response to Gulf Coast disaster victims. First, the volume of loan applications SBA mailed out and received has far exceeded any previous disaster. Compared with the Florida hurricanes of 2004 or the 1994 Northridge earthquake, the hurricanes that hit the Gulf Coast in 2005 resulted in roughly 2 to 3 times as many loan applications issued.[23] Second, although SBA's new disaster loan processing system provides opportunities to streamline the loan origination process, it has experienced numerous outages and slow response times in accessing information. However, we have not yet determined the duration and impact of these outages on processing. SBA officials have attributed many of these problems to a combination of hardware and telecommunications capacity limitations as well as the level of service SBA has received from its contractors. Third, SBA's planning efforts to address a disaster of this magnitude appear to have been inadequate. Although SBA's disaster planning efforts focused primarily on responding to a disaster the size of the Northridge earthquake, SBA officials said that it initially lacked the critical resources such as office space, staff, phones, computers, and other resources to process loans for this disaster. SBA has participated in disaster simulations only on a limited basis and it is unclear whether previous disaster simulations of category 4 hurricanes hitting the New Orleans area were considered.

[23]In comparison, SBA issued loan applications for the Northridge earthquake and the Florida hurricanes of 2004, totaling about 570,000 and 870,000, respectively. For those two disasters, SBA received loan applications totaling about 250,000 for Northridge and about 180,000 for the Florida hurricanes.

We are also assessing other factors that have affected SBA's ability to provide timely loans to the disaster victims in the Gulf region including workforce transformation, exercising its regulatory authority to streamline program requirements and delivery to meet the needs of disaster victims, coordination with state and local government agencies, SBA's efforts to publicize the benefits offered by the disaster loan program, and the limits that exist on the use of disaster loan funds.

Uncertainty About Catastrophic Disasters Affects the Availability and Affordability of Insurance

The magnitude and severity of Hurricane Katrina and other recent catastrophes also impacted the insurance industry's willingness and ability to provide insurance protection for catastrophic disasters. A crucial aspect of being able to successfully provide such coverage is the ability to obtain what the industry refers to as credible "vulnerability assessments" or risk assessments. To be useful, a risk assessment must be able to estimate both the likely "frequency" and "severity" of catastrophic events— two key characteristics that insurance companies need to assess the probability and financial significance of a loss. In addition, based on credible information, insurers must be able to estimate both their "probable maximum loss (PML)," an estimate of the maximum dollar value that can be lost under realistic conditions, and their "maximum foreseeable loss (MFL)," an estimate of the maximum dollar loss under a worst-case scenario. Risk assessments can be used to provide a basis for making loss projections for catastrophes such as hurricanes or earthquakes, although the projections may not be accurate. Insurance companies use these estimates to determine the amount of coverage and the price at which to offer coverage within a geographic area. Potential losses are acceptable if the probability that they may occur is understood and companies can set prices that fully reflect the consequences of a specific risk. When projections fail to anticipate an event, such as an earthquake, or underestimate the severity of an event, such as Hurricane Katrina, insurance companies may become insolvent, as happened in the aftermath of Hurricane Andrew, or may choose to reduce the amount of coverage offered in a given area, as happened for wind losses in Florida and for earthquakes in California.

While the practice of risk assessment has become more sophisticated in recent years, the ability of such assessments to estimate losses remains inexact, particularly for many potential catastrophes. These assessments are typically undertaken by risk modeling companies that assist clients, such as insurance companies, with predicting and managing the financial impact of catastrophes and weather. In addition, as demonstrated by Hurricane Katrina, estimating the amount of losses that insurers could pay

for an event is also contingent on unforeseen circumstances, such as the unusual magnitude and consequences of the Hurricane Katrina storm surge. In addition, as a result of Hurricane Katrina, hundreds of thousands of buildings may have suffered damage from both the hurricane's winds and the storm surge. Because determining which factor caused the damage to a given structure is difficult and sometimes contentious, estimates of the amount that private insurers ultimately will pay to cover the costs of Hurricane Katrina are still very preliminary.

Because catastrophic disasters are likely to occur in the future, and because forecasting their probability and severity is an inexact science, state insurance regulators have recommended that the federal government provide a final layer of insurance protection in the event of a "mega-catastrophe." The National Association of Insurance Commissioners (NAIC) is considering a broad national plan that would create a mechanism to handle disasters, especially those larger than Hurricane Katrina. The plan proposes a public-private partnership that would reward hazard mitigation and spread catastrophic risk broadly among individual insureds, insurers, reinsurers, state reinsurance funds, and the federal government, according to NAIC. The federal government could provide a top layer of protection by acting as a reinsurer of last resort or, alternatively, by providing financial capacity to a multi-state risk pooling mechanism that could borrow from the federal government should catastrophic losses exceed the pool's accumulated funds. This plan is similar in scope to the Terrorism Risk Insurance Act (TRIA), which Congress enacted to create a program of shared public and private compensation for insured losses attributable to acts of terrorism. Under the NAIC plan, however, taxpayers would presumably not have to pay for losses. Furthermore, the NAIC plan asserts that if state and federal governments insured the top layers of catastrophe risk, private insurers would continue to insure the initial layer of risk that they might otherwise not insure.

However, some in the insurance industry oppose additional government involvement and others have set forth alternative proposals. Some insurance company representatives believe that the private market for catastrophic coverage for natural events continues to exist and that insurance costs should be based upon free market principles. Still others have proposed that insurance companies be permitted to set aside additional catastrophic disaster reserves on a pre-tax basis. Supporters of tax-deductible reserves argue that the tax-free status would give insurers a financial incentive to increase their reserves and expand insurers' capacity to cover catastrophic risks and avoid insolvency.

We anticipate undertaking work that would examine the merits of involving federal and state governments in alternative methods of insuring against catastrophic disasters—for example, by acting in a reinsurance capacity. We will continue to monitor legislation and proposals aimed at the long-term restoration of the Gulf Coast, such as the recently passed Gulf Opportunity Zone Act of 2005, which contains a variety of tax-related incentives designed to encourage rehabilitation in the region.

The Federal Role and Involvement Will Raise Ongoing Issues

As we move forward, long-term rebuilding in the Gulf Coast raises issues concerning the need for consensus on what rebuilding should be done, where and based on what standards, who will pay for what, and what oversight is needed to ensure federal funds are spent for their intended purposes. Over 20 years ago, we issued a report describing the U.S. government's involvement and experience in four large-scale assistance programs (Conrail, Lockheed, New York City, and Chrysler) and suggested guidelines for future programs in helping other failing firms or municipalities.[24] That report described four conditions that we suggested the Congress could use as a framework of ideas about how to structure future financial assistance programs and what program requirements to include to achieve Congressional goals and objectives while minimizing the risk of financial loss to the government. Congress might consider such guidelines as it considers federal assistance to the Gulf Coast for restoration:

- The scope of the problem should be identified, such as if the problem reflects broader industry-wide or regional economic conditions. For the Gulf Coast, this would involve financial and economic analyses, perhaps utilizing current studies of prior conditions and the ongoing progress of recovery and rebuilding.

- The effect of the problem on the national interest should be clearly established, for example, whether the problem presents potentially large economy-wide or regional consequences. For example, in the Gulf Coast, Congress might consider the costs of municipal and corporate collapse and the challenges associated with providing assistance.

- The legislative goals and objectives associated with the response should be clear, concise, and consistent. For example, in the Gulf Coast, goals and

[24]See GAO, *Guidelines for Rescuing Large Failing Firms and Municipalities*, GAO-84-34 (Washington, D.C.: Mar. 29, 1984).

objectives for rebuilding should be clearly stated, working with the state and local groups already tasked with recovery planning and with the Administration's Coordinator of Federal Support for the Recovery and Rebuilding of the Gulf Coast region.

- Lastly, the government's financial interest should be protected. In the Gulf Coast, controls might be put in place so there is review of the most important financial and operating plans.

Concluding Observations

Madame Chairman and members of the committee, the past several weeks have provided significant insights into the Hurricane Katrina catastrophic disaster with the release of the House Select Committee report, the White House report on the federal response, and the testimony provided to this committee. Secretary Chertoff has announced immediate actions in preparation for the upcoming hurricane season and plans to work with the White House and the Homeland Security Council to assess and address the White House recommendations. Findings, lessons learned, and observations all paint a complex mosaic of challenges the federal, state, and local governments face in preparing for, responding to, and recovering from catastrophic disasters. This committee's report as well as GAO's work will add to the understanding of what happened and what needs to be done.

Moving forward, the challenge will be to determine if the recommendations and initial and longer-term actions will truly close the gap in needed preparedness or add to the problem through additional bureaucracy, complex processes, and inflexible policies. Also, the key question remains if the revised policies and procedures, even if sound, will be effectively implemented. Will they join those past recommendations that were not implemented, resulted in actions that were not sustained, or proved to be inadequate? We look forward to working with this committee and others to focus our work on these key issues.

This concludes my statement. I would be pleased to respond to any questions that you or other members of the committee may have at this time.

GAO Contacts

Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. For further information about this testimony, please contact Norman Rabkin at (202)-512-8777 or at rabkinn@gao.gov.

Appendix I: Recent GAO Products Concerning Hurricanes Katrina and Rita

Emergency Preparedness and Response: Some Issues and Challenges Associated with Major Emergency Incidents. GAO-06-467T. Washington: D.C.: February 23, 2006.

Disaster Preparedness: Preliminary Observations on the Evacuation of Hospitals and Nursing Homes Due to Hurricanes. GAO-06-443R. Washington: D.C.: February 16, 2006.

Investigation: Military Meals, Ready-To-Eat Sold on eBay. GAO-06-410R. Washington: D.C.: February 13, 2006.

Expedited Assistance for Victims of Hurricanes Katrina and Rita: FEMA's Control Weaknesses Exposed the Government to Significant Fraud and Abuse. GAO-06-403T. Washington: D.C.: February 13, 2006.

Statement by Comptroller General David M. Walker on GAO's Preliminary Observations Regarding Preparedness and Response to Hurricanes Katrina and Rita. GAO-06-365R. Washington, D.C.: February 1, 2006.

Federal Emergency Management Agency: Challenges for the National Flood Insurance Program. GAO-06-335T. Washington, D.C.: January 25, 2006.

Hurricane Protection: Statutory and Regulatory Framework for Levee Maintenance and Emergency Response for the Lake Pontchartrain Project. GAO-06-322T. Washington, D.C.: December 15, 2005.

Hurricanes Katrina and Rita: Provision of Charitable Assistance. GAO-06-297T. Washington, D.C.: December 13, 2005.

Army Corps of Engineers: History of the Lake Pontchartrain and Vicinity Hurricane Protection Project. GAO-06-244T. Washington, D.C.: November 9, 2005.

Hurricanes Katrina and Rita: Preliminary Observations on Contracting for Response and Recovery Efforts. GAO-06-246T. Washington, D.C.: November 8, 2005.

Hurricanes Katrina and Rita: Contracting for Response and Recovery Efforts. GAO-06-235T. Washington, D.C.: November 2, 2005.

Federal Emergency Management Agency: Oversight and Management of the National Flood Insurance Program. GAO-06-183T. Washington, D.C.: October 20, 2005.

Federal Emergency Management Agency: Challenges Facing the National Flood Insurance Program. GAO-06-174T. Washington, D.C.: October 18, 2005.

Federal Emergency Management Agency: Improvements Needed to Enhance Oversight and Management of the National Flood Insurance Program. GAO-06-119. Washington, D.C.: October 18, 2005.

Army Corps of Engineers: Lake Pontchartrain and Vicinity Hurricane Projection Project. GAO-05-1050T. Washington, D.C.: September 28, 2005.

Hurricane Katrina: Providing Oversight of the Nation's Preparedness, Response, and Recovery Activities. GAO-05-1053T. Washington, D.C.: September 28, 2005.

GAO's Mission

The Government Accountability Office, the audit, evaluation and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through GAO's Web site (www.gao.gov). Each weekday, GAO posts newly released reports, testimony, and correspondence on its Web site. To have GAO e-mail you a list of newly posted products every afternoon, go to www.gao.gov and select "Subscribe to Updates."

Order by Mail or Phone

The first copy of each printed report is free. Additional copies are $2 each. A check or money order should be made out to the Superintendent of Documents. GAO also accepts VISA and Mastercard. Orders for 100 or more copies mailed to a single address are discounted 25 percent. Orders should be sent to:

U.S. Government Accountability Office
441 G Street NW, Room LM
Washington, D.C. 20548

To order by Phone: Voice: (202) 512-6000
TDD: (202) 512-2537
Fax: (202) 512-6061

To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

Web site: www.gao.gov/fraudnet/fraudnet.htm
E-mail: fraudnet@gao.gov
Automated answering system: (800) 424-5454 or (202) 512-7470

Congressional Relations

Gloria Jarmon, Managing Director, JarmonG@gao.gov (202) 512-4400
U.S. Government Accountability Office, 441 G Street NW, Room 7125
Washington, D.C. 20548

Public Affairs

Paul Anderson, Managing Director, AndersonP1@gao.gov (202) 512-4800
U.S. Government Accountability Office, 441 G Street NW, Room 7149
Washington, D.C. 20548