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**THE WHITE HOUSE**  
PRESIDENT GEORGE W. BUSH

## APPENDIX B - WHAT WENT RIGHT

*But there are lessons learned that we don't need to change: the lesson of courage...the determination of our citizens...the compassion of our fellow citizens...the decency of men and women.*

--President George W. Bush, January 12, 2006<sup>1</sup>

The devastation of Hurricane Katrina will forever be seared into our country's memory. Visions of our citizens stranded on highway overpasses, of debris-filled plots where grand houses once stood, and of babies being hoisted onto roofs to avoid the surging water, continue to haunt us to this day. But there are other stories from Katrina, stories that may only be known by a few, but that are appreciated deeply by those involved. These are the stories of the men and women of our military, our law enforcement and fire departments, our private citizens, non-government organizations and our faith based groups. These are the stories of the human side of Katrina. It is important that we do not let the horror of the storm overshadow the true courage, determination, compassion and decency of the American people. Although many efforts are described below, what follows is at best only a partial representation of the enormity of the American spirit.

### Preparation and Response to Katrina

We have identified numerous areas in which the Federal, State and local governments could have better prepared for, responded to, and recovered from the storm, but it is also important to acknowledge that we pre-staged more assets and pre-deployed more personnel than we have for any other storm in American history. And we have tried to include throughout the review some examples of the many good lessons of courage, compassion, and initiative that saved lives and reduced suffering.

In 1992, Hurricane Andrew struck densely populated urban areas in southeastern Florida as a Category 5 storm and provides the closest comparison to Hurricane Katrina. They were two of the most destructive storms ever to strike the United States, but Katrina affected an area three times as large, caused two to six times the economic damage, and killed up to twenty times as many people - this was partially due to Katrina's large wind field and the high storm surge, which proved far more damaging than the more compact Andrew.

Prior to both hurricanes, the National Weather Service provided repeated and accurate warnings, but local populations did not fully evacuate - greatly magnifying human suffering in the wake of the storm. Andrew and Katrina both overwhelmed State and local responders, but the Federal response to Katrina was greatly improved due to better preparations prior to landfall.

### Non-governmental Organizations

The number of volunteer and non-profit organizations providing support to the Hurricane Katrina relief effort was truly extraordinary. Virtually every national, regional and local charitable organization in the U.S., and many from abroad, contributed aid to the victims of Hurricane Katrina. To assist in the coordination of these offers of assistance, the **USA Freedom Corps** (Freedom Corps) and the **Governor's State Service Commissions** rallied non-profit organizations to list volunteer opportunities in the Freedom Corps volunteer search engine. The Freedom Corps also worked with the **Corporation for National and Community Service** to create a Katrina Resource Center that helped groups of volunteers connect their resources with needs on the ground.<sup>2</sup>

The **Citizen Corps** coordinated volunteer efforts throughout the country, with more than 14,000 Citizen Corps volunteers from all 50 states and the District of Columbia actively involved in response and recovery efforts across America. The Harris County, Texas, Citizen Corps Council brought together an enormous number of volunteers to support the American Red Cross and staffed evacuation centers throughout Houston. They processed over 8,000 volunteers in one day, and an average of 3,500 per day overall. These volunteers allowed for the creation of an actual city (with its own zip code) for nearly 25,000 Louisiana evacuees sheltering in the Houston Reliant Astrodome. They were successful because they had coordinated ahead of time with local businesses and volunteer groups, and because they were familiar with and implemented elements of the Incident Command System.<sup>3</sup>

Faith-based organizations supported the relief effort as well. For example, 6,000 **Southern Baptist Relief** volunteers from 36 state conventions served in Louisiana, Mississippi, Alabama, Georgia, and Texas following the hurricane and flood. These volunteers ran mobile kitchens, and recovery sites.<sup>4</sup> They also established hundreds of "pop-up" shelters created by churches or other agencies.<sup>5</sup> **Operation Blessing**, comprised of a network of faith-based

partners and resources, provided food and shelter to help those in need and transported food and other supplies with their own fleet of trucks.<sup>6</sup> They also made over \$4 million in Fast Cash Grants available to church and smaller relief groups throughout the affected region.<sup>7</sup> Members of the **Salvation Army** came from across the nation and served over one million meals, sheltered more than 31,000 people in seven states, and provided aid to displaced citizens in thirty states.<sup>8</sup> The Salvation Army not only strengthened the social service infrastructure in those states directly impacted by the hurricane and flood - they did so nationwide. The Salvation Army's network alone fielded more than 60,000 health and welfare inquiries and helped to locate 25,508 people to date.<sup>9</sup> These and many other faith-based organizations filled the gaps that other private and public sector organizations could not. **Christ in Action**, an inter-denominational non-profit organization from Manassas, Virginia deployed volunteers and mobile kitchens to Gulfport, MS and began feeding people on September 1. After 115 days of operations, Christ in Action served over 420,000 meals and repaired over 500 houses in time for families to reoccupy their homes by Christmas. Based upon lessons learned from this experience, Dr. Denny Nissley, the Director of Christ in Action, is organizing a Coalition of Faith-Based First Responders from around the Nation to be prepared for the next major disaster. This Coalition will perform disaster relief training for volunteers and will maintain a current roster of thousands of volunteers who can be quickly called upon to provide support during the next major disaster.

Private citizens also provided assistance and resources in the aftermath of the storm. Dr. Carrie Oliver from Texas, operating independently, arrived with three RVs pulling 16-foot trailers driven by herself, her husband and friends to Baton Rouge shortly after the storm hit. The RVs were full of medical supplies, food, and water. Back in Texas, Dr. Oliver runs a large clinic, and she had brought all available medical supplies and had purchased the vehicles, trailers, and other supplies with her own money.

Dr. Oliver initially planned on heading directly to New Orleans, but officials in Livingston Parish did not think it was safe. Instead Dr. Oliver was incorporated into responding to other parishes. The supplies and personnel were divided into three teams, and with the assistance of a helicopter procured from the Louisiana Office of Homeland Security and Emergency Preparedness, Dr. Oliver flew ahead to different parish localities, and had the three teams follow by ground. Besides initially helping in Livingston Parish shelters, the teams visited different areas in Washington, St. Tammany, Tangipahoa, and Jefferson Parishes, and set up walk-in clinics operating out of the RVs.

Later, the RVs were used to set up a mobile hospital unit and decontamination clinic at the Children's Hospital in the City of New Orleans 2nd Precinct to take care of injured soldiers, police, and other responders who could not otherwise get medical care.

After three days, Dr. Oliver returned to Texas, but left everything she had brought with her. She signed over the titles to the vehicles, trailers and supplies. Livingston Parish officials continued to use the RVs and supplies for relief missions to surrounding parishes and New Orleans, as well as for longer trips, such as one to distribute equipment to police officers in Mississippi.<sup>10</sup>

Other organizations worked tirelessly to assist emergency responders that, due to the storm, did not have the equipment and means to effectively carry out their duties. Amateur Radio Operators from both the **Amateur Radio Emergency Service** and the **American Radio Relay League**, monitored distress calls and rerouted emergency requests for assistance throughout the U.S. until messages were received by emergency response personnel. A distress call made from a cell phone on a rooftop in New Orleans to Baton Rouge was relayed, via ham radio, from Louisiana to Oregon, then Utah, and finally back to emergency personnel in Louisiana, who rescued the 15 stranded victims.<sup>11</sup> Ham radio operators voluntarily manned the amateur radio stations at sites such as the National Hurricane Center, Hurricane Watch Net, Waterway Net, Skywarn and the Salvation Army Team Emergency Radio Network.<sup>12</sup>

## State Governments Support Other Critical Services

Other State Governments volunteered to provide non-response related critical services that the States of Louisiana and Mississippi could no longer provide. Multiple State Public Health Laboratories volunteered to assist the devastated Louisiana and Mississippi State Public Health Laboratories. Florida sent a mobile drinking water lab and personnel to Mississippi, helping to prevent people from getting sick from contaminated water. Iowa personnel performed 12,000 newborn screening tests, critical to the health of our youngest citizens, as they must be performed quickly in order to provide immediate treatment. The efforts to shoulder some of the burden were and continue to be coordinated through the non-profit organization representing these laboratories, the **Association of Public Health Laboratories**, and the State laboratories themselves.<sup>13</sup>

## Local Officials

Many of those called upon to do the toughest work were those that had lost the most. Members of local fire departments, police departments, and emergency service units worked tirelessly despite being victims themselves. Many lost their homes, cars, and possessions. Others lost their families and loved ones. Yet these very people returned to work to protect and serve the people to whom they had made a commitment. They often worked their shifts without knowledge of where their family was, or where they would sleep that night. Despite these obstacles, they continued to perform their duties.

Some members of the Waveland, MS Police Department stayed at their police station during the storm. There came a point when the flooding from the storm surge became so great that they clung desperately to a bush located in the front yard of the station for five hours. When the surge subsided, the men returned to their duties, rescuing and saving those that remained in the 7,000 person town.

When the officers of the Waveland Police Department wanted to return to their duty, a few problems arose. Cars, equipment, radios, they had lost it all. The State of Florida, which was leaning forward with their State Emergency Response Team (SERT), immediately responded following the storm. The State of Florida deployed personnel, equipment and commodities to Mississippi to aid response and recovery from the devastating impact of Hurricane Katrina. In the hours and days after the catastrophic storm, Governor Jeb Bush pledged the support of Florida to Mississippi Governor Haley Barbour. Resources from Florida were mobilized through the Emergency Management Assistance Compact. These efforts represent Florida's largest state-to-state assistance in history. Law Enforcement officers who are an integral part of the Florida SERT assisted the Waveland, MS Police Department by providing relief so police officers could return to their homes and account for their families.

Other cities and states sent their police and fire departments to help their fellow departments that were crippled by the storm. **The Fire Department of New York City (FDNY)** and the **New York City Police Department (NYPD)**, two organizations that themselves suffered a devastating loss four years prior, deployed staff and equipment to assist in the recovery effort. FDNY sent over 660 fire department staff, including firefighters, fire officers, emergency medical technicians, paramedics, counselors, physicians, and communications personnel to assist the crippled New Orleans Fire Department.<sup>14</sup> NYPD sent more than 300 officers to support the effort to restore order. Additionally, the State of New York sent more than 100 officers and the Department of Corrections sent more than 250 officers. The City's Urban Search and Rescue Team (New York Task Force One - NYTF-1), which is made up of NYPD, FDNY, and Office of Emergency Management personnel, was deployed to Mississippi at FEMA's request to support rescue efforts along the Gulf Coast. Fire trucks, police cruisers, school buses, transit buses, and other equipment and goods, bearing the seal of the State or City of New York were abundant during the response.

In Louisiana, the **Livingston Parish Office of Homeland Security and Emergency Preparedness** conducted search and rescue missions in the City of New Orleans, for 16 days after the storm with the **Arizona National Guard 855th Military Police**, at great personal expense and risk. To Livingston's credit, they augmented the New Orleans 2nd District Police Department (NO 2nd PD), at their request, to perform these missions. At one point the NO 2nd PD ammunition was down to "the rounds on their belts" and their uniforms were starting to rot off their bodies. Livingston Parish provided supplies and medical care, and provided means of communication to the NO 2nd PD via the Parishes radios and satellite phones as the NO 2nd PD had no communications devices that worked.

The Parish also provided a critically important security function, escorting medical assets to and from hospitals trying to care for injured and sick, and providing cover for New Orleans Police personnel during their operations. The primary resource that responded to this request was the Sheriff's Department Special Response Team (SRT) who ran missions and provided security escorts. The SRT was specifically requested because of their outstanding skill, having won several State SRT competitions.

The Parish exceeded its duty by responding into the State of Mississippi, surrounding Parishes, and the City of New Orleans. The Parish procured large amounts of supplies, out of their own operating budget, without knowing whether they would be reimbursed, and ultimately became a critical component in the flow of goods to help the devastated region. As this aid was not forthcoming from other sources, Livingston Parish personnel saved many lives during this disaster.

## Private Sector Organizations

Private sector organizations provided commodities, services, expert advice, financial donations and volunteer groups to assist in the relief efforts. **FedEx** facilitated equipment and supply distribution, particularly for the American Red Cross.<sup>15</sup> **Dell, Home Depot, IBM, Lenovo, Pfizer, Wal-Mart**, and other corporations gave millions of dollars in cash and in-kind donations to support immediate relief and recovery efforts as well as long-term rebuilding.<sup>16</sup>

**Vanguard Technologies, Inc.**, "showed up the day after the storm and provided communications when we had none," said St. Bernard's Parish officials. Vanguard Technologies, a small Louisiana business, provided Saint Bernard and Plaquemines parishes with innovative internet protocol (IP) network solutions and utilized a Point of Presence (POP) internet connectivity, that remained fully operational during Katrina, when no other company, big or small, was able to restore crucial communications in this devastated area. Vanguard also deployed a fully operational, redundant, broadband, wireless IP network, covering more than 100 square miles, within five days of Katrina's Gulf Coast landfall. The networks supported: Voice-over-Internet Protocol (VoIP) telephony; Video surveillance over IP; mobile video surveillance; high speed World Wide Web internet access; email communications via simple mail transfer protocol (SMTP); and web mail services. Vanguard, to date, continues servicing the parishes with critical communications access linking key government services and facilities.

Private companies also worked hard to mitigate the economic damage that Hurricane Katrina was sure to bring. **Norfolk Southern Railroad** recognized the potential impact of the loss of certain key bridges, and pre-staged repair barges just outside the hurricane impact area. After the Hurricane passed, the barges moved in and quickly repaired the bridges to minimize the impact on the flow of commerce. By pre-positioning freighters offshore and swiftly returning their grain transport facilities to operational status, the **Cargill Corporation** started shipping grain internationally almost immediately after landfall. With over half of all U.S. grain exports flowing through ports affected by Hurricane Katrina from 17 different states<sup>17</sup> this single action had a significantly positive national economic impact.

**Academic institutions** across the country accepted students who had been displaced from their universities and provided them with financial assistance. For example, the Office of Student Aid and Scholarships at **Louisiana State**

**University** (LSU) administered a Hurricane Katrina/Rita Student Relief Fund to assist students who had lost financial support or were displaced by the hurricane and flood. In addition, the LSU campus hosted one of the largest peacetime triage operations in the history of the United States.

While State and local governments, non-governmental organizations, private companies and even individual citizens were pulling together to provide services for the victims of the storm and assistance for the public services that were overwhelmed or incapacitated, the departments and agencies of the U.S. Federal government pulled its resources and personnel to mitigate the devastation that Katrina would bring.

### **The Department of Homeland Security**

Almost 6,000 **U.S. Coast Guard** personnel (active duty, Reserve, Auxiliary, and civilian members) from throughout the country conducted one of the largest search and rescue missions in its history as part of an even larger multi-agency, multi-level search and rescue effort. They retrieved more than 33,000 people along the Gulf Coast, including more than 12,000 by air, and 11,000 by surface, plus 9,403 evacuated from hospitals. Almost one-third of the Coast Guard's entire fleet was dedicated to rescue efforts. Coast Guard personnel also worked tirelessly in multi-agency teams to reconstitute waterways and conduct environmental assessments. They restored hundreds of buoys and channel markers that were missing or destroyed in the hurricane. Their efforts to restore these and other navigational aids and waterways, allowed maritime industry in the area to return to normal faster.

Having evacuated with boats on trailers prior to the storm, Petty Officer Jessica Guidroz, a coxswain at the Coast Guard Station New Orleans, could not return to the station by road after the hurricane passed. She and her crew launched their boat and headed toward the station. Finding the station occupied by rescued victims already, she established order at the station and then piloted a twenty-five foot boat through Metairie and Lakeview, banging on roofs and yelling, scanning for open attic windows, and convincing reluctant evacuees to leave. Learning of a large number of trapped residents, she proceeded to lead a squadron of eight boats and crews in the evacuation of approximately 2,000 people from the campus of the University of New Orleans. Like most of the station crew, she lived nearby and lost all her personal possessions to the storm, yet put her duty first. After several days piloting a boat into devastated neighborhoods, ferrying thousands of people to safety, and seeing destruction on a scale so vast that it seemed surreal, Guidroz was moved when she saw an image on television. She had been haunted by the memory of a young mother who had almost been trampled during the evacuation. She remembered how "the baby was wearing this diaper that you know hadn't been changed in days." That night, a news channel showed images from the Houston Astrodome, and there she was - the lady with the baby. "She was in Houston now, and she looked like she'd showered and her kid had on clean clothes. That moment is when it clicked," Guidroz said. "Here was someone we had actually helped, and it fell into place that we were doing something that really mattered, something really good."

Petty Officer Moises Rivera-Carrion of the Coast Guard served as a rescue swimmer aboard Coast Guard HH-60J helicopters responding to the devastation caused by Hurricane Katrina. During almost three days of operations in an urban setting with hazards including unlit towers, downed power lines, and contaminated floodwaters, Petty Officer Rivera-Carrion tested the limits of his skill and endurance while rescuing 269 survivors trapped on rooftops and balconies throughout New Orleans and southwest Louisiana.

With 50 plus knot winds blowing debris, Petty Officer Rodney L. Gordon landed in the first aircraft to return to New Orleans and immediately began a series of complex electrical and mechanical repairs vital to sustaining what quickly grew into the largest air rescue operation in Coast Guard history. Scrambling to locate and cannibalize broken and non-essential equipment until supply lines could be restored, he repaired failed and failing emergency generators, power lines, and dozens of destroyed components. He restored power to vital operations and communications facilities, including the Naval Air Station control tower, enabling the successful control and dispatch of thousands of military and Coast Guard aircraft sorties on rescue and evacuation missions. Most critically, the viability of the entire joint service air rescue operation was jeopardized by the electrical failure of the base's enormous aviation fuel distribution plant. He took charge and single-handedly performed a complex rewiring of its emergency generators, enabling hundreds of aircraft to continue lifesaving missions.

The heroics of Petty Officer Guidroz, Petty Officer Rivera-Carrion and Petty Officer Rodney L. Gordon are only a few of the multiple USCG stories from Katrina. However, their stories, and many more are the reason that the Coast Guard was soon given the moniker, in a New Orleans Newspaper, of the "New Orleans Saints."

Responsible for more than 180,000 employees, the Department of Homeland Security was duly praised for the efforts of the United States Coast Guard. However, additional DHS units brought many other life-saving and order-restoring employees and talents to the preparation, response and recovery operations.

DHS **Customs and Border Protection** and DHS **Immigration and Customs Enforcement** leaders sought to match their resources with the needs of the affected populations in Louisiana, Mississippi, and Alabama. They took clothing, toys, linens and other useful items seized and forfeited at U.S. ports of entry for violations of federal law - more than 100,000 pieces as of this writing - and delivered them directly to the victims of the hurricane and flood.<sup>18</sup> They filled the needs of people who had lost these basic items at minimal cost to the government, using goods that they had

seized during the course of everyday operations. Their practical and innovative thinking and actions helped these victims directly, returning to them some possessions, as well as the sense of security such possessions convey.

On September 5, 2005 Immigration and Customs Enforcement (ICE) / Federal Protection Service (FPS) Sergeant Matthew Pinardi was securing the FEMA morgue detail near Interstates 10 and 610 in New Orleans. He observed a young male riding a bike across the overpass and witnessed the man hit the retaining wall. The young man flipped over the railing and landed some fifty feet below in water over his head. Sergeant Pinardi called for additional assistance, traversed the embankment and at great personal peril entered flood waters to rescue the young man. The man was pulled to safety and transported by emergency medical services to a FEMA National Disaster Medical System medical clinic.

Staff within the **Federal Emergency Management Agency** (FEMA) worked hard to deliver aid and services to those affected by the hurricane and flood. Drawing upon their previous experiences with natural and manmade disasters, FEMA staff distributed more than \$5 billion in federal aid to more than 1.7 million households in the affected region by February 1, 2006.<sup>19</sup> FEMA also mobilized elements of the National Disaster Medical System (NDMS), such as Disaster Medical Assistance Teams (DMATs), deploying them to the Gulf States to assist with emergency health care delivery. For example, a DMAT stationed in Florida was deployed to Mississippi, where it set up operations in an abandoned medical center that had been put out of service by the flood. Over a two week period, this DMAT treated more than 3,000 patients that were able to make it to the medical center, and treated another 2,000 by sending teams of their own personnel out into the surrounding area.<sup>20</sup>

Also part of the National Disaster Medical System, the Disaster Mortuary Operational Response Teams (DMORTs) created a large, temporary morgue in St. Gabriel, Louisiana, to support the entire state,<sup>21</sup> and supplemented and otherwise provided mortuary services in Louisiana and Mississippi. DMORT members deployed from throughout the Nation to assist. These specialists worked with local medical, mortuary, and forensic professionals, and provided needed mortuary services, equipment, and personnel. Especially important were the services that trained personnel provided in identifying the dead. They worked with x-rays and DNA samples and communicated information with compassion to families waiting to hear news of their loved ones. Despite some primitive conditions (e.g., with only a roof and intermittent power), team members helped to identify not only those killed by the hurricane and flood, but also those bodies that were unearched from cemeteries and mausoleums. Their duties were made even more challenging by the destruction of medical, dental and other records, and the inability of many people to accurately determine whether those people they sought were dead or missing. They drew upon both technical expertise and personal empathy to address the needs of both the dead and the living.<sup>22</sup>

## Department of Defense

Well before Hurricane Katrina struck the Gulf Coast, the Department of Defense (DOD) prepared for the 2005 hurricane season. Based on prior assistance for hurricane recovery operations, on August 19th the Secretary of Defense approved a standing order to prepare and organize for severe weather disaster operations. This order expedited the pre-positioning of senior military representatives known as Defense Coordinating Officers, to act as liaisons with other governmental organizations in the projected disaster area prior to an event. The order also authorized the use of DOD installations as logistical staging areas for FEMA. U.S. Northern Command directed a number of emergency deployment readiness exercises prior to FEMA requests, spending training funds to pre-position response capability. Once officially activated and deployed, DOD provided logistics support to FEMA, helping the Agency to track items in motion.<sup>23</sup>

The U.S. **Army Corps of Engineers** led the removal of 224 billion gallons of water from New Orleans in 43 days, enabling recovery and repair operations. By improving their pumping capacity and efficiency, adding pumps, creating intentional breaches, and developing other on-the-spot workarounds, they were able to reduce the estimated time to clear New Orleans of water by approximately 50 percent.<sup>24</sup>

**U.S. Army** soldiers provided a number of services in support of Local, State, Federal, and private-sector activities, including medical treatment (e.g., thousands of immunizations), debris clearing, evacuation, planning, and performance of search and rescue missions.<sup>25</sup> The **U.S. Marine Corps** helped local governments reinvigorate their infrastructures<sup>26</sup> and augmented search and rescue operations. In one particularly noteworthy case, two Marines using a borrowed boat rescued 150 people in 36 hours.<sup>27</sup> The Mississippi **National Guard**, supported with Guard members from many other States, performed superbly throughout the response, carrying out a number of duties, including clearing key roads, search and rescue, and getting supplies into the hands of victims as quickly as possible.<sup>28</sup> The **U.S. Navy** mobilized more than 10,000 naval personnel to the affected Gulf coast region, as well as 68 aircraft, and 16 ships,<sup>29</sup> including amphibious construction equipment and mobile diving salvage units, particularly useful in flood conditions.<sup>30</sup>

Prior to Katrina's landfall, twenty-one Seabees from Naval Mobile Construction Battalion 133 and Naval Mobile Construction Battalion 7, led by a Navy Chief Warrant Officer answered the call to vigilantly support the staff and residents of the Armed Forces Retirement Home in Gulfport, Mississippi. Located about two hundred yards from the Gulf of Mexico, the home had evacuated all but fifty patients in anticipation of Hurricane Katrina. Seabees postured themselves on the ground floor of the building, and began bracing the structure against a thirty foot tidal surge and winds recorded in excess of 120 miles per hour. When the storm surge forced its way into the building,

generator power was lost, and in the darkness, amidst rushing water, tidal pull and life-threatening debris, these Seabees as young as 18 years old and hailing from every area of the country, evacuated fifty bed-ridden and wheel-chair bound retirees and numerous staff members, as well as all medical oxygen tanks, to the upper floors of the building. Their actions saved lives and helped prevent the home from succumbing to total physical devastation.

The 53rd Weather Reconnaissance Squadron (also known as the Hurricane Hunters), of the 403rd Wing, is composed of **U.S. Air Force** Reservists. Flying out of Keesler Air Force Base in Biloxi, Mississippi, it is the only military unit flying into hurricanes and tropical storms.<sup>31</sup> The unit followed Hurricane Katrina from inception to landfall, and provided critical reconnaissance information to the National Hurricane Center throughout the event.<sup>32</sup> They maintained daily hurricane vigilance. Other Air Force personnel supported recovery and relief operations, including transportation of more than 13,000 people, air traffic control, and aerial lift, refueling, photography, search and rescue, and medical evacuation.<sup>33</sup>

The **National Geospatial-Intelligence Agency** (NGA) started collecting key infrastructure-related information (i.e. on airports, hospitals, police stations, emergency operations centers, highways, schools, etc.) well in advance of landfall and got this information into the hands of Federal, State, and local first responders in the affected region. As the storm was tracked, NGA pre-deployed analysts and mobile systems to the affected areas that provided expertise and information on the ground and facilitated the delivery of additional information from NGA offices elsewhere. Because they had assets in place and focused on the region, NGA provided the first comprehensive overview of the damage resulting from the hurricane and flood. NGA merged imagery with other information, creating hundreds of intelligence products per day that could be used and applied by response professionals to aid in decision-making. NGA assessments were multi-dimensional, timely, relevant, and continuous. They addressed many issues, including but not limited to: recovery planning and operations, transportation infrastructure, critical and catastrophic damage, dike stability and breaches, industry damage, and hazard spills. The NGA World Wide Navigational Warning Service also provided navigation information to the U.S. Navy, Merchant Marine, and Coast Guard, and relayed messages from the National Weather Service to people at sea. NGA also aided in the location and recovery of oil platforms. The imagery activities of NGA were essential to the restoration of critical infrastructure.<sup>34</sup>

## Department of Justice

The **Bureau of Prisons** provided extensive support to the Hurricane Katrina relief efforts. Some of those accomplishments included transporting 4,000 Louisiana Department of Corrections inmates out of New Orleans jails. Busses staffed by Bureau personnel from both within and outside of the region were dispatched to assist with this operation. The agency also transported fifty-five inmates from the St. Charles Parish Jail to the Federal Detention Center in Houston, Texas at the request of the U.S. Marshals Service, as well as seventy inmates from Harrison and Pearl River Counties, Mississippi to the northern part of that state. In addition to moving inmates, Bureau of Prisons staff provided supplies to the storm ravaged region. Specifically, staff from the U.S. Penitentiary in Atlanta, Georgia and the Federal Prison Camp in Montgomery, Alabama delivered to New Orleans toothpaste, toothbrushes, soap, shampoo, mouthwash, disposable personal sanitation packs, 600 Meals Ready to Eat (MRE), 600 hot trays of potato dinners, 600 cans of orange juice, eighty cases of water bottles, sheets, linen and pillows.

The **Federal Bureau of Investigation** recognized that there was a lack of unified law enforcement leadership, and no central coordination for law enforcement in New Orleans, and created a Law Enforcement Coordination Center (LECC).<sup>35</sup> Once the LECC was established, all law enforcement personnel and agencies (including those provided by the National Guard) had a unified command structure. This allowed every law enforcement agency operating in the New Orleans area to coordinate with other agencies.<sup>36</sup> Additionally, senior federal law enforcement officials from the FBI and DHS not only coordinated the response of the Federal law enforcement agencies, they also brought the New Orleans Police Department command element together for the first time since the hurricane struck. Further, they integrated Federal law enforcement assets and personnel into the remaining local police structure.

FBI Special Agent in Charge Michael Wolf and U.S. Immigration and Customs Enforcement (ICE) Assistant Director Michael Vanacore, were appointed to serve as the Co-Senior Federal Law Enforcement Officials (SFLEO) under the NRP. Within a day of their appointment and for the first time since Katrina made landfall, the SFLEOs brought together all the Federal law enforcement agencies operating in the New Orleans area with the State police to coordinate efforts. The SFLEOs established a Law Enforcement Coordination Center (LECC) first in Baton Rouge and subsequently in New Orleans modeled after the FBI's Joint Operations Center. The LECC coordinated all law enforcement activities in the New Orleans area, bringing together Federal, State, and local law enforcement to including National Guard and DOD military police to provide assistance and support to the New Orleans Police Department. The rapid establishment of the LECC led to the rapid coordination of law enforcement activities and the restoration of law and order in New Orleans.

The **United States Attorney's Office** for the Eastern District of Louisiana supported law enforcement operations during the first week following Hurricane Katrina's impact. They were required to quickly set up two completely new offices in Baton Rouge and Houma, Louisiana. A large portion of their employees worked hard to accomplish this. However, certain members of their staff particularly distinguished themselves during the initial period when their operations were being conducted out of the U.S. Attorney's Office for the Middle District of Louisiana. Despite being dislocated from their homes and having the option of administrative leave, many of these employees went to Baton

Rouge on their own to become involved in operations. Other essential employees came in to perform necessary tasks without any assurance that they would have a place to stay.

Assistant United States Attorney (AUSA) Michael Magner evacuated to Baton Rouge, Louisiana where he arranged for his own lodging. He was one of the first AUSAs to report for duty and coordinated the manning of the regional jail facility established at the New Orleans bus station, personally performing several twenty-four hour shifts. He also supervised the handling of complaints and judicial appearances in cases involving persons arrested on criminal charges during that initial period. AUSA Stephen Higginson moved in with a friend in Baton Rouge while his family evacuated to Boston, Massachusetts. He immediately began handling a number of thorny legal issues that had arisen while at the same time performing twenty-four hour shifts at the bus station. AUSA Brian Marcelle, while providing for his wife and two infant children, voluntarily performed twenty-four hour shifts at the bus station, handled complaints, and made judicial appearances in cases involving persons arrested on criminal charges during that initial period.

On September 4, 2005, the **Bureau of Alcohol, Tobacco, Firearms and Explosives** (ATF) received a tip from a resident regarding gunfire in a New Orleans neighborhood. ATF Special Response Team (SRT) members responded, equipped with night vision goggles, and witnessed two individuals shooting at a helicopter as it flew overhead. The two men fled to a residence, and the SRT personnel entered the location and seized two handguns. One of the subjects, a convicted felon, gave a statement regarding the incident and was the first person federally arrested by any agency in the aftermath of Hurricane Katrina.

ATF agents also provided critical supplies on numerous occasions (including food, water, clothing, protective equipment, and ammunition) to the New Orleans Police Department (NOPD). On September 1, an ATF agent responded to New Orleans to provide assistance and emergency provisions to an NOPD Task Force Officer conducting post-storm operations. On September 2, upon arriving in New Orleans and setting up camp at a post office in the Algiers neighborhood, ATF SRT agents offered assistance to the NOPD SWAT team and 4th district officers. The police officers advised they had not seen or heard from any federal agency and were glad to see the ATF personnel, as they were running low on ammunition, food and water. The ATF SRT provided the NOPD with these supplies and immediately began assisting with law enforcement missions.

On September 3, ATF New Orleans Field Division agents provided security at a Mandeville, Louisiana hospital to which a large number of evacuees were being airlifted. Due to aircraft coming under fire, the hospital requested that ATF provide armed support for a rescue mission into the city to evacuate patients and personnel from Tulane University Hospital. Two agents assisted on this mission resulting in the rescue/evacuation of fourteen people. Agents also provided an armed escort for a transport shipment of emergency medical supplies from the New Orleans Airport to the Mandeville hospital.

Beginning on September 8, ATF SRT responded on several occasions with NOPD to clear the Fisher Housing Development after receiving reports of sniper fire. Several firearms were recovered, but the reports of sniper fire continued. On September 10, ATF SRT, acting on a tip, deployed to the Fisher Housing Development and found an AK-47 assault weapon with a 100 round magazine. It is believed that this was the weapon used during the reported sniper shootings in the area. After seizing the weapon, no more sniper reports were made.

ATF SRT personnel also established a medical facility to provide medicine and prescription drugs (e.g., insulin) to individuals in need and living in the area of the SRT base at the Algiers post office. ATF SRT personnel went to residences and nursing homes to provide food, water, and much-needed medical attention to people who could not or would not leave their homes. On September 4, with the assistance of the Louisiana Department of Wildlife and Fisheries, ATF personnel rescued at least twenty-three people, including one ATF employee, who were trapped in their homes.

Throughout the response to Hurricane Katrina, ATF continued to reach out to the sick and elderly citizens in the New Orleans area. On September 13, as Hurricane Rita was headed toward the Gulf Coast, SRT personnel went to all of the sick and elderly people known to them in the New Orleans area and attempted to convince them to evacuate. The many people that chose to remain in their homes were provided with food and water. Additionally, ATF agents rescued scores of domesticated animals throughout the response to the hurricane.

In response to the housing shortage, New Orleans ATF Field Division agents opened their residences to provide lodging to coworkers who were displaced from their homes and to other ATF agents on detail from other parts of the country. Agents assisted in the cutting and clearing of fallen trees at the residences of a number of field division personnel, and assisted many division personnel in returning to their residences in severely damaged areas to conduct damage assessments and retrieve personal effects. New Orleans Field Division agents provided personal security for Assistant United States Attorneys for the Eastern District of Louisiana returning to their offices and residences to retrieve important case information.

Deputy United States Marshal (DUSM) Justin Vickers of the New Orleans **U.S. Marshals Service** office found out there was a stranded elderly lady (in her 80s) in an apartment complex. Although she was able to call out by telephone; she was confused and unable to provide her apartment number and street address. DUSM Vickers was able to locate the complex and find her. He not only rescued her from the abandoned complex but also found her suitable care in a family's home located in Baton Rouge.

## Department of Health and Human Services

The **Agency for Healthcare Research and Quality** (AHRQ), part of the Department of Health and Human Services (HHS) quickly identified the need for specific guidance on how to get hospitals in the region affected by the hurricane and flood reopened and running again. The Agency developed easy to read information, and checklists regarding supplies, medications, staffing, patient transport, reopening evaluation, and management.<sup>37</sup> AHRQ developed this information and got it into the hands of the State and Local leaders responsible for making hospitals function again.

The **Centers for Disease Control and Prevention** (CDC) deployed approximately 200 personnel to the affected region, including the following specialties: public health nursing, occupational, laboratory, medical, epidemiology, sanitation, environmental health, disease surveillance, public information and health risk communication. CDC led and/or assisted with a variety of emergency public health programs.<sup>38</sup> CDC immunization experts helped to provide vaccines and vaccinate children displaced by Hurricane Katrina, especially those staying in evacuation centers. Most importantly, they determined which diseases would result from the hurricane and flood, and not only monitored the region for them, they also communicated information on these diseases and others the public might be worried about, helping to allay public fears.<sup>39</sup> They helped to fill gaps in the public health infrastructure, prevented disease from gaining a foothold in the already devastated region, and communicated health-related information to the public.

Many victims of the hurricane and flood took charge of their own medical care to the extent that they could. In response to their demands for more information, for two weeks immediately after the hurricane and flood, the **National Institutes of Health** (NIH) expanded their program for medical consultation to not only help health care providers throughout the Nation, but also specifically assist patients and the worried well in the affected region. Working with their partners in academic medical centers and professional medical societies, NIH opened and manned phone lines all day every day to answer questions about a variety of diseases and cases involving complicated medical treatment. NIH immediately recognized that they were in the best position to match medical experts with health care providers and patients in need of answers - providing both groups with the information they needed to better manage health care concerns in the midst of the crisis.<sup>40</sup>

The **U.S. Public Health Service** staff from the Bureau of Prisons Federal Medical Center in Carswell, Texas provided support in response to Hurricane Katrina in a number of ways. For example, Lieutenant Commander Christopher L. McGee, Social Worker, was deployed for two weeks serving in a special needs shelter for elderly, wounded, and cognitively-impaired persons. While on a mission to locate a missing shelter resident, he and two National Guards members found a man lying on the ground surrounded by several other men that were hitting and kicking him. Specialists Christopher L. Home and Mark D. Miller from the 528th Engineering unit, and Lieutenant Commander McGee intervened and stopped the assault, and then provided emergency care to the victim. While awaiting emergency medical response, the victim became combative and had to be restrained until paramedics arrived. After treatment, the man was safely returned to his family in Arizona the next day. During his tour, Lieutenant Commander McGee and his team, were able to locate and reunite approximately 296 shelter residents with family or community support systems. Additionally, Commander William Resto-Rivera and his medical team provided treatment and services to more than 130 elderly nursing home residents who had been displaced, and then prepared them for immediate movement. Captain Barbara J. Jenkins, Nurse Manager of Carswell's Mental Health Inpatient Unit, also performed brief mental health assessments for over 250 soldiers and civilians, both responders and victims.

## Department of Energy

Colonial and Plantation Pipelines, major suppliers of fuel for the eastern US, were not operating due to lack of power at their pumping stations in Mississippi and Louisiana due to effects of Hurricane Katrina. The Department of Energy (DOE) persuaded Entergy and Mississippi Power to elevate the electrical restoration of these pumping stations to near the top of the priority list. Mississippi Power elevated restoration of Collins, Mississippi to their number one priority. Unfortunately, the assessments of the electrical grid revealed damage to multiple transmission lines. Entergy also had responsibility for restoring power to several of the pump stations. Entergy raised the pump stations in their priority list and were able to restore power to some of the lesser damaged facilities quickly. As a result of the lengthy restoration time, Colonial contracted for some generators. After these initial contracts were superseded by FEMA for use on lifesaving activities, The Department of Transportation, as the lead for Emergency Support Function 1 (ESF-1) under the NRP, coordinated transport and delivery of large emergency generators to petroleum and natural gas industry sites that lacked power following the hurricanes. At FEMA's request, ESF-1 also obtained the needed waivers so that these generators could be moved by road and rail. Colonial worked with DOE to request that FEMA recognize Colonial Pipeline as critical infrastructure and part of the necessary emergency response, providing critical fuel to the recovery effort. DOE worked with FEMA to get emergency responder identification for Colonial contractors and staff to expedite their travel through the police barricades and into the disaster area. DOE worked with

Mississippi Highway Patrol to provide the company the information they needed to get into the disaster areas and checked road availability at the pumping stations. As Colonial attempted to restore power and deliver generators to these sites, their crews reported criminal activity and gunshots. Colonial stated they needed protection or would have to cease work and depart. DOE arranged with the Mississippi Highway Patrol to provide police protection to three of the Colonial pumping stations.

DOE provided a situation brief and recommendations regarding getting electricity back on at the water pumps at Lake Livingston Pumping Station. This pumping station supplies Houston with water. After speaking to all parties, it was determined that four different groups were preparing four different solutions involving portable generation. DOE, as the lead for ESF-12, pulled CenterPoint Energy, Entergy, Army Corps of Engineers, City of Houston, and the Coastal Water Authority (who ran the pumping station) together on a conference call to discuss the situation (note there was not a lot of communication between CenterPoint Energy and Entergy up to this point). CenterPoint Energy suggested energizing an open link between CenterPoint Energy and Entergy and letting CenterPoint Energy repair three lines between Entergy substations and to serve the pump station load from CenterPoint. ESF-12 strongly recommended to the PFO that this become the number one solution since this would provide a more stable source of power for the pumping stations. Late night on Sunday September 25, CenterPoint Energy contacted the DOE Emergency Operations Center to ask for permission to make the connection. Within minutes of that call, ESF-12 at the Austin JFO gave the verbal go-ahead to CenterPoint to proceed with its work on getting the pump station up. The work was completed two days later and the pump station came back on line just as the water supply was down to about a one day supply.

ESF-12 in Alabama was asked to contact an Alabama pole-making company (Cahaba) and attempt to get them fuel so they could continue their pole-making/treating (they make 4000 poles per day). The Governor of Alabama was made aware of the plight of Cahaba which was producing poles for Entergy and Mississippi Power (ESF-12 at the Mississippi EOC confirmed with Entergy and Mississippi Power that this pole supply was critical) and ESF-12 was tasked with getting them fuel. ESF-12 spoke with all parties with involved (Hunt Oil, Stephens Oil Distributor, and Cahaba) and got Hunt Oil to release the needed fuel beginning the following day, the day that Cahaba was going to have to shutdown their pole-making due to lack of fuel. ESF-12 personnel drafted a letter to Hunt Oil that was signed by the FCO and sent out a half hour later. Six pole-making companies in MS had shut down and the utilities were using the poles as fast as they were produced. Cahaba made 4000 poles per day and is the largest pole making company in the world. Without these poles, restoration would have severely been affected.

The Louisiana Offshore Oil Port was also partially damaged and initially shut down by Hurricane Katrina. This facility is the only US facility capable of offloading ultra large tankers and pumps about 1 million barrels of oil a day. DOE facilitated their access to emergency communications; worked with the local utilities to prioritize their restoration of commercial power; assisted in getting delivery of food and water to the on-site crew; and facilitated their communication with the U.S. Coast Guard to get their shipping lanes surveyed, which resulted in a U.S. Navy minesweeper being deployed to the area.

## Department of Transportation

The Department of Transportation (DOT) successfully coordinated one of the largest airlifts in its history to support the emergency evacuation of more than 66,000 citizens from New Orleans. This large and complex operation involved three federal Departments and a fleet of private sector and military aircraft.<sup>41</sup> Additionally, the DOT **Federal Aviation Administration** quickly restored air traffic control and runway operations at the Louis Armstrong International Airport in New Orleans. This not only facilitated the delivery of relief supplies into the area, but also enabled federal authorities to execute a massive airlift of New Orleans evacuees. The Air Transport Association also coordinated forty domestic flights with continual DOD and civilian flights to evacuate a total of 24,000 people.

As a member of the DOT Region Ten Emergency ESF-1 response cadre, John Calvin was deployed for a period of over five weeks to the Louisiana State EOC and to the JFO in Baton Rouge. Working more than eighteen hours each day as part of the FEMA Emergency Response Team-Advance (ERT-A) he played a crucial role in post-landfall evacuation operations. Using ESF-1 controlled helicopters, he personally coordinated and led the evacuation of over 200 patients and staff, many of whom were non-ambulatory, from the rooftop of the flooded Louisiana State University hospital in downtown New Orleans. This dangerous but urgent lifesaving mission was undertaken voluntarily on John Calvin's part and at considerable risk, despite the fact that helicopter evacuations are not part of the traditional ESF-1 function. Additionally, John Calvin worked almost constantly, often on less than three hours sleep, coordinating military and ESF-1 buses and aircraft during the early phases of the evacuation. His personal efforts were instrumental in moving 210,000 people from New Orleans to shelters.

## Department of Housing and Urban Development

Working with the U.S. Conference of Mayors and the National Association of Counties, the Department of Housing and Urban Development (HUD) coordinated the identification of housing opportunities for hurricane victims. As a result, numerous cities, counties, and Indian Tribes offered housing and transportation to displaced persons. For example, the cities of Detroit and Philadelphia offered housing for over 1,000 displaced individuals. Allegheny County, Pennsylvania also offered to house 1,000 persons. HUD then worked with FEMA to match displaced individuals with vacant housing. HUD also sent personnel to Disaster Recovery Centers in states that were directly affected by the hurricane and flood, as well as in Arkansas, Florida, North Carolina, Tennessee, and Texas to meet with people displaced from their homes, and personally help them find temporary and permanent housing in host

cities.<sup>42</sup> HUD used key interpersonal skills and relationships it had developed over the years, successfully matching the newly homeless with homes.

## Department of Agriculture

Prior to Katrina making landfall, the **Food and Nutrition Service** (FNS) had proactively pre-positioned food in warehouses in Louisiana and Texas, making the food readily available for disaster meal service programs. FNS continued its efforts to ensure adequate supplies of food were on hand or nearby by airlifting initial supplies of infant formula and baby food products to Louisiana, Texas, Alabama and Mississippi and then following up with additional baby food supplies for delivery via land transportation (this amounted to approximately two million pounds). Additional commodities (approximately twenty million pounds), that included fruits, juices, vegetables, meats and grains, were also procured and/or diverted from existing USDA and other state sources to assist with congregate meal service and provide families with food packages until the Disaster Food Stamp Program could provide food relief (certain locations in the hardest hit areas could not operate the Disaster Food Stamp Program because there were no retail outlets available). Additionally, schools outside the devastated areas were granted waivers which permitted the service of free meals to children who had fled the devastated areas and began attending school elsewhere. FNS also promptly implemented the Food Stamp Program's first National Evacuee Policies that enabled State agencies that were not affected by the hurricane or that were not administering a disaster program to immediately issue disaster benefits to individuals and families who evacuated to their States. FNS approved over seventy waivers to affected States to issue benefits under the disaster authority. FNS also expanded the range of foods that could be purchased with food stamps in Louisiana, Mississippi, Florida, Alabama, and Texas, and approved alternate procedures for use and replacement of food stamp benefit cards to improve a household's ability to purchase food.

About 3,000 members of the **Forest Service** also deployed to the region to support response efforts. Arriving in Mississippi, Louisiana, Florida, and Alabama, Forest Service personnel established support camps, provided aviation assistance, and transported desperately needed supplies to relief workers. The base camps they established were capable of supporting 1,000 emergency responders at each site. They bolstered the destroyed aircraft infrastructure in the region with their own fixed wing planes and helicopters. They also helped navigate the Federal procurement system and successfully obtained needed emergency response supplies. These activities allowed local and state emergency response personnel to focus on response rather than worrying about the supplies and other support they needed.<sup>43</sup>

Many organizations and agencies that responded to Hurricane Katrina and the ensuing flood arrived in the region without much experience with or knowledge of the affected States and their geography. National Guard member Ronnie Davis - also of the USDA **National Resources Conservation Service** (NRCS) - utilized the organization's digital data (ordinarily used to produce conservation plans and generated in Texas) and its Digital Topographic Support System to create the much needed maps of the affected regions of Mississippi. Davis and his team set up the system on an airport runway, and using a National Guard generator, managed to produce over 800 maps to support sector operations. In addition to hand-delivering these maps to National Guard units, the team also delivered maps to local police, law enforcement officers arriving from other States, and FEMA. According to Davis, his "...work for NCRCS just transitioned into what was needed to help with Hurricane Katrina relief in Mississippi and to support the local governments."<sup>44</sup>

The **Animal and Plant Health Inspection Service** (APHIS) sent fifty veterinarians and wildlife experts to the region to rescue animals - pets, zoo animals, and livestock. They augmented and provided veterinary services in Louisiana and Mississippi, saving more than 10,000 animals from the flooding of New Orleans. They delivered fresh water and bales of hay to starving cattle. They also successfully rescued mice that were part of Tulane University's cancer research program. APHIS helped many animals survive until they could be reunited with their owners, reduce the economic impact of further agricultural losses, and maintain research continuity.<sup>45</sup>

Through its Emergency Conservation Program, the **Farm Service Agency** (FSA) provided funding to help farmers and ranchers rehabilitate farmland damaged by the hurricane and flood. Administered by FSA state and county committees, this program provided the additional resources needed to remove debris from farmland, and restore farm-related infrastructure (e.g., fencing). FSA also decided to change its policy for those affected by the disaster, allowing eligible producers to receive 100% cost-share assistance in implementing an approved practice (instead of the usual 75%).<sup>46</sup>

The USDA program for **Rural Development** did not wait to be asked and instead, reached out to those displaced by the hurricane and flood. It offered direct loan borrowers a "no-questions-asked" moratorium on their mortgage payments, while simultaneously working with guaranteed lenders to prevent any liquidation actions and offer payment forbearance. The program also actively looked to fill the housing gaps that could not be addressed by FEMA and the Small Business Administration by finding alternative lodging for those that had been displaced, and making these victims a higher priority for Rural Development housing. For example, the program arranged to let tenants use vacant seasonal labor housing units while repairs were being made to their own homes. Rural Development looked for ways to make its own activities bend to meet the housing needs generated by this catastrophe, while continuing to meet their ongoing commitments to rural communities throughout the Nation.<sup>47</sup>

Many scientific federal organizations worked with scientists in the affected region to continue their research. For example, the **Agricultural Research Service** (ARS), the in-house research arm of the U.S. Department of

Agriculture (USDA), did not allow the hurricane to derail important ongoing agricultural research throughout the Nation. When the USDA Southern Regional Research Center in New Orleans was severely damaged by Hurricane Katrina, ARS quickly relocated some of the scientists, support staff, and their families to the U.S. Plant, Soil and Nutrition Laboratory in New York. ARS provided support to these families, facilitated the continuation of their research, and gave them the opportunity to collaborate with other scientists from the Cornell University Departments of Plant Pathology and Animal Science.<sup>48</sup> ARS and other federal agencies, such as the **Department of Commerce National Institute of Standards and Technology** and the **Department of Energy Office of Science** provided scientists with the resources and support they needed to continue their research in spite of the hurricane and flood.<sup>49</sup>

## Department of Commerce

Clearly understanding the impact of the hurricane and flood on businesses in the region, the **Minority Business Development Agency** of the Department of Commerce (DOC) sent business development specialists to the region to provide on-the-ground assistance to the owners of the more than 59,000 minority firms in Louisiana, Mississippi, and Alabama, as well those that temporarily relocated to Texas. MBDA established a minority business development center in Houston to assist with loan applications, business plans, insurance claims, reconstruction of business records, and business administration. Instead of letting these businesses slide, MBDA helped get owners back on their feet quickly.<sup>50</sup>

Elements of the **National Oceanic and Atmospheric Administration** (NOAA) were proactive and vigilant. The National Hurricane Center (part of the NOAA National Weather Service) accurately predicted and tracked the size, scale, and path of Hurricane Katrina. Further, Max Mayfield, Director of the National Hurricane Center, personally made phone calls to local, State and Federal leaders to apprise them of the situation, aggressively contacting officials in the affected areas to warn them.<sup>51</sup> Members of the National Weather Service knew that the time would come to issue warnings, and they developed them ahead of time, evaluating data and basing the warning language on various scenarios, so that when certain criteria were met (as with Hurricane Katrina), they did not have to waste time creating statements - they could issue them immediately.

The National Weather Service also correctly realized that the levees were breaching and issued a flash flood warning at 8:14 am Monday, August 29, saying, "A levee breach occurred along the industrial canal at Tennessee Street. Three to eight feet of water is expected due to the breach."<sup>52</sup> These organizations correctly characterized the situation, identified the danger, and got the word out clearly and promptly.

During the response to Hurricane Katrina, the DOC **National Telecommunications and Information Administration** (NTIA) correctly and immediately identified the need for additional communications bandwidth, and allocated more than 1,100 frequencies to nine Federal agencies which allowed them to operate their land mobile, aeronautical, maritime, and satellite communications. NTIA also coordinated with the Federal Communications Commission to temporarily authorize the use of private sector satellite, ultrawideband, and microwave communication services. In addition to these response efforts, NTIA also provided financial support to reestablish the communications infrastructure in Louisiana, helping the state to take an initial and important step toward recovery.<sup>53</sup>

## Department of the Interior

The **Bureau of Indian Affairs** (BIA) of the Department of the Interior (DOI) focused their efforts on assisting tribes in the Gulf region to address their public safety, emergency access, and emergency services needs.<sup>54</sup> They maintained communications before hurricane landfall and coordinated directly with Tribal governments, such as the Mississippi Choctaw Tribal government.<sup>55</sup> BIA waited until Tribal governments made requests before sending assistance, but started preparing and moving assets ahead of time, so that when the requests for assistance did come, they were already responding.

BIA had responded to seven hurricanes previously and knew exactly what to do when the time and requests came. The Bureau arranged for fresh water to be delivered from other States, replaced spoiled food, cleared debris from roadways, brought in necessary supplies, ensured continuity of education for children attending BIA-funded schools, and improved public safety infrastructure by assigning Bureau law enforcement personnel to the area. The Bureau also correctly assumed that those Tribes near the affected regions would take in other members that were victims of the hurricane and flood, and worked to provide financial and other assistance, helping the Tribes take care of each other.<sup>56</sup>

Federal land-managing agencies, such as the **Bureau of Land Management** (BLM), as well as their state counterparts sent hundreds of employees to help restore public health and safety in the devastated region. They also deployed to the Mississippi-Louisiana border to clear roadways and power lines of damaged and fallen trees that had cut off those in the coastal communities, so that first responders could gain access to the victims and help restore power. BLM personnel also skillfully applied their experience with planning, logistical support and tracking (gained from years of managing wildland fires) to the situation in the Gulf region.<sup>57</sup>

Coordinating with FEMA, the U.S. Army Corps of Engineers and their sister organizations within the DOI, the **Bureau of Reclamation** mobilized equipment and staff in response to the hurricane and flood. Recognizing the need to purify drinking water, the Bureau of Reclamation sent an expeditionary water purification unit to Mississippi, purifying both contaminated and salt water to levels that not only met, but exceeded, EPA drinking water standards. The unit produced 100,000 to 200,000 gallons of purified water per day. The Bureau also deployed employees to assist with debris removal and install temporary roofing. They had equipment and trained personnel who were well acquainted

with the rigors and requirements of water purification and other missions in contaminated and disaster-driven conditions.<sup>58</sup>

Scientists from the **Geological Survey** worked with the Louisiana Department of Environmental Quality to monitor water quality in the state following the hurricane and flood. Using a mobile laboratory, they collected and analyzed water samples from 22 sites in and around Lake Pontchartrain, a major recreational area and fishery, for three weeks to determine levels of contamination, and whether this contamination extended into the Mississippi Sound.<sup>59</sup> They applied sound scientific research practices and attention to detail to the problem of contaminated water in the region.

Volunteers from the DOI **Office of Surface Mining** (OSM) deployed to Texas and worked at 13 different debris-disposal sites, dealing with more than one million cubic yards of debris. Additionally, OSM personnel conducted safety training, handled equipment inventory, purchasing and other administrative requirements. They applied their vast experience with clearing large amounts of debris to the situation, moving debris out as efficiently and effectively after the disaster as they do for surface mining.<sup>60</sup>

## Department of Labor

Recognizing that getting back to work and starting new jobs would be critical for those affected, whether they returned to their home states or chose to live elsewhere in the U.S., the Department of Labor established a "Pathways to Employment" initiative. Using the Department's network of over 3,500 career centers nationwide, the initiative helps evacuees and survivors find jobs. The Department sent numerous personnel directly to the affected region to provide job counseling to evacuees (including tailored assistance to the disabled looking for employment), and help all in need of jobs use the expanded resources provided by this initiative. Additionally, the Department expedited and increased its Job Corps offerings, providing over 4,000 scholarships to economically disadvantaged young adults (aged 16-24).<sup>61</sup>

## Department of Education

The Department of Education established an innovative website to help provide assistance to those schools that had accepted students displaced by Hurricane Katrina and the flood. At this site schools list the needs of these students (e.g. books, clothes, school supplies, computers - even counseling) and donors list what they can provide. Schools and donors have access to one another's information, and are then encouraged to contact each other directly, and hundreds of matches have been made.<sup>62</sup> The Department of Education also worked with the **Defense Logistics Agency**, the **General Services Administration**, and the **Federal Emergency Management Agency** to pool federal resources and quickly provide thousands of pieces of furniture, computers and other equipment from the federal surplus to schools in need.<sup>63</sup>

## Department of State

Using the recently developed Employee Profile Plus database, managers in the State Department rapidly located current and former employees with skills in about 300 specific areas. The web-based system was deployed during the Department's tsunami relief efforts in late 2004 and again following the hurricane and flood. They quickly found employees with required language, area and disaster relief expertise in a matter of minutes, rather than days or weeks.<sup>64</sup> These skilled personnel were critical in communicating information to those that primarily or solely spoke foreign languages.

## Department of the Treasury

The **Bureau of Public Debt** immediately realized that there would be a great need for money in the devastated region, but that ordinary access to cash would be limited at the banks. The Bureau expedited both the replacement of savings bonds that had been destroyed, as well as the redemption of Series EE and I savings bonds that were less than one year old.<sup>65</sup> Other organizations in the Department of the Treasury, such as the **Financial Management Service** (FMS), immediately issued guidance to financial institutions to help them confirm the identify of people trying to redeem Treasury checks - to help the institutions prevent fraud and help the victims obtain needed funds.<sup>66</sup> The **Internal Revenue Service** also took action to advise taxpayers in the affected region of recent changes in tax law that under certain conditions would allow them to withdraw funds early from retirement plans, without the usual penalties.<sup>67</sup> Although Treasury checks, savings bonds, and of course, retirement plans, are often considered long-term investments, the Department of the Treasury allowed investors to turn them into sources of cash in this emergency, understanding that without the cash to address immediate needs, there would be no long-term future for these victims.

The Administrative Resource Center within Treasury's Bureau of the Public Debt, provides administrative services to many Federal agencies. The Armed Forces Retirement Home, with residences for elderly veterans in Gulfport, MS and Washington, DC, is one of its customers. As soon as the Administrative Resource Center procurement staff was informed, late on August 29, 2005, of the decision to evacuate approximately 400 residents and essential staff from the flooded Gulfport home to the Washington, DC facility, they set about applying their procurement skills to orchestrate a safe and rapid evacuation and relocation. This included arranging for the rental of buses along with procuring necessary nursing services, lodging, and meals for the several-day journey. The frailest of residents were either redirected to Maxwell Air Force Base, for faster and less stressful transport to Washington, DC, or, in extreme cases, were found places in a nearby nursing home. While the

Gulfport residents were in transit to Washington, the Center also quickly procured a host of goods and services to prepare the facilities at the Washington, DC campus for the huge and sudden influx of new residents. This included procuring beds, linens, furniture, air conditioners, and extra support services, such as medical, food, transportation and custodial services. Within eight days of Katrina making landfall, the last busload of Gulfport residents arrived safely at the Washington, DC campus.

While working on the phones for FEMA, Dionne Lewis, a four-year IRS employee for Atlanta Accounts Management, received a call from a distressed person in Texas who was living in the Houston Astrodome. This person had been displaced by Hurricane Katrina and was in desperate need of help. Thrilled to have reached someone with such compassion, the person wanted to know if Ms. Lewis could also help the next person in line there at the Astrodome. She agreed, but little did she know that the call would last throughout her entire shift as one person after another came to the phone to find what help the IRS could offer. There was little time for breaks. Ms. Lewis did not let the magnitude of the calls or the prospect of being on the phone for nearly eight hours keep her from being professional, assuring that each person was informed of their Privacy Act rights, and then affording them an opportunity to tell their story and receive what assistance the IRS could offer. These and other all day long marathon calls occurred quite frequently and became known as the Delta calls. IRS employees answered well over 760,000 registration calls for FEMA and more than 30,000 calls on the special IRS toll-free line for affected taxpayers.

Internal Revenue Service, Portland call site assistor Jon Fredericks, received a call from an eighty-one year-old woman outside of a New Orleans home needing urgent help. She was sitting in the sweltering heat, without power, waiting for someone to evacuate her. She had tried to call several help lines, but had not reached anyone so far except the IRS. Mr. Fredericks told her to stay on the line and with the help of coworker Jim McMahan, contacted city emergency services and alerted them to her situation and location. Within a short time, the rescue team arrived at her home.

## The Department of Veterans Affairs

The Department of Veterans Affairs (VA) took a hard look at their resources, missions, assets and personnel, and redirected them to fill the needs of the victims of the hurricane and flood, while maintaining service to America's veterans. The VA not only provided medical services, hospital beds, and medications in accordance with its standing emergency health care mission,<sup>68</sup> it also removed VA properties for sale from the market in eleven states to use them instead to fill housing needs for those displaced,<sup>69</sup> and worked with veterans to replace their benefit checks.<sup>70</sup> The VA cared for many victims of the hurricane and flood, while also continuing to care for the soldiers who have borne the battle, and for their families.

Jack Myers, Maintenance and Repair Foreman, Wayne Brown, Air Conditioning Shop Foreman, and James Ware, Plumbing Shop Foreman, had taken shelter from Hurricane Katrina in a building on the north side of the Gulfport Veterans Affairs campus leaving their vehicles and their office on the more dangerous south side. That afternoon, the three men went to check on their vehicles. They found a five-year-old boy alone under a four-foot tall pile of debris that minutes before had been part of an apartment complex. The men took him back to their shelter. There, they dried him off, fed him and clothed him with an oversized uniform crudely tailored to fit his small frame. Fortunately, he suffered only minor cuts and scratches. "He's a very smart boy," said Brown. "He knew his name and his school and his teacher's name. He told us his momma had given him a Pop Tart and told him to go upstairs." The boy just continued to clutch that wet Pop Tart, remembered Brown, and was eventually reunited with his mother and brother.

By Friday, Sept. 2, all patients, employees, and family members had been safely evacuated from the VA in New Orleans using boats, military trucks, and military transport planes. Nine veterans, however, remained in the hospital morgue. Lynn Ryan, chief financial officer with the South Central VA Health Care Network, was determined to make sure everyone was evacuated. He searched and found a local company that had a refrigerated tractor-trailer and a willing driver. The following day, the truck driver, Ryan, co-worker Ceagus Reed, a human resources coordinator, and VA Police Officers Charlie Donelson and Reginald Finch, both with the G.V. (Sonny) Montgomery VA Medical Center in Jackson, Mississippi, made it through all the roadblocks and to the outskirts of downtown New Orleans. Four feet high floodwaters and the approaching evening hours forced them to take shelter for the night, sleeping in their vehicles at a toll plaza where law enforcement officers had set up a temporary station. On Sunday, two additional colleagues arrived to help - Steve Jones, an engineer, and Steve Morris, occupational safety and health manager. The team made it to downtown New Orleans but the refrigerated tractor-trailer couldn't make it through the flooded streets to the hospital's loading dock. Ryan flagged down a five-ton military transport truck that helped ferry the bodies from the hospital to the refrigerated trailer. At the loading dock, Ryan, Reed, Morris, and Jones donned biohazard gear and climbed the three flights of stairs to the hospital morgue. One at a time, they carried the bodies out. They returned to Jackson and notified the next of kin and made burial arrangements, including some at the VA's national cemetery in Natchez.

Phil Boogaerts, chief engineer at the New Orleans VA Medical Center, single-handedly kept the hospital supplied with necessary power and utilities to ensure adequate care for patients, employees and their families for four days prior to their evacuation. As a direct result of his actions, VA staff was

able to provide adequate care to patients and successfully evacuate all patients, families, and employees, including nine ventilator-dependent patients. In addition, Mr. Boogaerts videotaped the facility before, during, and after the storm providing valuable documentation that assisted with the assessment of damages to the physical plant as a result of the storm. Finally, Boogaerts voluntarily remained at the hospital after it was evacuated to continue maintenance of the facility. For several days, Boogaerts lived at the hospital in isolation, without air conditioning, running water, or prepared meals.

After evacuating the VA Medical Center, employees donated all of their food, 300 cases of water, all their medical supplies, and needed medication to Charity Hospital, a neighboring hospital that was still operating and had yet to completely evacuate. Employees delivered the provisions by boat, making their way through the murky waters of flooded downtown New Orleans. Among the medicines Charity needed and donated by the VA, were medicines for ant bites and snake bites.

## **Environmental Protection Agency**

The Environmental Protection Agency (EPA) worked with their partners in the Louisiana Department of Environmental Quality and other local officials to help remove hazardous household and other materials. They created a "curbside pickup" program to collect the materials from the houses, instead of making already overwhelmed victims deliver hazardous materials to another location.<sup>71</sup> They also identified the potential hazards returning victims would face, and distributed information to people in affected areas regarding a range of hazards, from asbestos to septic systems.<sup>72</sup> They collected and removed many hazardous materials, including electronics, batteries, computer hardware, paint, solvents, lawn and garden products. They enabled people to reestablish clean and safe environments in their houses and for their families. Without EPA assistance, this would not have occurred. Additionally, the EPA also waived national sulfur emissions standards for diesel fuel for a short period so that fuel produced for non-road uses could be legally used in highway vehicles.<sup>73</sup>

The success of the Incident Command System (ICS) was clearly demonstrated in Hancock County, considered to be the most devastated area within Mississippi. Carter Williamson led a team during the early stages of EPA's response effort to protect the citizens of Hancock County from releases of hazardous materials. Under adverse conditions, working sixteen-hour days every day, Mr. Williamson motivated the team members who were living under severe conditions, where basic support services such as electricity, shelter, running water, and telephones were, if available, very limited. In a demonstration of leadership, Carter remained in a variety of primitive shelters throughout the entire hurricane response, embedded with the team in the impacted community. His efforts resulted in the team's ability to provide more effective service and helped his team to empathize with the plight of the community. Whereas most other EPA employees rotated in and out of the work area on a two week basis, Mr. Williamson chose to remain in the community, despite having a wife and children back home, because he believed the consistency of leadership would be beneficial to the response effort. Although the magnitude of the task was overwhelming and the working conditions were poor, the quality of the response effort lead by Mr. Williamson was outstanding.

With Hurricane Katrina approaching, Nancy Jones was preparing to implement a Hurricane Debris Management Plan, like the one she had drafted for the US Army Corps of Engineers (USACE) while participating in the "Hurricane Pam" planning workshops. Because of this experience, the USACE specifically requested that Ms. Jones be deployed to assist the USACE in handling the debris collection and segregation of the hazardous materials resulting from Hurricane Katrina. She was instrumental in setting up the collection and debris management plan in many of the eastern Parishes including the City of New Orleans. Her coordination with the USACE made the response to the hurricane more efficient and effective. The Parish Officials and the City of New Orleans have developed trust and respect for the EPA because of her efforts. Ms. Veronica White with the City of New Orleans sums up Nancy's efforts well. "She is excellent and thorough. She has answered every question we (the City of New Orleans) have had. If she didn't know the answer right off, she got back to us with a response very quickly." Ms. White asked that the EPA keep Ms. Jones on the project through completion. She stated that they did not want to lose her.

## **Federal Energy Regulatory Commission**

In another effort to get needed resources in the region freed up for use by the victims and responders there, as well by citizens throughout the Nation, the Federal Energy Regulatory Commission took immediate steps to reconstruct the natural gas infrastructure of the region, and reduce the disruption in the natural gas supply.<sup>74</sup> Because the Commission approved temporary waivers and expanded eligibility standards they were able to help natural gas companies restore service and deliver additional gas to the market.

## **Federal Communications Commission**

The Commission acted quickly to facilitate the resumption of communications services in the affected areas and to authorize the use of temporary communications services for use by emergency personnel and evacuees in shelters. First, the Commission operated twenty-four hours a day every day of the week to assist industry efforts to restore communications. The Commission streamlined procedures to approve requests for special temporary authority (STA), which would in turn expedite industry recovery efforts. The Commission quickly granted more than ninety STA

requests and 100 temporary frequency authorizations that telecommunications companies and broadcasters needed to get service restored. The Commission also contacted each segment of the communications industry to help match their needs with resources (such as emergency generators and fuel) around the nation. Additionally, the Commission used its High Frequency Direction Finding Capability Center to remotely assess the damage done to radio stations in the areas struck by Hurricane Katrina and to monitor the progress of restoration activity. Further, the Commission assisted telecommunication carriers by helping their repair crews to secure the transportation and credentials recognized by local authorities to gain access to damaged sites.

### **Office of Management and Budget**

Recognizing that recipients of federal grants in those areas affected by Hurricane Katrina and its ensuing flood either would have to stop grant-related activities or be unable to perform as well as usual, the Office of Management and Budget (OMB) worked with the Federal agencies and the Office of Science and Technology Policy (OSTP) to assist these grantees in resuming operations. OMB directed federal agencies and OSTP to: (1) provide greater flexibility with grant application deadlines, (2) approve no-cost extensions on expiring awards for up to 12 months, (3) accept short written requests for project continuation, (4) allow grantees to continue to charge salaries and benefits to current grants, as well as costs to resume project activities, (5) waive some requirements for prior federal approval for re-budgeting and automatic carryover of unspent funds, (6) extend deadlines for reports, (7) continue already approved indirect cost rates for up to a year, (8) delay submitting financial and other reports to close out projects, and (9) help grantees reconstruct their records by allowing them to substitute copies for original records and providing copies of what had already been submitted.<sup>75</sup> OMB relieved short-term administrative and financial management requirements without compromising accountability.

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