



Department of Energy
Washington, DC 20585

November 14, 2005

The Honorable Rick Skinner
Inspector General
Department of Homeland Security
245 Murray Drive, Bldg. 410
Washington, D.C. 20528

Rick
Dear Rick:

Regarding Federal agency performance in hurricane relief efforts, I wanted to send you a copy of our latest report evaluating relevant actions by the Department of Energy. The Department of Energy's responsibilities are outlined in Annex 12 to the Department of Homeland Security's National Response Plan.

In short, as noted in the report, we were impressed with the Department's actions, timing, and overall responsiveness. We did, however, identify certain additional steps the Department could take to improve its response to future Emergency Support Function-12 missions.

This review will be reflected in our submission to you for the next Office of Inspector General Bi-weekly Report on Hurricane Oversight for the period ending November 18, 2005.

Sincerely,

A handwritten signature in black ink, appearing to read "Greg", written over a faint circular stamp.

Gregory H. Friedman
Inspector General

Enclosure





U.S. Department of Energy
Office of Inspector General
Office of Audit Services

Special Report

The Department of Energy's
Response to Hurricanes Katrina and
Rita



Department of Energy

Washington, DC 20585

November 9, 2005

MEMORANDUM FOR THE SECRETARY

FROM: Gregory H. Friedman
Inspector General

SUBJECT: **INFORMATION:** Special Report on "The Department of Energy's Response to Hurricanes Katrina and Rita"

The Office of Inspector General conducted a review to identify the actions taken by the Department of Energy (Department) in response to Hurricanes Katrina and Rita, specifically to assess whether these actions fulfilled the Department's obligations as outlined in the Department of Homeland Security's National Response Plan. The Katrina Hurricane disaster was the first Departmental mobilization to the National Response Plan under its current organization. In our judgment, under very difficult circumstances, the Department deserves high marks for its timely and responsive actions. While the actions were commendable, we identified certain additional approaches which we believe could improve the Department's response to future Emergency Support Function-12 (ESF-12) missions. These are discussed in the body of the report.

BACKGROUND

in accordance with Homeland Security Presidential Directive 5, in December 2004, the Department of Homeland Security issued the National Response Plan. The purpose of the Plan was to unify the Federal approach to domestic incident management, including natural disasters such as hurricanes. Under the Plan, the Department of Energy is the lead Federal agency for ESF-12, which addresses the restoration of energy systems after a natural disaster. The Department's Office of Electricity Delivery and Energy Reliability is responsible for the ESF-12 function and works with utilities, refiners and other energy providers, as well as state governments and Federal agencies, to prepare for and respond to energy emergencies. Although restoring normal operations at an energy facility is the direct responsibility of the facility owner, under ESF-12 the Department's national obligations include:

- Serving as the focal point for issues and policy decisions relating to energy;
- Identifying resources needed to restore energy systems; and,
- Monitoring energy system damage and repair work.



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In **August** and September 2005, two major **hurricanes** hit **the Gulf coast region** of the United States: Hurricanes **Katrina** and **Rita**. **The storms** devastated the region **and** left about four million customers without electric power. **The damage** to oil production and refining **infrastructure and** the lack of electricity caused the shut down of large segments of the domestic petroleum industry. **As** of October 11, 2005, seven refineries had not resumed full operations due to **hurricane-related** damage, resulting in **lost refinery** production **of** about 1.9 million barrels per **day**, **This** represents about 11 percent of the Nation's total refinery capacity, **The storms also** caused extensive **damage** to the **Gulf** coast **region's** natural gas infrastructure. Despite **the** enormity of the damage, hurricane recovery is underway and considerable progress has been made, **More is** expected **by** the end of 2005.

CONCLUSIONS AND OBSERVATIONS

We found that the Department was effective in **fulfilling** its **responsibilities under the** National Response Plan. It took **what** we deemed to be a **set** of appropriate **actions** designed to assist in the restoration of **energy systems** after Hurricanes Katrina and Rita. The Department:

Initiated policy and regulatory actions needed **to assist** energy recovery efforts **and** mitigate the **impacts** of the **hurricanes**;

- Coordinated with **the** energy industry and **with** other governmental **agencies**, both Federal **and state**, to identify supporting resources and facilitate the restoration of energy **systems**; and,
- Continuously monitored the status of energy system **damage and** repair work, and disseminated this **information in a timely manner** to interested entities in the governmental and private **sectors**.

The Department's senior management provided highly **visible** direction to the **energy** recovery effort. On **August 31, 2005**, you **announced** approval of the first loan of oil from the Strategic Petroleum **Reserve** to refineries whose supplies of crude oil had been disrupted **during** the disasters. Further, on September 28, 2005, the Department used **its** regulatory authority to hasten power restoration in East **Texas** when you signed an order that authorized **and** directed a connection **of electrical** transmission lines **across** **regulatory** boundaries. The Department **also** provided **equipment and personnel** in support of various **emergency** response centers to **assist in** the restoration of **energy systems** in the affected **areas**. **A** more detailed **chronology** of some of the **Department's** most significant actions is provided **in Appendix 2** of the report.

While the Department's response mechanism **was** effective, **as** discussed previously, we did **identify certain** actions which **could enhance** future **ESF-12 missions**. These include **improving** communication channels between and among **private and governmental** bodies and **the** Department; **strengthening** the Department's ability to identify **emergency** response assets in **advance** of events **such as** natural disasters; and, **augmenting** the staffing and provisioning of **ESF-12 emergency** response **teams which** are the Department's most direct representatives in crisis situations,

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In reaching our conclusions regarding the effectiveness of Department activities, we **obtained information** from and interviewed a number of individuals **external to the Office** of Electricity **Delivery** and Energy Reliability. This included private sector entities **such** as Exxon Mobile Corporation, **Entergy** Corporation, and Colonial Pipeline Company. We **also** discussed the **Department's** response with governmental officials from the Department of Homeland **Security** and the Federal **Energy** Regulatory Commission.

The Inspector **General review** began on October 5, 2005. **Our** observations regarding the Department's response to these natural disasters closely parallel your **testimony** before the Senate **Energy** and Natural Resources Committee on October 27, 2005.

This review **was** conducted as a part of the President's Council on Integrity **and** Efficiency's (PCIE) examination of relief efforts provided by the **Federal** government in the aftermath of **Hurricanes** Katrina and Rita. As such, a copy of the report has been forwarded to the **PCIE** Homeland Security **Working Group** which is coordinating **reviews** of this subject on a government-wide basis.

MANAGEMENT REACTION

The Director, Office of Electricity Delivery and **Energy** Reliability, concurred with the **recommendations** in the report. Management's comments are included in Appendix 3.

Attachment

cc: **Deputy Secretary**
Under Secretary for Energy, Science and Environment
Administrator, National Nuclear **Security** Administration
Chief of Staff
Director, **Office** of Electricity **Delivery** and **Energy** Reliability

SPECIAL REPORT ON THE DEPARTMENT OF ENERGY'S RESPONSE TO HURRICANES KATRINA AND RITA

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Department's Performance of the ESF-12 Mission

Department's Performance

Based on the results of our review, which included discussions with affected private corporations and government officials, the Department of Energy (Department) met its responsibilities under the National Response Plan by taking aggressive actions to restore energy systems in response to Hurricanes Katrina and Rita. This included serving as the focal point for numerous issues and policy decisions to assist recovery efforts relating to the devastating impact of the hurricanes, specifically concerning the energy sector. In addition, the Department coordinated with energy industries and governmental agencies to identify supporting resources and to expedite the repair and restoration of energy producing facilities. The Department also monitored energy system damage and repair work, disseminating status information to utilities, refiners, natural gas pipeline operators, as well as state and local governments and Federal agencies.

Focal Point for Policy Decisions

The Department's Emergency Support Function-12 (ESF-12) placed 35 responders at nine emergency operation centers to coordinate energy recovery responses with energy firms, state governments, and Federal agencies. We analyzed the activity logs for deployed ESF-12 personnel. The analysis showed that the Department was aggressive in collecting energy restoration information and that assistance requests were coordinated with appropriate parties throughout the affected geographic area. ESF-12 personnel also communicated with state energy representatives, providing the opportunity to share information on recovery issues and other actions taken in response to the hurricanes.

By serving as a focal point for critical energy-related data, the Department was able to identify situations requiring intervention by the Secretary of Energy (Secretary). Specifically, this allowed the Secretary to exercise his authority in making policy and regulatory decisions affecting energy supply and restoration. For example, on August 31, 2005, the Secretary announced his approval of the first loan of oil from the Strategic Petroleum Reserve to refineries whose supplies had been cut off by disruptions in production. On September 28, 2005, the Department used its regulatory authority to hasten power restoration in East Texas when the Secretary signed an order that authorized and directed a connection of electrical transmission lines across regulatory boundaries. Additionally, the Department worked with other Federal agencies and affected states to obtain regulatory

waivers for gasoline and diesel **fuel formulations, safety regulations** limiting driver service hours, and vehicle weight restrictions to mitigate the impact of fuel, supply disruptions and **ease** recovery efforts.

Identification of Supporting Resources

The **Department also** identified needed **supporting** resources to facilitate the restoration of energy **systems..** For example, **the** Department provided **assistance** to the **Colonial Pipeline** Company (Colonial), which transports 100 million gallons of fuel daily throughout **much** of the **southern** United **States, to** obtain replacement generators to restart its pipeline. **The** Department worked with the Mississippi State **Highway** Patrol, to allow delivery of the generators and provide security for Colonial's repair crews. In addition, Department personnel **facilitated** the' reopening of a refinery in Port **Arthur, Texas, by drafting** access authorization letters, which allowed **the** delivery of **equipment and personnel** to the **refinery** after **workers** were prohibited from returning to the **refinery** by law enforcement officials. **The Department also took** numerous **actions** in cooperation with Federal **agencies and industry** to provide food, water, diesel **fuel,** and sleeper **cars** to emergency response and repair crews in Louisiana.

Monitoring Damage and Repair Work

Finally, the Department monitored **energy system** damage and repair **work** and disseminated **updated status information** in a timely manner to industry, state and Federal government agencies, and to interested **citizens, The Department** began posting situation reports on its **website before Hurricane Katrina** struck Louisiana and has continued to provide updates **throughout** the restoration process. As of October 20,2005, **the** Department had placed on its **website** 63 Gulf coast situation reports and **10 power** outage **maps.** **The** reports were an important tool in **communicating** the extent of damage to the Gulf coast's **energy** infrastructure and **the** progress **of** repair work. According to **energy industry** and agency officials at the **Federal** Energy Regulatory Commission and the **Federal** Emergency Management Agency, the **timeliness** and accuracy of the situation **reports** helped in **assessing** impacts to the energy supply while **ensuring** that reliable **information was** provided to the public. **In** addition, Departmental ESF-12 personnel provided **information** about **power outages and estimated power restoration during Hurricane Rita.** **This information** allowed **officials to effectively** allocate resources needed **for** emergency response.

Opportunities for Improvement

While the Department took, **what** we concluded to be, **effective** action to assist in restoring energy **systems** in response to Hurricanes Katrina and Rita, we identified opportunities to improve the Department's response in **future ESF-12** missions. These opportunities include: streamlining **communications**, leveraging Department assets, adequately provisioning the ESF-12 emergency response teams, and determining appropriate emergency support staffing levels.

Communications Management

During the hurricanes, the Department **received** duplicative requests for information **when external** entities requested the same information **from** different **ESF-12** personnel. Problems arose **when several** ESF-12 personnel were independently **working** to collect and provide the **same** information **in** response to the multiple requests. Because of the Department's mission to serve as a focal point for energy-related **issues**, the effective **management** of communications **from external and internal sources** is crucial to **success**. Accordingly, the Department needs to **clarify** the appropriate point of contact to **whom external sources** should direct **future information requests**. This information **should** be **disseminated** proactively to **Department** personnel and to appropriate external **sources**.

Department Assets

Although Departmental assets were used in response to energy restoration **requests**, the **Department did not have a** mechanism readily available to identify emergency **equipment** or personnel that could be used to assist in restoration efforts. **In** responding to the energy disruptions, the Y-12 National Security Complex provided surplus power generators for Hurricane **Katrina relief** in Louisiana, and the Southwestern **Power** Administration helped restore power to over 20,000 customers in **Southeast Texas**. **However, officials** acknowledged **that** while there is a cadre of knowledgeable Department personnel, there were **difficulties** in real-time identification of individuals who had the detailed knowledge to **assist** in particular situations caused by the hurricanes. These included those **with** expertise in **energy** markets, and distribution and delivery **systems** problems. Maintaining an inventory of Department assets which are available on a contingency or stand-by basis, both equipment and **personnel**, should improve future **ESF-12** efforts.

Responder Equipment

The Department established so-called "Go Kits" of equipment to support responders during their deployment. Department managers and responders identified several equipment additions that would enhance the "Go Kits" to **assist** the responders during deployment. For **example**, we **interviewed** several responders **who** indicated their **hurricane relief efforts** would have been **more** effective **if** they had been equipped with mobile global positioning systems and properly-configured computer equipment. We concluded that the Department should develop a standardized suite of responder equipment that included **all** items needed for **maximum self-sufficiency**. This would assist responders in meeting **their mission** assignments **during** their deployment.

Emergency Support Staffing

The impacts of Hurricanes **Katrina** and Rita strained the Department's **ESF-12 staffing** levels **and** its ability to respond to multiple disasters simultaneously. **In** 2005, the responsibility for the **ESF-12** function was transferred to **the Office of Electricity Delivery and Energy Reliability**. While the organization had **8** personnel dedicated as **initial emergency responders**, the **severity and** magnitude of the **hurricanes required** the deployment of 35 personnel to 9 different emergency centers. **The** Department augmented its **staffing during** the crisis with trained contractor personnel, **and** Federal **employee** volunteers from **within** the Department. **In** light of the multiple **challenges** faced in the recent **efforts**, staffing requirements necessary to **fulfill** ESF-12 requirements should be reexamined to ensure that the **Department** is in a **position** to fully meet its **obligations under the National Response Plan**.

RECOMMENDATIONS

We recommend that the Director, **Office of Electricity Delivery and Energy Reliability**:

1. Clarify **with external** sources the appropriate **ESF-12** point of contact to **whom** they **should** direct **information** requests, and **proactively** disseminate **such information** to **Department of Energy personnel** and appropriate external sources;
2. **Develop an** inventory of **available Department resources** for emergency **energy** restoration;

3. Ensure that deployed teams **are adequately** provisioned with a standardized suite of equipment; and,
4. Determine whether additional personnel are necessary to meet the **Department's National** Response Plan obligations.

MANAGEMENT REACTION

The Director, Office of **Electricity Delivery** and Energy Reliability, concurred with the recommendations in the report. **Management** was in **full** agreement with the four recommendations **contained** in the report and provided **appropriate** action **plans** to address the recommendations. Management's **comments** are included in Appendix 3,

Appendix 1

- OBJECTIVE** The objective of this **review** was to identify **the** actions taken by the Department in response to Hurricanes **Katrina** and **Rita** and to assess whether **these** actions fulfilled the Department's obligations as stated in the Department of **Homeland** Security's National Response Plan.
- SCOPE** The **review** was performed in October 2005, at the **Office** of Electricity **Delivery** and Energy Reliability in Washington, **D.C.** In particular, **we performed a** review of specific **ESF-12** actions taken by the Department in response to **the** hurricanes.
- METHODOLOGY** To assess the Department's response to Hurricanes **Katrina** and **Rita**, we:
- Discussed **actions** taken by the Department with other **Federal** entities, including representatives from the Federal Emergency Management **Agency (FEMA)** and the Federal Energy Regulatory Commission;
 - **Interviewed** Department **officials from** the Office of Electricity Delivery and Energy Reliability **and the Office** of **General Counsel**;
 - Obtained information from the Bonneville Power Administration, Southwestern Power **Administration**, **Southeastern** Power Administration, and the Western Area Power Administration;
 - Spoke with industry officials from Exxon Mobil Corporation, Entergy Corporation (**Entergy**), **and** Colonial Pipeline Company;
 - Interviewed the **Department's** initial emergency response **team** members;
 - Identified the Department's ESF-12 responsibilities contained in the **Department of Homeland Security's** **National** Response Plan;

Appendix 1 (continued)

Reviewed the Office of Electricity **Delivery and Energy Reliability's** Emergency **Support Function-1** Operations Manual;

- Examined the Department's **Gulf Coast Hurricanes** Situation Reports and **emergency response team logs**;
- Reviewed the Office of Electricity **Delivery and Energy Reliability** organizational **structure**;
- **Reviewed** the Department's listing of potential emergency response team members **and deployment schedules**;
- **Evaluated** the Department's communication channels;
- Examined **Lessons Learned** documents; and,
- Reviewed hurricane information **posted** on **various** internet **websites**, including the **Energy Information Administration** **daily** reports.

Appendix 2

CHRONOLOGY OF SIGNIFICANT DEPARTMENT ACTIONS - 2005

- August 27** FEMA activates **ESF-12**.
- August 29** Hurricane Katrina makes landfall near the Louisiana-Mississippi border.
- August 31,** The Secretary **announces a loan from** the Strategic Petroleum Reserve. The Department coordinates with the **Environmental Protection Agency** to grant waivers to use high-sulfur off-road diesel fuel.
- September 1** The Department assists Colonial in **obtaining** replacement generators to restart its pipeline **and** works with the Mississippi **Highway Patrol** to grant Colonial **access to its damaged** facilities to bring in **the generators and provide** security for repair **crews**. The Department also works with FEMA so shipments of food **and water** can be quickly delivered to **Entergy** repair **crews**.
- September 2** The Department works with FEMA **and** Amtrak to provide sleeper cars to first responders **in New Orleans**.
- September 3** The Department assists in making **arrangements** to distribute 1.2 million gallons of diesel fuel to first responders at 7 sites **in Louisiana**
- September 24** Hurricane Rita strikes near the **Texas-Louisiana** border. ESF-12 staff assists workers at a **refinery** in Port Arthur, Texas to obtain **clearances** for restoration work.
- September 27** The Department **facilitates** the restoration of power to the **Lake Livingston Pumping Station in Texas**.
- September 28** The Secretary issues an order to **authorize** and direct **CenterPoint** Energy to temporarily connect and restore power to **Entergy**, providing power to **Texas** residents affected by **Hurricane Rita**.
- October 1** The **Southwestern Power Administration** helps restore power to over 20,000 customers **and** residents in North Jasper County, Texas.

Appendix 3



Department of Energy
Washington, DC 20585

NOV 8 2005

MEMORANDUM FOR: WILLIAM S. MAHARAY
DEPUTY INSPECTOR GENERAL
FOR AUDIT SERVICES
OFFICE OF INSPECTOR GENERAL

FROM: KEVIN M. KOLEVAR *[Signature]*
DIRECTOR
OFFICE OF ELECTRICITY DELIVERY
AND ENERGY RELIABILITY

SUBJECT: Response to the Inspector General Draft Special Report
entitled "The Department of Energy's Response to
Hurricanes Katrina and Rita"

Thank you for the opportunity to review and comment on this draft special report concerning the Department of Energy's activities in support of the National Response Plan during two recent Gulf Coast hurricanes. The report accurately depicts both the events during that time period as well as Department of Energy activities in response to those events. We are in full agreement with the four recommendations contained in the draft report:

1. Clarify with external sources the appropriate ESF-12 point of contact to whom they should direct information requests, and proactively disseminate such information to Department of Energy personnel and appropriate external sources.

This recommendation addresses one of the most trying problems faced by DOE responders -- similar questions from multiply requestors (most often from different levels within the Department of Homeland Security) addressed to different DOE responders in different locations. We have decided to address this problem by making three changes in our procedures: (1) responders will e-mail, when possible, such questions to two headquarters point of contact even if, as will usually be the case, they answer them directly themselves; (2) the daily responders' telephone call-in will be expanded to include discussion of these specific questions received during the past 24 hours; and (3) we have already notified DHS that all of their questions need to be channeled through a single point of contact within OE. These steps should both improve internal communications and eliminate some duplication of effort.

3. Develop an inventory of available Department resources for emergency energy restoration.



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Appendix 3 (continued)

While the Department maintains an active list of personnel who are able to respond, we are not aware of a similar list of equipment (e.g., generators) which could be made available - either as a donation or a loan - to Federal, State or local responders. We will meet with the headquarters Office of Management and General Counsel to determine the best way to develop a protocol for equipment and to work with those DOE offices who have equipment to determine how best to develop an inventory.

3. Ensure that deployed teams are adequately provisioned with a standardized suite of equipment.

Each natural disaster seems to bring with it a new set of needs which confront the DOE responders. The recommendation is on target, but can be expanded to include software and data as well as equipment. We have begun to address this issue in two ways: (1) since communications problems are inevitably the first ones to plague responders in my emergency, we have made arrangements that an appropriate staffer from the DOE Office of the Chief Information Officer will accompany them in the next major response event to learn about these issues and make recommendations about equipment and (2) we are working with the National Energy Technology Laboratory to develop a library of key energy infrastructure facilities and assets which can be on a compact disk issued to responders to help them understand more about the facilities and their special needs.

4. Determine whether additional personnel are necessary to meet the Department's National Response Plan obligations.

Our human capital management planning, juxtaposed with our experience in the recent Gulf Coast hurricanes, has indicated several skill gaps within the Office. We hope to address those needs in the next budget cycle.

Finally, I would like to thank the IG team members for their solid professionalism as well as sensitivity during their review. In several instances, they rescheduled meetings or found ways to lessen our burdens in response to the stress of the almost-daily new developments caused by our National Response Plan responsibilities. This consideration was greatly appreciated.

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Your comments would be appreciated **and** can be provided on the Customer Response Form **attached to the report.**

JG Report No. DOWIG-0707**CUSTOMER RESPONSE FORM**

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1. **What additional background information about the selection, scheduling, scope, or procedures of the inspection would have been helpful to the reader in understanding this report?**
2. **What additional information related to findings and recommendations could have been included in the report to assist management in implementing corrective actions?**
3. **What format, stylistic, or organizational changes might have made this report's overall message more clear to the reader?**
4. **What additional actions could the Office of Inspector General have taken on the issues discussed in this report which would have been helpful?**
5. **Please include your name and telephone number so that we may contact you should we have any questions about your comments.**

Name _____ Date _____

Telephone _____ Organization _____

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**Office of Inspector General,(IG-1)
Department of Energy
Washington, DC 20585**

ATTN: Customer Relations

If you wish to discuss this report or your comments with a staff member of the Office of Inspector General, please contact Leon Hutton at (202) 586-5798.