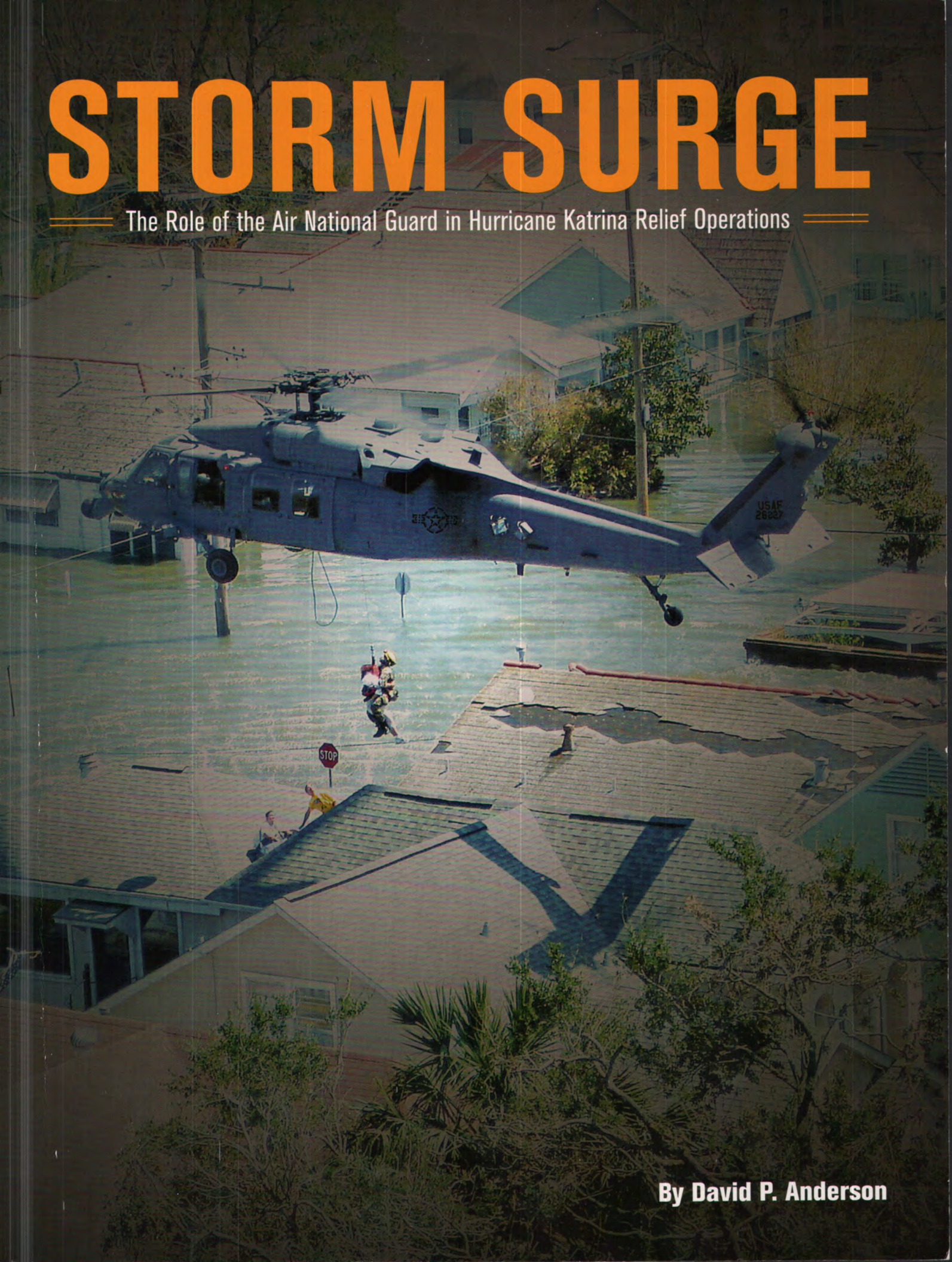
STORM SURGE

The Role of the Air National Guard in Hurricane Katrina Relief Operations



By David P. Anderson

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Air National Guard History Program
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Author Biography



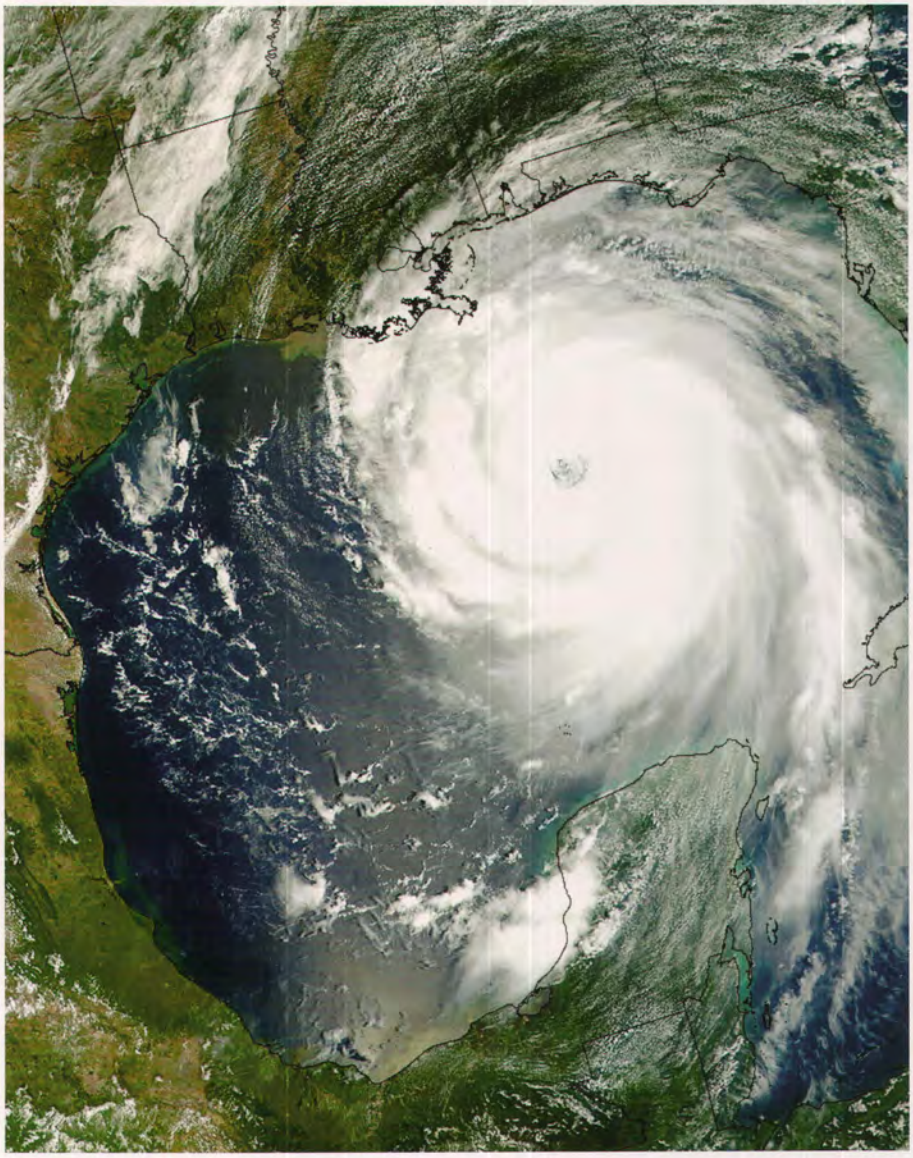
David P. Anderson is Senior Historian for the Air National Guard History Program at the National Guard Bureau. He is a retired Chief Master Sergeant with 24 years of service including 20 years in the Air National Guard. His first four years of military service began with the US Navy in 1981 as an Aviation Boatswain's Mate-launching and recovering aircraft on the USS Nimitz. In 1987, he joined the 103d Fighter Wing, Connecticut ANG and worked on the A-10 Thunderbolt II as a Aircraft Armament System Specialist. In 1996, David became the Wing Historian for the 115th Fighter Wing, Wisconsin ANG and remained in this position until 2004 when he transferred to the Air National Guard History Office at National Guard Bureau to be the Senior Enlisted Historian for the ANG. David retired in 2008 and was hired as a civilian historian in the ANG History Office. David has a BA in History from the University of Wisconsin-Milwaukee and a MA in History from George Mason University. His master's thesis was written on the Militia Act of 1792.

Foreword

When Hurricane Katrina made landfall in Louisiana on 29 August, 2005, the Air National Guard had over 22,100 members participating in combat operations in Afghanistan and Iraq, either as volunteers or mobilized. Even though the Air Guard devoted a portion of resources to those wars in 2005, they deployed over 6,000 personnel in the largest domestic response for a natural disaster in US history.

For Air Guard members assigned to units in Mississippi, Louisiana, and parts of Alabama, they had their own personal war to fight with Hurricane Katrina, both as residents and through their support of local civil authorities effort to respond to the damage caused by the storm. Several others dealt with the storm simply by riding it out at their duty stations. Thirteen members assigned to the Gulfport Combat Readiness Training Center (CRTC) "rode that monster out right." Katrina's eye wall passed over the center of Gulfport with the water from the Gulf of Mexico coming along with it. After the storm passed, the base was five feet under water. Despite the flooding, damaged buildings, and loss of communications, Gulfport CRTC became a crucial rescue and relief hub. After CRTC members cleared debris from the runways and taxiways, numerous aircraft loaded with relief aid continuously arrived in Gulfport.[1]

What happened at Gulfport, and elsewhere in the Gulf Region immediately following Katrina's arrival, illustrates how Air Guard members quickly responded to cries for help by those trapped by the deadly storm. This monograph describes the extent of the Air National Guard's response to supporting civil authorities during the 2005 hurricane relief operations. It will focus on how Air Guard personnel and equipment successfully contributed to the massive US military relief response to the victims of Hurricane Katrina, Wilma, and Rita.



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Introduction

If it keeps on rainin', levee's goin' to break
When The Levee Breaks I'll have no place to stay.
Mean old levee taught me to weep and moan
Got what it takes to make a mountain man leave his home,
Oh, well, oh, well, oh, well...

"When the Levee Breaks"
Lyrics by Kansas Joe McCoy and Memphis Minnie, 1929



Army National Guard vehicles drive off the cargo ramp of a C-5 Galaxy from the 105th Airlift Wing, New York ANG at Gulfport CRTC, Mississippi. (NGB/PA Photograph)

Hurricane Katrina was the eleventh named storm of the 2005 Atlantic hurricane season and the first to hit US shores. On 25 August, 2005, it made a brief landfall on the Miami-Broward county line on the east coast of Florida, with wind speeds reaching 80 miles per hour, and a rise in the tide five feet above normal. Katrina moved on a southwestward track across south Florida dumping over twelve inches of rain, and knocking over trees and power lines before entering the Gulf of Mexico. Florida Governor Jeb Bush declared a state of emergency and ordered over 800 Florida National Guardsmen to state duty to assist with hurricane relief efforts. Although Katrina arrived as a Category 1 storm, its devastating potential prompted governors in Louisiana, Alabama, and Mississippi to initiate disaster response plans that included mobilizing their respective National Guard forces. In the first series of multiple state call-ups, over 2,500 members of the National Guard in the Gulf States were activated, including about 1,000 Air Guard members.[2]

When Katrina made its second landfall on 29 August in the Plaquemines Parish near Buras, Louisiana, it arrived with wind speeds reaching up to 140 miles per hour, and a 28-foot storm surge from the Gulf of Mexico that pushed into the coastal towns of Mississippi and southwestern Alabama. Katrina's destructive force made it one of the deadliest and costliest natural disasters ever to strike the United States.



Hurricane Katrina storm track (NWS TPC/NHC)

In its wake, over 1,830 people died in the five states affected by the storm. Estimates of the number of deaths directly attributable to Katrina are uncertain and the true number probably will never be known. The high death rate ranked Hurricane Katrina as the third deadliest storm to hit the US, surpassed only by the hurricane that hit Galveston, Texas in 1900 that killed 8,000 people, and by the 1928 Okeechobee hurricane in Florida that caused over 2,500 fatalities. Damage cost estimates caused by Katrina were about $81 billion. All along the Gulf Coast and for miles inland, Hurricane Katrina destroyed and heavily damaged towns and cities.

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JN-4, like the aircraft in the photograph, were flown by pilots assigned to the 154th Observation Squadron during the 1927 Mississippi flood. (NGB/PA Photograph)

Overall, the vast scope and depth of Katrina's destruction demanded that the Air National Guard employ its largest and most complex response to a natural disaster since the 1989 California Lomo Prieta earthquake, which mobilized 32,000 California Guardsmen, including 487 Airmen.[3]

The Air National Guard has had a long history of supporting civil authorities during natural disasters. Before there was an Air National Guard, there were National Guard aviation units called observation squadrons. Twenty-nine observation squadrons became Air National Guard after the Air Force became a separate service in September 1947. One of the original units was the 154th Observation Squadron of the Arkansas National Guard. The 154th made one of the earliest recorded uses of National Guard aviation units supporting civil authority's response to a natural disaster. In April 1927, Arkansas Governor John Martineau mobilized all 60 members of the 154th Observation Squadron to state service in order to help rescue and provide relief to people affected by the devastating Mississippi River flood. Unit pilots flew their Curtiss JN-4 and JN-6 aircraft in driving rain to airdrop food, medicines, and supplies

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to workers shoring up levees along the river. They also delivered supplies to victims marooned in trees and on rooftops. In addition, pilots guided rescue boats to stranded people, and patrolled the levees to spot potential breaks. The unit flew over 20,000 miles delivering serum, food, and supplies across the state of Arkansas.[4]

Despite the 154th's important contribution to the massive relief effort, the unit paid a heavy price. The continuous flying over the flooded areas resulted in two crashes, which injured at least three aviators. The accidents were caused by heavy stress put on the aging airplanes, which led Governor Martineau to recall the 154th to Little Rock, where the aircraft were grounded for necessary maintenance and repairs. The continual service also

1927 Mississippi Flood. 154th Observation Squadron, JN-4 flies over stranded victims. (Painting by Gil Cohen)



caused personal and professional hardships for some members of the unit. For example, Major Asbury W. Meadows, the unit's first commander, had to resign his post in mid-May because the state call-up jeopardized his civilian business. On 3 May, 1927, the governor released the unit from active duty.[5]

There were similarities between the Air National Guard's response to Hurricane Katrina in August 2005 and the 154th's response to the Mississippi flood of April 1927. For instance, both disasters required large amounts of military resources to be sent to the devastated areas. Local rescue and relief efforts were quickly overwhelmed by the task. The National Guard rapidly augmented the civilian responders. Moreover, aviation played an important role in both instances. The utility of the airplanes used in the 1927 flood and during Hurricane Katrina illustrate how effective and efficient aviation was for delivering relief aid to victims when roads were inaccessible. Furthermore, National Guard observation units since 1927, and Air National Guard units after 1947, have continuously provided critical support during natural disasters. However, unlike the Mississippi Flood of 1927 when aviation was limited, the massive destruction caused by Hurricane Katrina resulted in the largest Air National Guard response in history to a domestic emergency.[6]



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Chapter 1

THE AIR NATIONAL GUARD RESPONDS

The Air National Guard provided a significant contribution with the 2005 hurricane relief efforts. Spanning a wide array of military capabilities, Air National Guard personnel and equipment used in response to the devastation caused by Hurricanes Katrina, Rita, and Wilma included airlift, civil engineering, search and rescue, air traffic control, communications, medical, food services, and security. The wide scope of military capabilities brought to the region was due entirely to the Air Guard's federal role. In order to provide a combat reserve to the federal government, the Air Guard is organized in tailored packages, so that its personnel and equipment can rapidly deploy to support combat operations around the globe. However, during their response to the hurricanes in 2005, the Air Guard was able to easily and quickly use its federal equipment and trained personnel for the domestic emergency.[7]

To manage the deployment of Air Guard personnel and equipment for combat operations overseas as well as the hurricane relief operations, the Air National Guard Crisis Action Team (CAT), located in the Air National Guard Readiness Center at



A C-130 assigned to the 145th Airlift Wing, North Carolina ANG, parked on a ramp with stretchers and an ambulance awaiting transport to the Gulf region. (NGB/PA Photograph)

Andrews Air Force Base, Maryland, expanded to 24-hour operations, beginning on 29 August. This allowed the Air Guard to establish communication links with the Federal Emergency Management Agency (FEMA) National Headquarters, the National Guard Bureau (NGB) Joint Operations Center (JOC), and the state JOCs in Louisiana, Alabama, and Mississippi, and to coordinate with all the various Department of Defense agencies.[8]

Although Hurricane Katrina's destruction was extensive, the initial recovery effort was considered by state and federal authorities as a regional recovery effort. Therefore, the response was managed by local branches of federal and state emergency management systems. Before 30 August, more than 2,100 Air Guard personnel were mobilized for state active duty by their governors to assist civil authorities with rescue, law enforcement, building shelters, and providing medical support in Louisiana and Mississippi. However, when the 17th Street and Surekote levees in New Orleans failed on 30 August, the entire recovery effort dramatically changed. The failure of the levees flooded 80 percent of New Orleans, and trapped more than 450,000 residents in their homes. The flooding also caused extensive damage to road networks, buildings, electric power plants, water, and fuel facilities. Most forms of modern communications including cellular phones failed. Collectively, the hurricane, its associated storm surge, and the levee failure, gravely amplified the dire situation in the Gulf region, and increased the need for rescue and relief from a regional response to a national and multi-state response.[9]

The flooding escalated the crisis level from critical to desperate. New Orleans city officials ordered residents to evacuate immediately. Louisiana Governor, Kathleen Blanco, announced at a press conference, "the devastation is greater than our worst fears." With a dire need for federal support in New Orleans, President George W. Bush placed three priorities on the recovery efforts: saving lives; sustaining lives with food, water, shelter and medical care; and executing a comprehensive recovery effort.[10]

The need for greater hurricane relief in the Gulf region became desperate, and forced the scope and depth of the Air Guard's response to expand significantly, critically testing its ability to support a large scale regional relief operation. In order to prevent the situation in New Orleans from getting worse, Lt Gen H Steven Blum, the Chief of the National Guard Bureau, directed the Army and Air National Guard to get "boots on the ground" as quickly as possible to stabilize the stricken area. The most immediate and most capable resource available to execute General Blum's orders was Air National Guard airlift aircraft. The use of Air Guard airlift, in effect set in motion the largest Air Guard response to a domestic relief operation in its history.[11]

To manage the deployment of Air Guard personnel and equipment for combat operations overseas as well as the hurricane relief operations, the Air National Guard Crisis Action Team (CAT), located in the Air National Guard Readiness Center at Andrews Air Force Base, Maryland, expanded to 24-hour operations, beginning on 29 August. This allowed the Air Guard to establish communication links with the Federal Emergency Management Agency (FEMA) National Headquarters, the National Guard Bureau (NGB) Joint Operations Center (JOC), and the state JOCs in Louisiana, Alabama, and Mississippi, and to coordinate with all the various DoD agencies.

Chapter 2

AIR NATIONAL GUARD FLYING OPERATIONS

The Air National Guard is a unique organization in that it has two roles: a state role to support the governor of each state and territory that its units are assigned to, and a federal role that supports the President of the United States. Since the Air Guard's inception in September 1947 as a reserve component of the United States Air Force, it has operated more often in the federal role than in their state role. In the federal role, Air Guard flying units have participated in combat operations in the Korean War, Vietnam War, Desert Storm, and in the wars in Afghanistan and Iraq. Air Guard personnel and aircraft have been used in various types of missions including air superiority, close air support, interdiction, aerial reconnaissance, air refueling, and airlift. During the 2005 hurricane relief efforts, Air Guard flying organizations played a large role in the response. Acting in conjunction with the US Army, Air Force, Navy, Marine Corps, and Coast Guard, Air Guard airlift units, air refueling units, rescue, and aerial reconnaissance units participated in the operation. In a very short time, the Air Guard used almost its entire array of flying capabilities to support the hurricane relief mission.[12]



Air National Guard C-130 Hercules parked on the ramp at NAS New Orleans, Louisiana. (NGB/PA Photograph)

AIR GUARD AIRLIFT

The shortest distance between a natural disaster and humanitarian relief is an Air Guard C-130.

Military aircraft have been used in humanitarian missions since 1907, when the airplane was first recognized as a useful instrument to deliver relief aid. The 1927 Mississippi flood was another example of how airplanes have a use in such an instance. In 2005, airlift aircraft were the quickest and most effective way to deliver relief aid to the stricken area.[13]

When Hurricane Katrina made landfall in Louisiana, the Air Guard had 224 airlift aircraft assigned to 25 airlift units, and 223 tanker aircraft assigned to 21 air refueling units. In the hurricane relief operation, Air Guard airlift aircraft performed three basic functions simultaneously. They delivered relief supplies such as water, food, and medical supplies. They also airlifted equipment such as power generators, tents, communica-



A C-130H assigned to the 137 Airlift Wing, Oklahoma ANG, departs on a hurricane relief mission. (NGB/PA Photograph)

tion gear, and forklift vehicles. Lastly, they transported thousands of Army and Air Guard personnel to Louisiana and Mississippi, and evacuated almost 2,000 displaced New Orleans residents from the stricken area to other locations throughout the United States. Every type of airlift aircraft assigned to the Air Guard was used, such as the Lockheed/Martin C-130 Hercules, Boeing C-17A Globemaster III, the Lockheed/Martin C-5 Galaxy, and the Boeing KC-135 Stratotanker.[14]

Air Guard aircraft and crews were able to respond quickly to the cry for help because personnel were sent in state active duty status before federal authorities authorized military assistance. As a result, the Air Guard was able to generate a high number of airlift missions. Up to 75 percent of all Katrina airlift missions were flown by the Air National Guard, but they used only 37 percent of all available airlift aircraft. By employing Air Guard units in state active-duty status, this reduced the time it took to cut orders and minimized the coordination process between the unit and the Air National Guard Readiness Center (ANGRC). Another reason for the high number of missions flown by the Air Guard was the overwhelming number of Air Guard personnel volunteering to fly relief missions.



A C-5 Galaxy assigned to the 105th Airlift Wing (AW), New York Air National Guard (NYANG) sits on the ramp at the Albany International Airport in Schenectady Airport, NY as airmen assigned to the 109 AW prepare to load the aircraft with support vehicles and equipment for Hurricane Katrina relief operations. (Photograph by TSgt. Michael Ohalloran, USAF)

On 28 August, the ANGRC dispatched a message to all Air Mobility Command gained units in the Air Guard to submit number of aircraft available to support airlift requests for hurricane relief efforts. The response from units was immediate because the Air Guard was able to start flying hurricane relief missions on the same day. Thereafter, Air Guard airlift missions steadily increased to get as many "boots on the ground" and to deliver desperately needed relief aid and evacuate hurricane victims out of the region. A C-17 Globemaster III from the 172nd Airlift Wing, Mississippi ANG, flew the Air Guards' first hurricane relief mission. The crew transported 85 civilians from Gulfport, Mississippi to Kelly AFB, Texas. A second Mississippi Air Guard C-17 transported 90,000 pounds of food to Gulfport. Soon, six follow-on resupply missions flown by six C-5 Galaxy transports from the 105th Airlift Wing, New York ANG, delivered additional food and water to Gulfport.

Amidst the increasing number of Air Guard sorties flown to support hurricane relief efforts, other Air Guard units were busy evacuating their aircraft before Hurricane Katrina made landfall. The 186th Air Refueling Wing, Mississippi ANG, the 117th Air Refueling Wing, Alabama ANG, and the 159th Fighter Wing, Louisiana ANG, evacuated their aircraft to safer locations like McConnell Air Force Base in Kansas and MacDill Air Force Base in Florida.

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In the last days of August, Air Guard airlifters began flying hurricane relief missions in earnest. Air Guard C-130 aircrews from the 142nd Airlift Squadron, Delaware ANG, and the 135th Airlift Squadron, Maryland ANG, transported over 250 National Guard military police personnel to Jackson, Mississippi. In addition, two C-130s assigned to the 165th Airlift Squadron, Kentucky ANG, hauled 380,000 pounds of sandbags to Naval Air Station New Orleans, Louisiana, while five C-130s from the 181st Airlift Squadron, Texas ANG, and the 185th Airlift Squadron, Oklahoma ANG, transported over 390 Army National Guard military police and Air Guard security forces personnel to Naval Air



9/1/2005, NAS New Orleans, Louisiana. Palletized Meals Ready to Eat (MREs) sit in front of a parked KC-135R Stratotanker assigned to the 155th Air Refueling Wing, Nebraska ANG, waiting to be loaded onto a flatbed trailer truck. The KC-135 crew flew a two-day relief mission to help deliver 65,000 MREs to New Orleans. (NGB/PA Photograph)

Station New Orleans. A C-130 from the 192nd Airlift Squadron, Nevada ANG, delivered 30 Air Guard medical personnel to Baton Rouge, Louisiana, and a C-130 from the 105th Airlift Squadron, Tennessee ANG, evacuated 45 patients from New Orleans International Airport, and delivered them to Ellington Field, Texas. A C-130 from the 171st Airlift Squadron, Michigan ANG, evacuated 72 patients from New Orleans IAP. A 105th Airlift Wing, New York ANG, C-5A Galaxy transported members of FEMA and their equipment from March Air Reserve Base, California, to Lafayette Regional Airport, Louisiana.

The magnitude of the Air Guard's airlift contribution to hurricane relief operations can be found by comparing the number of airlift sorties flown on one day, between its airlifters and those of the Air Mobility Command. For example, on September 1, the Air Guard flew 148 sorties versus 51 sorties flown by Air Mobility Command aircraft. In addition, Air Mobility Command transported 530 passengers while the ANG transported 1,446 passengers. Comparing total airlift

A C-5 crew from the 105th Airlift Wing, New York ANG offload a pallet of MREs at New Orleans International Airport, Louisiana. (NGB/PA Photograph)



The types of aircraft and missions flown, and the units supporting the missions varied from one day to the next. Air Guard airlift and tanker units participating in hurricane relief operations came from all across the United States.

sorties, the Air Guard airlift crews flew 4,119 sorties in support of Katrina relief operations and an additional 1,067 sorties flown for Hurricane Rita relief operations. The total Air Force airlift sorties flown were 4,095.[19]

Undeniably, the Lockheed/Martin C-130 Hercules was the workhorse of airlifting hurricane relief to the area. Similar to the Douglas C-54 Skymaster and Douglas C-47 Skytrain providing an airborne lifeline to the people living in the beleaguered city of West Berlin in 1948–1949, the C-130 Hercules alone performed a 21st century equivalent by delivering troops, supplies, and evacuating thousands of hurricane victims from Mississippi and Louisiana. C-130s delivered thousands of personnel and tons of relief aid including cots, bottled water, Meals Ready to Eat (MREs), firefighting equipment, and high-wheeled vehicles. They also flew missions as a flying hospitals, evacuating thousands of sick and injured victims to various destinations in the US. C-130's assigned to all three components of the Air Force, Marine Corps, Coast Guard, contractors, and foreign countries flew hurricane relief operations. The Hercules was the premier airlift aircraft of the Air Guard during the hurricane relief operation.[20]

The types of aircraft and missions flown, and the units supporting the missions varied from one day to the next. Air Guard airlift and tanker units participating in hurricane relief operations came from all across the United States. For instance, on 1 September, a C-130 from the 139th Airlift Wing, Missouri ANG, transported 31 children needing hospitalization from New Orleans to Kansas City, Missouri, while several C-130s assigned to the 166th Airlift Wing, Delaware ANG, transported over 400 Delaware National Guard troops to the hurricane-stricken region. Meanwhile, a C-130J assigned to the 175th Wing, Maryland ANG, transported a large number of Maryland National Guard troops and supplies to the region. A



More than 500 pallets consisting of dozens of cases of bottled water sit in a parking lot of the 108th Air Refueling Wing, New Jersey Air National Guard, prior to being transported by the 108th ARW via KC-135 Tankers to areas hit by Hurricane Katrina. (Photo by Sgt. 1st Class Robert Stephenson, NJDMAVA/PA)

single C-130 assigned to the 152nd Airlift Wing, Nevada ANG, transported National Guard medical teams to Baton Rouge, Louisiana.[21]

Air Guard KC-135 aircraft were also involved with moving needed supplies and people to the region. On September 1 and 2, 22 KC-135 aircraft from 8 Air Guard air refueling units delivered hundreds of troops and tons of MREs, and pallets of bottled water to NAS New Orleans and New Orleans International Airport. In these two days alone, KC-135s from the 108th Air Refueling Wing delivered approximately 37,400 cases of bottled water to NAS New Orleans. Air Guard airlifters evacuated 2,015 victims from the hurricane-stricken area.[22]

AIR GUARD AIRLIFT COMMAND, CONTROL, AND COORDINATION

To manage the massive Air Guard airlift effort, a four-person airlift mobility cell was quickly assembled to work at the Air Guard Readiness Center. The small team consisted of Army and Air National Guard officers to manage, organize, and direct Air Guard airlift missions operating under state activation for hurricane relief operations. The airlift cell worked in coordination with the NGB operations centers and Joint Task Force Headquarters operations centers in the 54 US states, territories, and the District of Columbia to deliver, as quickly as possible, the necessary personnel, equipment, and relief aid to Louisiana and Mississippi.[23]

In the first week of relief operations, members of the airlift cell experienced continuous and sometimes frantic calls for airlift from the NGB operations center and other agencies. The heavy demand for airlift pushed airlift sorties flown to higher levels. For instance, Air Guard airlift crews flew 336 sorties and 4,235 hours in one day. This was the highest number of airlift sorties flown in a single day throughout the entire hurricane relief operation by any organization participating. This milestone surpassed the number of sorties Air Guard airlift crews fly in a regularly scheduled year under normal operations.[24]

Given the dynamic nature of the airlift requirements for the hurricane relief effort, the need for close coordination between the airlift cell at the Air National Guard Readiness Center and all the nodes of command and control was vital, especially with the Tanker Airlift Control Center (TACC) at Headquarters, Air Mobility Command, Scott AFB, Illinois. However, the problems associated with airlift assets operating in federal and state control caused coordination efforts between the Air National Guard Readiness Center and TACC to be far from perfect.[25]



A C-130H assigned to the 130th Airlift Wing, West Virginia ANG, arrives at Houston, Texas, with patients from New Orleans International Airport, Louisiana. These patients were transported during the middle of the night to medical facilities in Texas. Medical personnel were waiting as the aircraft landed in Houston to take these patients to local medical facilities. (U.S. Air Force photo by SMSgt Charles R. Ware)



Patients are off-loaded by Air Guard personnel at Houston, Texas. (U.S. Air Force photo by SMSgt Charles R. Ware)

The Tanker Airlift Control Center was the U.S. Air Force's primary hub for planning, scheduling, tasking, and executing Air Force tanker and airlift aircraft operations around the world. Given the enormous task of getting relief aid to the Gulf region as soon as possible, TACC experienced a new set of challenges in meeting airlift requirements because of the way the Air National Guard employed aircraft and crews operating in the state role. While Air National Guard airlift and tanker units flew relief missions under state control, the Tanker Airlift Control Center discovered that it did not have the ability to track Air Guard airlift missions operating under state control. Air Guard airlift missions in state active duty did not appear on the Tanker Airlift Control Center's Global Decision Support System. It had no knowledge of what Air Guard airlift missions were doing, or where aircraft and crews were located. The center's inability to track Air Guard airlift missions under state control inhibited TACC's ability to forecast the availability of airlift capability for additional airlift requests.[26]

The problems with tracking Air Guard airlift in the hurricane relief operation highlighted the need for an

Air National Guard airlift tracker for domestic operations that would allow TACC the ability to know what Air Guard tanker and airlift aircraft were doing while operating under state control or Title 32 status. Despite the challenges the two operation centers experienced in the relief operation, there were no aircraft accidents throughout the operation. By 29 November 2005, Air Guard airlift aircraft flew 3,092 sorties in 30,938 hours, transported 10,854 tons of cargo, and evacuated 2,046 hurricane victims.[27]

AEROMEDICAL EVACUATION

As important as it was to get relief supplies and personnel to the stricken area, it was also critical to evacuate the victims, especially the sick and elderly. Airlift and aeromedical evacuation played an intricate and critical part in the relief effort by evacuating thousands of hurricane victims from Louisiana and Mississippi. The Air Force Aeromedical Evacuation (AE) system embedded in the active duty Air Force, Air Force Reserve, and Air National Guard provided medical evacuation capability by specialized airborne medical transportation units called Aeromedical Evacuation Squadrons (AES) that administered sustained critical patient care while transporting patients to locations that offered appropriate levels of medical care. An AE crew typically consisted of two flight nurses and three aeromedical evacuation technicians. The U.S. Air Force Air Mobility Command (AMC) and Transportation Command's (TRANSCOM) Global Patient Movement Requirements Center (GPMRC) managed all AE missions.[28]

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During the Hurricane Katrina relief operation, AMC and the GPRMC coordinated all active duty Air Force and Air Force Reserve AE missions while the Air National Guard Aeromedical Evacuation cell at the Air National Guard Readiness Center managed the activation and deployment of Air Guard AE units. According to Major Bret Oldman, AE Functional Manager at the ANGRC during Hurricane Katrina, the first day was crazy as they were trying to "push units" to the stricken area. When Major Oldman reported to work at 0400 on the 29th, he could feel the heightened energy of everyone in the Crisis Action Team trying to fill myriad requests for assistance from the field. For the AE mission, Major Oldman received a report that stated that the main AE concern was the massive patient build-up at New Orleans International Airport. After Katrina had struck New Orleans, New Orleans International Airport was converted into a triage and evacuation staging area because of its massive size to house people and to accommodate many large aircraft to evacuate the victims. Major Oldman was told by his counterpart, Captain Tim Smith at AMC, that there were about 1,000 patients inside the terminal and another 500 people outside the terminal awaiting triage. Ambulances and helicopters were continuously arriving to deliver more victims, but there were not enough aircraft to transport the victims out of New Orleans. Hurricane victims, elderly, children, mothers, the sick, and those who had lost hope arrived at the airport. The demand to evacuate victims from New Orleans International Airport grew from 2,000 people to 10,000 in a 24-hour period. The challenge facing the small medical evacuation team established at the airport was overwhelming. There were more people needing help than there were people to aid them. Major Oldman immediately began contacting Air Guard AE units to get crews deployed to New Orleans as quickly as possible. The US Air Force sent an Aeromedical Support Element and a Critical Care Action Team to New Orleans International Airport to set up a Mobile Aeromedical Staging Facility (MASF) where victims were treated and prepared for air evacuation. A critical part of the evacuation effort was also the need to select medical facilities and hospitals across the United States to accept the thousands of victims transported. All civilian hospitals throughout the nation were part of



A flight nurse assigned to the 145th Airlift Wing, North Carolina ANG, prepares litters as its C-130 waits for an air-medical evacuation mission to New Orleans. (NGB/PA Photograph)

an overall emergency care system for the hurricane evacuees.[29]

The Air National Guard deployed 217 Air Guard AE personnel from all 10 Air Guard AES units, which was enough AE capability to transport 50 to 70 litter patients per hour. Major Oldman said, "when I think back to that chaotic morning I'm overwhelmed and extremely proud of the way my fellow Guardsmen simply dropped whatever they were doing to report to their units as fast as they could." According to Colonel Virginia Schneider, Commander of the 142nd Aeromedical Evacuation Squadron, Delaware ANG, when she received a call to get as many AE personnel to the Gulf region to help with the relief efforts, she was amazed at the overwhelming response of volunteers from her unit. Within a few short hours, over twenty nurses and medical technicians volunteered to deploy to Louisiana. Col. Schneider said, "We are all saddened when tragedy strikes the United States, but we are grateful that we possess a skill and capability to provide medical help when needed." Once Air Guard AE personnel responded to the call, the challenge for Major Oldman changed from finding enough AE crews to coordinate with the Airlift cell in the ANG CAT to get aircraft to pick up the AE crews. Once again, Oldman reported the response from the Airlift cell was immediate. Missions that were already scheduled were re-routed and the AE crews were picked up on the way. However, when Air Guard AE crews began flying evacuation missions in the Gulf region, the Air National Guard Readiness Center lost the ability to monitor the mission because Air Guard crews often operated on non-Air Guard aircraft. As a Total Force effort, Air Guard AE crews flew on active duty and Air Force Reserve aircraft.[30]

Soon after, Louisiana Governor Kathleen Blanco and Mississippi Governor Haley Barbour declared a state of emergency and activated their National Guard. Forty members assigned to the 183rd Aeromedical Evacuation Squadron (AES), 172nd Airlift Wing (AW), Mississippi ANG, reported for duty at Jackson Air National Guard Base in Jackson, Mississippi, and AE crews began flying aeromedical evacuation missions. On 30 August, a C-17 assigned to the 172nd Airlift Wing and an AE crew from the 183rd AES, both units assigned to the Mississippi ANG, evacuated 85 victims from Gulfport, Mississippi, and transported them to Kelly Field in Texas. Once the patients were removed from the aircraft, the C-17 was loaded with empty litters to be delivered to New Orleans International Airport. On the following day, four Air Guard AE missions originating from New Orleans International Airport were flown by the 183rd AES, 137th AES, Oklahoma ANG, and the 118th AES, Tennessee ANG. Overall, Air Guard AE crews evacuated over 265 patients from New Orleans and delivered them to Fort Worth, Texas.[31]

Air Guard AE personnel participated in the aeromedical evacuation mission in one of two ways. They either worked as a standard AE crew onboard airlift aircraft that was assigned an evacuation mission, or as part of the Mobile Aeromedical Staging Facility (MASF) set-up at New Orleans International Airport. Air Guard AE crewmembers flew on C-5, C-130, and C-17 aircraft assigned to the active duty, Air Force Reserve, and Air Guard. The 156th AES, 137th AES, 118th AES, and the 142nd AES, each sent 10 people to New Orleans IAP to augment the MASF. The 183rd AES of the Mississippi ANG had 40 personnel establish and operate a Guard-only MASF at Gulfport CRTC, Mississippi, to evacuate victims from the state. Overall, Air Guard AE personnel operated from Kelly Field, Texas, New Orleans International Airport, Shreveport and Alexandria, Louisiana, and Gulfport, Mississippi. During Hurricane Rita relief operations, the 183rd AES sent 46 personnel to Beaumont Airport, Texas to set up 3 AE crews, a

Air Guard AE personnel participated in the aeromedical evacuation mission in one of two ways. They either worked as a standard AE crew onboard airlift aircraft that was assigned an evacuation mission, or they worked as part of the Mobile Aeromedical Staging Facility (MASF) set-up at New Orleans International Airport.



Captain James O'Brien, 118th Airlift Wing, Tennessee ANG. (NGB/PA Photograph)

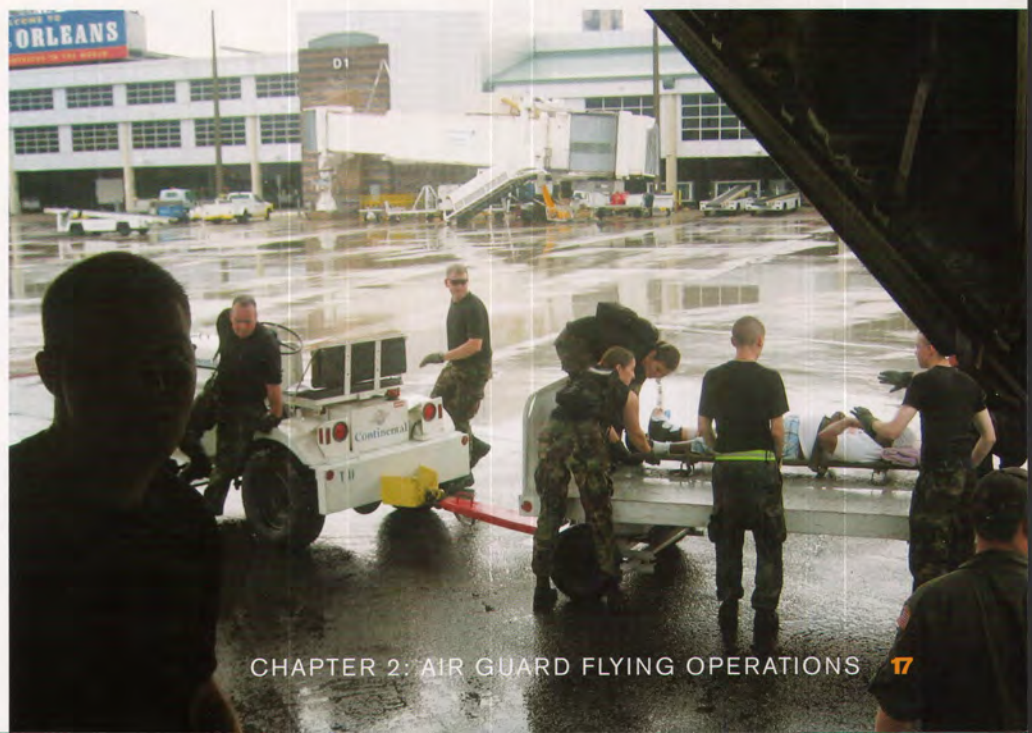
MASF, and an AELT.[32]

On 1 September, the Air National Guard AE cell at the Air National Guard Readiness Center directed all Air Guard AE crews flying evacuation missions to relocate to Kelly Field in San Antonio, Texas, to help create a Total Air Force AE system for the relief operation. Kelly Field was established as a major AE hub for the aeromedical evacuation portion of Hurricane Katrina relief operations because the base's aircraft ramp could accommodate many large aircraft, and due to the airfield's accessibility to at least 31 hospitals within the area. Victims airlifted from New Orleans International Airport to Kelly Field were processed for further transport to one of the nearby hospitals or trauma centers. However, many evacuees that were not sent to hospitals were housed in several large warehouses located on the grounds that had been refurbished and equipped with large mobile air conditioning units. In all, 26 of all 57 Air Force AE crews, or 45.6 percent assigned to Kelly Field were Air Guard AE personnel.[33]

An AE mission launched every hour from Kelly Field with two crews aboard each aircraft. Although the air evacuation mission was a Total Air Force effort, the Air Guard provided a significant portion of AE crews. By 3 September, the Air Guard had six AE crews to support the air evacuation mission in Louisiana from the 142nd AES, 146th AES, 156th AES, 183rd AES (two crews), and the 187th AES operating from Kelly AFB. Each five-person crew included an in-flight kit for AE operations.[34]

The flying portion of the AE mission was long and tiring. Often crews flew multiple missions in a single duty day or flew multiple missions over a span of days before returning to home station for rest. Captain James O'Brien, a C-130 co-pilot assigned to the 105th Airlift Squadron, 118th Airlift Wing, Tennessee ANG, flew an aeromedical evacuation mission to New Orleans International Airport on 1 September, 2005. His account illustrates the condition of the airport and the victims awaiting evacuation, and the absolute determination and willingness of all those people involved in the relief effort.[35]

The mission required two C-130s from the 118th AW to evacuate 86 victims and deliver them to Ellington Field, Texas. After Captain O'Brien's C-130 landed at New Orleans International, an airport vehicle led his aircraft and the second unit C-130 to park at a vacant spot normally used as an airline passenger gate that were used as triage and staging area for loading patients onto aircraft. However, getting the large C-130s into the parking spot required the pilots of both aircraft to carefully bring the aircraft through a very crowded parking area. A C-141



Hurricane victims arrive to be loaded aboard a C-130 from the 118th AW, Tennessee ANG. (Photograph by Captain James O'Brien)



Hurricane victims are being loaded into the cargo area of a C-130. (James Photograph)

and two C-17 aircraft flanked the spot where the two C-130s were directed to park. While parked and awaiting the loading of passengers, Captain O'Brien got a glimpse of how busy the airport was. He observed several helicopters representing the Army, Coast Guard, Marines, and a civilian "Flight for Life" arriving at the airport in 15 to 45 second intervals and from every direction. The helicopters arrived laden with victims rescued from rooftops in flooded neighborhoods; the helicopters remained on the ground just long enough for ground crews to off-load the victims, refuel, and get back in the air to pick up more victims. Even with a large thunderstorm passing over the airport, operations never ceased.[36]

Captain O'Brien's aircraft did not load patients until the first C-130 was loaded. That aircraft took 31 patients. When Captain O'Brien's aircraft began loading patients, members of the AE crew had to help several patients who could barely walk onto the airplane and assist them into their stretchers. Two medical doctors from Tulane Hospital went on the flight to assist the aeromedical evacuation crew. A total of 55 VA hospital patients were transported from New Orleans International Airport.[37]

Upon landing at Ellington Field, Capt. O'Brien's aircraft was met by 30 ambulances and a line of hospital aides and volunteers armed with wheelchairs who assisted the AE crew in removing the patients and providing medical treatment. After the aircraft engines shut down and the aircraft's rear loading ramp was lowered, the reception party went into action. The sickest victims and most seriously injured were transported to the hospital first, while everyone else was given food and cold drinks. They were then seen by a social worker, a doctor, and other specialists. Captain O'Brien's original mission itinerary had his aircraft continue from Ellington Field to Alexandria, Louisiana, to Charlotte, North Carolina, then return home to Nashville. However, inclement weather and the delays in loading and unloading patients caused the crew to exceed the maximum time allowed in a crew day of 16 hours for pilots, so the last two stops were cancelled and they returned home. During the hurricane relief effort, the 118th Airlift Wing flew eight of its nine aircraft in relief missions.[38]

In the early stages of evacuating victims from New Orleans International Airport, Air Guard AE crews faced

The helicopters arrived laden with victims rescued from rooftops in flooded neighborhoods; the helicopters remained on the ground just long enough for ground crews to off-load the victims, refuel, and get back in the air to pick up more victims. Even with a large thunderstorm passing over the airport, operations never ceased.

difficult challenges while trying to accomplish the mission. Crews were often given little or no information in advance about the number of patients to transport, whether any special equipment was needed, or if the airplane needed to have any special configuration in the cargo hold area. At times missions were delayed for up to six hours while waiting for patients to be properly triaged and organized into ambulatory and non-ambulatory cases. The Medical Crew Director (MCD) had to facilitate and do triage to determine patients to be air evacuated, while AEC loaded patients to a transport vehicle and escorted them to aircraft. The aircraft were parked in an area too far away from the terminal where patients and evacuees were loading. Despite the challenges, AE crews as well as flight crews demonstrated great flexibility and expertise in the performance of their duties. [39]

Air Guard AE crews participated in the hurricane relief effort under state activation Title 32 and as part of their state's Emergency Management Plan. However, due to the nature of the Air Evacuation mission and the short response time of the 10 Air Guard AE units, there was insufficient time to establish Emergency Management Compacts (EMAC) between some of the states. Many units were delayed in getting the necessary AE capability to Louisiana. Only one squadron, the 109th AES, Minnesota ANG, was able to receive EMAC coordination through their State JOC. [40]

Air Guard AE missions in Missis-



Medical orderlies wait to transport patients from airplane. (NGB/PA Photograph)

sippi were low compared to Louisiana's operation, however Air Guard AE personnel provided important capabilities to the relief effort in the state. The only Air Guard AE capability present in Mississippi for Hurricane Katrina was the 183rd Aeromedical Evacuation Squadron and the C-17 equipped 183rd Airlift Squadron of the Mississippi ANG. During Hurricane Rita, this unit deployed several unit members to Texas. Throughout the hurricane relief mission, Mississippi AE crews flew medevac missions on C-130 aircraft, C-17, and Coast Guard and Army National Guard helicopters. They also assisted the Air National Guard Community Outreach with administering tetanus vaccinations for Mississippi residents living in counties along the Gulf Coast, and distributed water, food, and health education material.[41]

By September 8, the air evacuation tempo at New Orleans International Airport began to subside, and the AE cell at the Air National Guard Readiness Center returned to normal routine. The Air Guard AE system played a significant role in the Air Force AE effort from New Orleans. From 31 August to 6 September, Air Guard AE crews evacuated 823 patients, or 32 percent of the total 2,570 patients moved by Air Force AE crews.[42]

SPECIAL AIR MISSIONS: RC-26B

In addition to airlift missions to the Gulf region, the Air National Guard provided aircraft associated with performing intelligence, surveillance, and reconnaissance (ISR) missions, airborne firefighting, and search and rescue to participate in the hurricane relief effort. For the ISR mission, the Air Guard used two specific aerial platforms, the Fairchild RC-26B Metroliner and the Scathe View equipped Lockheed/Martin C-130 Hercules.

The Air National Guard exclusively operated the Fairchild RC-26B Metroliner for domestic counterdrug operations. Eleven Air Guard flying units were equipped with a single RC-26B. The twin-engine turbo-prop aircraft was equipped with a large pod that hung on the aircraft's centerline. The pod housed a wet-film camera, an electro-optical camera for daylight and night video, an 85 megapixel digital camera that had ten times the power of the top line consumer cameras, and forward-looking infrared imagery. Since 11 September, 2001, the Air Guard RC-26B mission had expanded beyond its normal domestic counterdrug surveillance to include participating in homeland defense missions, Presidential support, border patrol, and maritime operations. The 2005 hurricane season was the first time the Air Guard RC-26B aircraft were used to support civil authorities responding to a natural disaster. Its capabilities

The 2005 hurricane season was the first time the Air Guard assigned RC-26B aircraft were used to support civil authorities responding to a natural disaster. Its capabilities were easily adapted to provide damage assessment, rescue and recovery support, and surveillance support for law enforcement agencies.



An RC-26B crew assigned to the 115th Fighter Wing, Wisconsin ANG, prepare to board their aircraft at New Orleans International Airport for another mission of photographing the flood damage, identifying search and rescue sites for the US Coast Guard, and using the aircraft's infrared capabilities to support law enforcement agents. (Photograph by SSgt Cheryl Hackley/NGB/PA)

were easily adapted to provide damage assessment, rescue and recovery support, and surveillance support for law enforcement agencies.[43]

The RC-26B's unique mission and capabilities were widely known among local, state, and federal law enforcement agencies throughout the United States. Its accessibility through the Counter-Drug Office at the National Guard Bureau and its reputation made it easy for civil authorities like the Louisiana Emergency Operations Center to specifically request the RC-26B to be sent to the Gulf region. In addition, existing emergency assistance agreements among governors permitted RC-26B aircraft and aircrew to cross state lines without major delays.[44]

Seven crews and six RC-26Bs from six Air Guard units deployed to Ellington Field Texas for the hurricane relief mission. Aircraft and crews started deploying to Texas as early as 30 August. The aircraft and crews came from the 115th Fighter Wing, Wisconsin ANG, 125th Fighter Wing, Florida ANG, 130th Airlift Wing, West Virginia ANG, 147th Fighter Wing, Texas ANG, 174th Fighter Wing, New York ANG, 186th Air Refueling Wing, Mississippi, ANG, and the 187th Fighter Wing, Alabama ANG. Aircraft maintenance was provided by contractor maintenance support.[45]

Ellington Field was selected as the hub of operations for two reasons. First, it was the home of the 147th Fighter Wing, Texas ANG, one of the 11 Air Guard units operating the RC-26B. As such, the base had all of the necessary RC-26B maintenance support and hangars available. Second, Ellington Field was the closest airport to the hurricane-stricken area that could support RC-26B operations.[46]

Katrina mission requirements for the RC-26B demanded a minimum of two missions flown each day, one during daytime and one at night. However, there were times when multiple missions were flown simultaneously. On average, an RC-26B mission lasted 4.5 hours and it included an hour flight to and from the target area. To provide adequate support for the mission requirements, aircrew and support personnel were divided to cover two 12-hour shifts.[47]

Air Guard RC-26B operations began immediately upon arriving in Texas. Aircrews took aerial photographs over New Orleans, Louisiana, Gulfport, Mississippi, and Mobile, Alabama for damage assessment. Mission altitudes varied from 2,500 feet to 5,500 feet above sea level, depending on the weather. In the first three days of missions over New Orleans, RC-26B crews photographed the levees for the Federal Emergency Management Agency and the US Army Corps of Engineers. The fruit of the aircrew's labor was a collection of highly detailed photographs showing the extent of storm damage in New Orleans. The aerial cameras onboard the RC-26B aircraft allowed the Corps of Engineers to precisely measure the size of the breaks in the New Orleans levees. The cameras also gave an aerial view of what roads and bridges were open to vehicular traffic.[48]

A key component in the RC-26B operation was the intelligence gathering capability of the 123rd Intelligence Squadron, Arkansas ANG. This unit was deployed to Ellington Field to support the RC-26B operation to process the aerial film generated by RC-26B missions. The 123rd Intelligence Squadron developed over 1,300 images, which amounted to 67 percent of all imagery used in hurricane relief operations. Several agencies involved in the relief effort used the imagery produced by the 123rd Intelligence Squadron.[49]

While flying over New Orleans, RC-26B crews got a firsthand look at Katrina's devastation. Lt. Col. Steve Dunai, an RC-26B pilot assigned to the 115th Fighter Wing, Wisconsin ANG, described the wreckage as mind numbing. "Until you put your eyes out the window of the airplane, there's no way to fully embrace the scope and expanse of the destruction." Lt. Col. Dunai described the flooded city of New Orleans as an immense city paved with shiny black asphalt, but it was not asphalt, it was water. His system operator,

On average, an RC-26B mission lasted 4.5 hours and it included an hour flight to and from the target area. To provide adequate support for the mission requirement, aircrew and support personnel were divided to cover two 12-hour shifts.

Lt. Col. Mike Shiels, also from the 115th FW, said the devastation was overwhelming. The extent of damage did not strike home until he flew his first mission over the storm-ravaged landscape. While over New Orleans, he could smell the stench of sewer water while flying 2,500 feet above the city.[50]

RC-26B crews also got a first-hand glimpse of what the New Orleans metropolitan area looked like without electricity at night. Flying over the area from the west, the once well-lit cities of western Louisiana and eastern Texas quickly became a sea of black. Lt. Col. Shiels said it was shocking to see how much of the city was without power. "We were over the downtown area, and there was no reference to where you were. It was black. There was nothing there."[51]

There were times during a sortie when the mission changed from photographing the levees to supporting a search and rescue mission, and providing law enforcement support. Air Guard crews flew search and rescue missions by reporting the locations of individuals trapped on rooftops of flooded homes and buildings. When the RC-26B sensor operator found stranded survivors, he radioed the ground rescue forces, telling them the victim's exact location for pick-up. The on-board infrared sensors allowed RC-26B sensor operators to quickly identify stranded people at night, because their body heat illuminated white against the cool dark background.[52]

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The RC-26B sensor operator sat in the back of the airplane where he used the infrared sensors to get detailed thermal images of objects emitting heat. The white images appearing on the 21-inch video screen in the back of the airplane signified the hottest objects and often indicated a sign of life. In addition, the chemicals in the flooded waters appeared as streaks on the sensor monitors.[53]

Air Guard RC-26B crews also supported law enforcement agents. In an area of New Orleans dubbed "The Wild West," agents from the Bureau of Alcohol, Tobacco, and Firearm Special Response Teams entered to restore order. The loss of law and order and the sound of frequent gunfire made this a growing concern for city officials. RC-26B crews flew at night to provide a "big eye in the sky" to law enforcement agents by using its infrared capability and a reliable and effective air-to-ground communications suite that allowed the aircrew to talk to both military and civilian personnel on the ground. The advanced surveillance equipment onboard an RC-26B allowed aircrew to give law enforcement agents critical situational awareness by warning agents of approaching dangers, by directing them safely to a target location, and by warning them where potential criminals were hiding. This role was similar to the one that the RC-26B performed in the counterdrug mission since 1991. From 30 August to 12 September, Air Guard RC-26B crews flew 136 sorties and more than 280 hours in support of hurricane relief efforts.[54]

SCATHE VIEW

Another ISR capability employed by the Air Guard during hurricane relief operations was a C-130 equipped

During Hurricane Katrina relief operations, Scathe View aircraft and crews helped search and rescue teams locate stranded victims, and provided aerial mapping of the Gulf Region and photographs of key buildings, levees, and highways for damage assessment.



A Scathe View station is prepared by members of the 152nd Intelligence Squadron, Nevada ANG, for a disaster relief mission aboard a C-130H Scathe View aircraft assigned to the 152nd AW, Nevada ANG. (152nd AW Photograph)

Scathe View aircraft. Scathe View was an intelligence collection and surveillance system carried on C-130H aircraft assigned to the 152nd Airlift Wing, Nevada ANG, and operated by members of the 152nd Intelligence Squadron, Nevada ANG. Scathe View provided real-time photographic imagery of the ground by using electro-optical and infrared sensors mounted on the airplane, and operated by on-board imagery analysts working at a sensor control workstation, which could operate both day and night. The analysts could transmit imagery to the ground staff for review. During Hurricane Katrina relief operations, Scathe View aircraft and crews helped search and rescue teams locate stranded victims, and provided aerial mapping of the Gulf Region and photographs of key buildings, levees, and highways for damage assessment.[55]

Scathe View missions helped disaster relief agencies assess the infrastructure of New Orleans by taking photographs of pumping stations, power plants, and flew over southern routes to identify passable roads for safe transport out of New Orleans. It also conducted area searches to check the condition of levees and the usability of bridges. Scathe View aircraft also searched for lost animals surrounding the Louisiana State Clinical Research Facility. It was also used to help assess hurricane damage on private, federal and state owned properties in Alabama, Florida, Louisiana, and Mississippi, so that the information given to FEMA and state-level government agencies allowed them to plan for national and state relief funding.[56]

Since Scathe View was considered a critical ISR capability for US Central Command; their employment to the hurricane-stricken area required an agreement between First Air Force and Air Combat Command. The latter agreed to send a Scathe View equipped C-130 and crew to the region for two weeks without affecting its overseas deployment obligation for Operation Iraqi Freedom. Called up in Title 10 federal status, the 152nd Airlift Wing and the 152nd Intelligence Squadron deployed on 4 September to Maxwell AFB, Montgomery, Alabama, as part of Joint Task Force-Katrina. Air Guardsmen began flying Scathe View missions shortly after arriving at Maxwell Air Force Base. Headquarters, 82nd Airborne Division, located at New Orleans International Airport, was responsible for assigning each Scathe View mission to the 152nd AW.[57]

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Scathe View equipment is being loaded on a 152nd AW C-130H. (152nd AW Photograph)

Early in the relief operation, the idea of using Scathe View in a domestic operation while operating in a federal status raised some legal concerns. The use of federally activated Scathe View capability and



Two North Carolina Air Guard MAFFS-equipped C-130s deployed to NAS Pensacola to provide aerial firefighting capability. (Photograph by 145th AW)

other airborne imagery collection and surveillance platforms on U.S. citizens was prohibited under U.S. law. During Katrina relief operations, defense officials resolved this issue by explaining that the intent of Scathe View was to search for and rescue stranded people, not to spy on them. Scathe View missions continued until 13 September when the unit redeployed to Reno, Nevada.[58]

MODULAR AIRBORNE FIRE FIGHTING SYSTEM (MAFFS)

The United States National Forest Service's arsenal of firefighting capabilities include three Air National Guard and one Air Force Reserve C-130 units equipped to carry the Modular Airborne Fire Fighting Systems, or MAFFS, for use against wild-land fires. MAFFS is owned and tasked by the Forest Service, and is the lead federal agency for fighting all fires within the continental United States. The Modular Airborne Fire Fighting System consists of a pres-

Modular Airborne Fire Fighting Systems, or MAFFS, for use against wild-land fires. MAFFS is owned and tasked by the Forest Service, and is the lead federal agency for fighting all fires within the continental United States.



The interior of a MAFFS-equipped C-130. (Photograph by 145th AW)

surized 3,000-gallon, five-tank system attached to an aluminum pallet that is slid inside the cargo hold of a C-130 aircraft. The flame retardant contained in MAFFS system is discharged through two tubes protruding over opened cargo doors in the rear of the airplane.[59]

A rising concern by New Orleans officials was that broken gas lines and ample supply of ignition sources would make major fires a real threat to the city. U.S. Northern Command at Peterson Air Force Base, Colorado, ordered two MAFFS-equipped C-130s from the 145th Airlift Wing, North Carolina ANG, to arrive at NAS Pensacola, Florida, to provide airborne fire fighting capability to New Orleans civil authorities against the objections of the Forest Service and the Air National Guard's MAFFS program coordinators. The employment of MAFFS for hurricane relief operations turned out to be a complete waste of resources. The aircraft remained at NAS Pensacola from 4 to 26 September without ever employing MAFFS to an actual fire. On 8 September, four sorties were flown with four retardant drops in order to purge residual retardant from the units. Airmen that operated and maintained such a specific function were trained to fight wildfires, not urban fires.[60]



Civilian and military helicopters parked behind a Nashville Air Guard C-130 at New Orleans International Airport. (Captain James photograph)

Air Guard MAFFS-equipped C-130s shared the ramp space at NAS Pensacola with the US Navy aerial demonstration team Blue Angels. (Photograph by 145th AW)

Chapter 3

SEARCH & RESCUE OPERATIONS

Second only to airlifters, Air Guard rescue and combat control personnel and equipment played a major role in the 2005 hurricane relief efforts. The need for skills and equipment stemmed from the demographics of the areas hit hardest by Katrina. Approximately 5.8 million people lived in Katrina's path. Almost 1.3 million resided in the New Orleans metropolitan area, and about 500,000 people lived in the city of New Orleans itself. Twenty-eight percent of the city's population lived below the poverty level, and about 54 percent lacked their own means of transportation. Consequently, many of the city's poor could not follow Mayor Ray Nagin's order to evacuate before the storm arrived. As a result, thousands of the city's poor were stranded and desperately needed rescue. Louisiana Governor Kathleen Blanco predicted that hundreds of people would need to be pulled out of the flooded city. Search and rescue capabilities were paramount. Katrina became the single largest search-and-rescue operation in US history. [61]



An Alaska ANG pararescuemen surveys the flooded streets of New Orleans. Note the sign Hurricane Evacuation route. (123rd STS Photograph)

The search area within the Joint Operations Area (JOA) established by Joint Task Force Katrina comprised southern Mississippi, southern Alabama and southern Louisiana. It was divided into a grid map consisting of 125 individual sections. Each section box covered an area 15 x 15 nautical miles. Each search box contained nine 5 x 5 nautical mile search areas arranged like a touch-tone key pad. The Hurricane Katrina rescue operation demanded both air and ground efforts. Air Guard rescue and combat control units provided search and rescue in the air and on the ground. Air Guard pararescuemen are among the most highly trained military search and rescue personnel in the world.[62] The Air Guard sent 45 pararescue and combat control personnel to perform search and rescue operations, as well as combat control operations,[63] in Louisiana, and later to Texas for Hurricane Rita.[64]

GROUND RESCUE EFFORTS

By 31 August, the city of New Orleans was in utter chaos. Police had to suspend search and rescue efforts

to concentrate on restoring law and order to the city, while thousands of stranded residents awaited rescue from their flooded homes. On the same day, seven pararescuemen, and six combat controllers assigned to the 123rd Special Tactics Squadron (STS), Kentucky ANG, arrived at NAS New Orleans with Zodiac boats and radio equipment to provide search and rescue and air traffic control capabilities to the hurricane relief operation.[65]

The unit arrived rapidly, because it had already been preparing for an overseas deployment. Moreover, Kentucky and Louisiana had an EMAC, which meant that the governors of Kentucky and Louisiana did not have to wait for the lengthy federal process of military mobilization. Kentucky Governor Ernie Fletcher sent more than 260 Kentucky Air and Army National Guard personnel to Louisiana to participate in hurricane relief operations. Two C-130H aircraft assigned to the 165th Airlift Squadron, 123rd Airlift Wing, Kentucky ANG, transported thirteen members of the 123rd Special Tactics Squadron to NAS New Orleans, and continued to fly resupply missions for the unit during their deployment to New Orleans.[66]

Air Guard pararescuemen and combat controllers knew how to deal with destruction because of their combat experiences in the first Gulf War, the war in Afghanistan, and the war in Iraq. However, the devastation in New Orleans was unlike anything they had ever seen. The conditions the men worked in were the worst they had ever experienced. Sergeant Robert Schnell, a pararescueman assigned to the 212th Rescue Squadron, Alaska ANG, who deployed to New Orleans to augment the Air Guard rescue force said "it [New Orleans] felt like a war zone."[67]

Upon arriving in New Orleans, members of the 123rd STS found chaos that highlighted the complete lack of command and control for air and ground rescue and relief assets in the city. Air Guard pararescuemen found dead bodies floating in the flood waters. Furthermore, they had no authority to recover them and transport the bodies to a mortuary. Despite such problems, one of the immediate benefits the 123rd STS personnel offered to the beleaguered city was allowing city officials to direct their energy and limited resources toward combating looting and evacuating its residents from the Superdome. In an abandoned hangar at NAS New Orleans, the 123rd Special Tactics Squadron set up an ad hoc Command Post to control and coordinate their rescue efforts in the city. Chief Master Sergeants Pat Malone and Jon Rosa operated the command post. Chief Malone ran the pararescue operation and Chief Rosa ran the combat control operation. Since no other rescue boats were out saving people, and no local command and control existed, the initial Air Guard search and rescue plan was haphazard. They developed a plan based on a city map used to chart out sections of the city to search neighborhoods for stranded residents. Air Guard pararescuemen and combat controllers performed a variety of rescue-related activities, including clearing buildings of stranded residents, evacuating victims by breeching rooftops, and conducting search and rescue in rubber Zodiac boats, in high-wheeled vehicles, and on foot.[68]

Air Guard pararescuemen and combat controllers were familiar with destruction because of their combat experiences in the first Gulf War, the war in Afghanistan, and the war in Iraq. However, the devastation in New Orleans was unlike anything they had ever seen. The conditions the men worked in were the worst they had ever experienced.

The 123rd Special Tactics Squadron was able to search for trapped residents at a time when no one else could. The PJs primary means of rescuing stranded victims in New Orleans was via Zodiac boats. From 4 to 14 boats were launched each day. Each Air Guard boat rescue team comprised two pararescuemen and two combat controllers, who cautiously navigated the flooded streets, avoiding hidden hazards such as street signs lurking beneath the water's surface, while searching for and rescuing hundreds of stranded victims.[69]

Dressed in non-standard military field uniforms and civilian clothes, pararescuemen passed through the



Pararescuemen from the 123rd STS, Kentucky ANG, prepare their Zodiac boats for another day of saving lives in the flooded streets of New Orleans. (NGB/PA Photograph)

flooded streets in a non-threatening manner, announcing through a loudspeaker that they were Air Force rescue personnel and they were there to evacuate anyone who wanted to leave. Although their primary focus was on removing stranded residents from the flooded areas, those highly trained paramedics encountered little demand for their medical skills. Rather, their salesmanship, needed to convince residents that it was a good idea to abandon their flooded homes, was tested. Although some residents chose to remain, Air Guard PJs did not physically force anyone to evacuate. Their first priority was to make sure everyone was uninjured, and then to offer evacuation. Most people were persuaded to leave their homes, but some were reluctant to leave. At first, residents were a little suspicious of the pararescuemen, because residents confused them with New Orleans police, whom they did not trust. However, the PJ's gradually developed a good rapport with the residents.[70]

Air Guard search and rescue efforts were made in daylight only, but lasted up to 14 hours. Rescue crews made frequent trips to the evacuation sites to off-load stranded victims. The process was slow, because the boats could carry a maximum of seven passengers. Once victims were loaded into the boats, they were not completely safe. One female victim fell out of a boat and into the sewage-contaminated waters. Quickly, SMSgt Thomas DeSchane, a combat controller assigned to the 123rd Special Tactics Squadron, jumped into the water to rescue the woman from drowning. Though fully laden with communication equipment, SMSgt DeSchane was able to get the woman back inside the boat. He arrived at the evacuation site drenched from head to toe in the watery substance that the pararescuemen called "gumbo."[71]

Despite the heroic search and rescue efforts by Air Guard personnel, it soon became obvious that additional support was needed. Chief Malone and Chief Rosa requested additional rescue forces through the Louisiana and Kentucky operation centers, and the Air Guard command center. Between 2 and 3 September, an additional 19 Air Guard pararescue-



Pararescuemen from the 123rd STS, Kentucky ANG, patrol the flooded streets of New Orleans for victims seeking a safer and drier place. (NGB/PA Photograph)



Air Guard pararescuemen find a new place to enter their Zodiac boats into the flooded streets of New Orleans. (NGB/PA Photograph)

men arrived. They were assigned to the 131st Rescue Squadron, California ANG, the 212th Rescue Squadron, Alaska ANG, and the 103rd Rescue Squadron, New York ANG. While the 131st Rescue Squadron brought extra Zodiac boats to the Gulf Coast, its sister squadrons, 129th Rescue Squadron and 130th Rescue Squadron, had more than 150 members, 3 H-60 helicopters and 2 MC-130 aircraft deployed to Kandahar, Afghanistan, and Djibouti, Africa. The expanded pararescue and combat control capability brought to New Orleans greatly enhanced search and rescue and helicopter landing zone operations.[72]

From the moment Air Guard pararescuemen entered the flooded waters, until they departed New Orleans on September 8, they spent hundreds of hours wading through contaminated water to reach stranded victims.

From the moment Air Guard pararescuemen entered the flooded waters, until they departed New Orleans on September 8, they spent hundreds of hours wading through contaminated water to reach stranded victims. For a short time, two 123rd STS members commandeered an abandoned fire truck, which they used to rescue residents and to wash down the men and their equipment at the end of each day. Their exposure to the contaminated water caused several unit members to develop health conditions including skin rashes, fuel burns, and respiratory problems. Chief Master Sergeant Malone of the 123rd Special Tactics Squadron was the senior



New Orleans evacuees are transferring to a DUKW from Zodiac boats for evacuation. (NGB/PA Photograph)

ranking person in the unit. He placed his men on antibiotics immediately to counter the effects of the polluted water. Once the unit returned home, all unit members got a complete physical examination. No permanent health conditions persisted.[73]

Air Guard combat controllers also played a vital role in New Orleans. Once evacuees were loaded into the Zodiacs, they were transported to makeshift helicopter landing zones set up on the portions of Interstate 10 that were not submerged in water. During an initial fly-over of the flooded city, the Air Guard combat controllers found that most of the roads in the city were underwater and the highways, overpasses and rooftops were the only suitable locations for helicopter landing zones. The concrete and steel highway bridges permitted helicopters of various sizes to land safely. The helicopter landing zones made on the highway required the controllers to cut down street light and telephone poles along the highway, so they would not interfere with helicopter rotor blades. Air Guard combat controllers operated from three assigned helicopter landing zones named after Kentucky distilleries. Each call sign reflected the unit's local distillery heritage.[74]

Twelve Air Guard combat controllers from the 123rd Special Tactics Squadron, Kentucky ANG, and the 125th Special Tactics Squadron, Oregon ANG, were responsible for providing air traffic control to helicopters evacuating victims from designated evacuation points in New Orleans. They possessed a variety of combat skills including certification as a Federal Aviation Administration (FAA) air traffic controller. That skill was used heavily in hurricane relief operations because combat controllers provided air traffic control for rescue and law enforcement aircraft landing on any available surface, including baseball fields, highways, and rooftops. Combat controllers made radio contact with any of the three airborne controlling aircraft such as Air Force E-3 AWACS, Navy E-2 Hawkeye, and US Border Patrol EP-3 planes to advise that evacuees were ready for extraction. As helicopters arrived, the controllers directed them into and out of the landing zones.[75]

To accomplish the mission, combat controllers carried an extensive communications set that included ultra-high frequency (UHF), very high frequency (VHF), and satellite communications (SATCOM) radios. However, dedicated radio frequencies, primarily SATCOM and air to ground (UHF/VHF), were nonexistent, because there had not been enough time for the Federal Communications Commission to establish dedicated frequencies. Air Guard combat controllers were able to secure a dedicated SAT net within 48 hours of arrival. Normally, this process can take up to 30 days to accomplish. In addition, combat controllers picked a random frequency to communicate with helicopters, hoping that no other agency was using it. In order to broadcast their selected



Aerial view of flooded New Orleans. Note the highway overpasses that were used as evacuation points and helicopter landing zones operated by Air Guard combat controllers. (NGB/PA Photograph)



ANG combat controllers cutting down light poles along I-10. (123rd STS Photograph)



Air Guard combat controllers managed multiple helicopters at one time, both on the ground and in the air. (123rd STS Photograph)



An Air Guard combat controller prepares to bring down another light pole along I-10. (123rd STS Photograph)

frequency to arriving helicopters, the combat controllers spray painted the frequency on the surface of the helicopter landing zones in big bold numbers.[76]

The evacuation process was similar to the role of a restaurant maitre'd. A combat controller took the names of evacuees and the number of people in the group. For example, if a family of four checked in with the combat controller, they sat and waited for the next available helicopter. When the helicopter arrived and announced that it could take four people, the group of four was called for boarding. Imagine, "Anderson, party of four, your ride is ready." In the first two to three days, combat controllers landed helicopters every 50 seconds. According to Chief Rosa, "these helicopter landing zones became the busiest airports on the face of the earth. Air Guard combat controllers received three helicopters a minute for five hours straight, averaging ten survivors per helicopter." [77]

Early in the rescue effort, the helicopter landing sites also functioned as triage areas where wounded victims received initial medical care. However, the large number of victims arriving quickly overwhelmed the capability of the medical teams and created an unhealthy and dangerous environment at the landing sites. That situation forced the sites to be shut down for air evacuations until the medical triage operation moved to New Orleans

International Airport.[78]

Despite the hazardous operating environment in which Air Guard pararescuemen and combat controllers worked, these men knew how important their work was. Many of the residents rescued by the 123rd Special Tactics Squadron were thankful;



Air Guard controllers arrange to get victims boarded on a U.S. Army UH-60 Blackhawk on a highway landing zone. (123rd STS Photograph)



Coast Guard and Army helicopters land on a clover-leaf landing zone. (123rd STS Photograph)

several residents even hugged members while they were trying to control helicopter landings.[79]

By 19 September, the Air Guard focus had shifted from search and recovery operations to providing more security, communications, transportation, and medical support to the Gulf Coast region. The Air Guard's successful participation in the rescue effort reflected its members' deep experience in wartime combat search

123rd STS combat controllers bring in helicopters onto I-10 to evacuate hurricane victims in New Orleans. (NGB/PA Photograph)





ANG combat controllers converse while an Air Force Special Operations MH-53J Pave Low lands on I-10 in New Orleans to evacuate hurricane victims. (NGB/PA Photograph)

During ground rescue operations, Air Guard pararescuemen and combat controllers successfully rescued and evacuated 13,209 hurricane victims from New Orleans.

and rescue operations and combat control operations. During ground rescue operations, Air Guard pararescuemen and combat controllers successfully rescued and evacuated 13,209 [79] hurricane victims from New Orleans. That total included 1,282 victims rescued on the ground by Air Guard PJs, and 11,927 people evacuated by Air Guard combat controllers. In addition, Air Guard combat controllers controlled 3,249 helicopter sorties. The Katrina rescue effort was a unique rescue operation for Air Guard pararescuemen and combat controllers because they were not saving American lives on the battlefield. Rather, they were saving American lives in their own backyard. In addition, Air Guard rescue forces had not participated in a natural disaster on such a large scale before. Most rescues involving Air Guard rescue units are in response to distress calls by ships floundering in the Atlantic Ocean, the Bering Sea, or rescuing hikers stranded on mountains in Alaska.[80]

AIR RESCUE EFFORTS

In addition to Air Guard rescue personnel participating in ground rescue efforts in New Orleans, they also participated in airborne rescue operations. The overall success of the air rescue effort was a combined military and civilian effort. Hundreds of helicopters from the Air Force, Navy, Marine Corps, Army, Coast Guard, civilian fire and rescue, Life Star, and Army National Guard and Air National Guard participated in the massive





A CH-47 Chinook lands on a highway landing zone controlled by Air Guard combat controllers. (123rd STS Photograph)


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A 106 RQW HH-60G hovers to extract a stranded victim in New Orleans. (NGB/PA Photograph)

air-rescue effort. Helicopters flew everywhere over the flooded streets of New Orleans, searching for and rescuing stranded victims. The Air Guard's participation in the air rescue effort for Hurricane Katrina was smaller than the ground rescue operation. The only Air Guard unit that participated was the 106th Rescue Wing, New York ANG. This unit was one of the few Air Guard units that deployed to the Gulf region in Title 10 federal status.[81]

Jackson International Airport in Mississippi, located approximately one hour by air, north of New Orleans, was the main operating base for a large rescue helicopter force comprising 23 to 30 HH-60G Pave Hawk helicopters from the active duty Air Force and the Air Force Reserve. The 106th Rescue Wing sent two HH-60G helicopters, plus several pararescuemen, aircrew, and support personnel to Jackson, Mississippi, to augment this force. In addition, the unit sent two HC-130P airborne refueling aircraft to Hurlburt Field, Florida, to provide airborne refueling support for Air Force rescue helicopters and to act as an airborne command post. The HC-130 aircraft also provided a means of getting spare parts, supplies, and personnel from the unit's home station on Long Island to Mississippi and Florida.[82]

The primary mission of the Air Force HH-60 rescue force at Jackson, Mississippi, was to rescue stranded residents and transport them to airports such as New Orleans International Airport for final evacuation to various destinations throughout the United States. In addition, helicopter rescue crews transported stranded residents that were brought in boats to collection points on the abandoned I-10 highway. Large numbers of stranded victims of Katrina demanded 24-hour rescue operations. To meet

that desperate need, helicopter rescue crews worked 12-hour shifts for six days straight.[83]

Although most rescues were done in the daytime, helicopter crews also flew at night, which was much more challenging. Despite wearing night vision goggles, the lack of city lights made it difficult for helicopter crews to spot other aircraft, low hanging electrical wires and other debris while searching for stranded victims.[84]

Air rescues occurred either when crewmen spotted stranded residents standing on top of roofs waving at the helicopter for rescue, or by rescue helicopters hovering over homes where pararescuemen were lowered down by a rescue cable to rooftops, and entered homes searching for victims. Occasionally, PJs cut holes through the roofs with axes to gain access. At other times, they had to find alternative ways to extract victims from flooded homes because the victims were too frail or too large to get through the hole in the roof. Alternative escape routes included doorways and windows. Many rescues were accomplished using unorthodox methods. One Air Guard pararescueman had to literally swing the rescue cable attached to the helicopter far enough to carry him to a stair-less doorway. The rescuer had to take great care

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Air Force HH-60G helicopters at Jackson Air National Guard Base, Mississippi. (NGB/PA Photograph)

in preventing the cable from touching the structure, or person, because the large amount of static electricity generated from the helicopter's rotor blades was enough to electrocute a person.[85]

Stranded victims were hoisted into the helicopter's cabin using a rescue cable attached to a powered winch located inside the helicopter. A pararescuemen, attached to the cable, descended to meet the victims, provide immediate first aid if necessary, and prepared them for the lift into the helicopter. A pararescueman accompanied each victim hoisted to ensure the person did not inadvertently slip out of the sling, or injure themselves while entering the cabin. The air rescue operation got very busy. One Air Guard HH-60G rescued twenty survivors during a single 8-hour mission.[86]

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In the early days of September, air rescues were continuous and pararescuemen had their hands full. On the first rescue mission flown by 106th Rescue Wing HH-60G crews, they arrived in a neighborhood where it seemed there was nothing but people on rooftops. Major Kevin Fennel, a New York Air Guard HH-60 pilot, recalled bringing his helicopter in for a final approach to pick up a group of people when he noticed another group wanting to be rescued. Air Guard helicopter crews pulled people off roofs, transported them to a transfer site, then quickly returned to the same area to pick up another group. According to Major Fennell, "This went on for days." Entire families were extracted from their flooded homes. Some victims were reported to be suffering from mental illness, while another victim was reported to be under house arrest and was wearing a tracking collar wrapped around his ankles. It was also reported that rescue helicopters received small arms fire from people on the ground. In this instance, the rescue mission quickly turned into a law enforcement mission. The helicopter had to avoid the area until law enforcement personnel arrived to apprehend the shooters.

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Many of the survivors who were pulled into the helicopter's cabin were drenched in a watery slime, and clutching their only remaining possessions. Some were so distraught at the thought of leaving behind family pets that rescue crews, unwilling to increase flood victims' trauma or to leave anyone behind, often found room for those few extra passengers. Upon completing the search of a home, Air Guard pararescuemen marked each building to indicate the house had been searched. Unfortunately, the marking process was inconsistent, and at times unreliable.

In addition to rescue crews enduring the foul stench of the flood waters rising up to greet them through the

open doors of the helicopters, their efforts came with great dangers and high anxiety. Pararescuemen participating in air rescue operations also had to cope with residents who were reluctant to abandon their homes for fear of looters. Although Air Guard pararescuemen did not force residents to abandon their homes, they did advise the residents that there was no guarantee that they would be rescued later. In other situations, Air Guard pararescuemen dealt with residents who absolutely refused rescue because their fear of flying was stronger than their fear of drowning. The fear of looters, loss of home, and the fear of flying expressed by residents made some Air Guard pararescuemen wonder if rescue made the situation more stressful for some victims.[89]

As rescue helicopters continued to pick up victims throughout the neighborhoods and other flooded areas in a span of six days, the faces of those rescued revealed the same expression of shock at seeing the extent of Katrina's devastation. Only by flying high above their homes could the victims comprehend how widespread the damage actually was.

Miraculously, the high volume of helicopter traffic flying around New Orleans and other parts of the hurricane-stricken area did not lead to any airborne incidents. The absence of flight accidents was credited to good flying weather and aircrews following standard flying practices. The clear weather helped pilots flying in the area to operate under "see and avoid" flight rules, and crews constantly informed the whereabouts of nearby aircraft.[90]

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Indeed, Air Guard participation in the air-rescue operation was very small. So was their contribution. Overall, civilian and military rescue efforts resulted in the saving of over 41,341 people. By comparison, from September 1st to the 7th, Air Guard helicopter rescue crews flew 17 sorties and saved 161 people, mostly by using the rescue hoist. However, a small number of rescues were accomplished simply by the pilot landing the helicopter on dry ground and the pararescuemen assisting stranded residents aboard the aircraft. In a little over a week that the unit was deployed to the Gulf region, they saved many lives, including 51 people in a single day.[91]

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Chapter 4

GROUND SUPPORT

In addition to the Air National Guard providing a diverse mix of flying capabilities to the Katrina relief operation, the Air Guard also sent thousands of members associated with non-flying missions. Indeed, the non-flying mission areas represented the largest portion of the Air Guard's large contribution to the hurricane relief effort. Hundreds of Air Guard personnel deployed representing specialties including medical, aerial port, security, civil engineers, communications, supply, and services support.[92]



9/12/2005, TSgt Jody Saatoff from the 119th Civil Engineer Squadron, North Dakota ANG, works on power cables that will supply electrical power to various personnel tents erected at Gulfport CRTC, MS. (Photograph by SMSgt. David Lipp, 119th Fighter Wing, North Dakota ANG)

EXPEDITIONARY MEDICAL SUPPORT

Katrina destroyed every form of modern convenience residents of the Gulf region took for granted. The loss of electrical power, transportation, shelter, and safe water sources affected all public utilities and services including medical facilities. The flood waters crippled hospital communication systems, knocked out power supplies, and isolated hundreds of patients and healthcare workers. In Louisiana, over two dozen hospitals suffered from the loss of communications. Generators providing emergency electrical power could not run without fuel. Only three civilian hospitals—Ochsner Foundation in New Orleans, East Jefferson in Metairie, and West Jefferson in Marrero—remained operational.[93]

To augment medical services until additional civilian medical facilities could resume operations, the Air Guard began sending its medical units as early as 29 August to Mississippi and Louisiana.[94] Although the Expeditionary Medical Support (EMEDS) concept had already proven its worth in a combat environment supporting Operation Iraqi Freedom, Hurricane Katrina was the first time it was used in a natural disaster within the United States.[95]

Since the end of Operation Desert Storm in 1991, the Air Force had introduced the Expeditionary Medical System to meet the need for medical services that could be established closer to the combat zone, and that were more transportable than previous medical systems. Simply, EMEDS was a modern version of the expeditionary Mobile Army Surgical Hospital, or MASH. The predecessor of EMEDS was the Air Transportable Hospital system, which consisted of a 50-bed system, and a staff of 128 medics to work in 2 surgical rooms, a laboratory, and X-ray room. There was also a dental clinic. An Air Transportable Hospital was equipped to function for 30 days without resupply. It required



Air Guard Expeditionary Medical Support facility at Gulfport CRTC, Mississippi. (Photograph by MSgt Bob Haskell)



The Air Guard Expeditionary Medical Support facility at NAS New Orleans in Belle Chase, Louisiana. This facility supported thousands military personnel participating in hurricane relief operations in Louisiana. (Photograph by MSgt Bob Haskell)

3 C-17 aircraft to transport 55 pallets worth of equipment, while an EMEDS required just one C-17 or C-130 to transport its 25 pallets of equipment.[96]

An EMEDS facility consisted of small self-contained medical tents that include all of the necessary equipment to run a small hospital. Its personnel could provide dental services, laboratory services, pharmacy services, and in-patient care as well as perform surgery. Although each EMEDS facility usually had a 25-bed limit, medical personnel could provide outpatient care for many more victims. During hurricane relief efforts, all Air Force EMEDS facilities, including Air Guard EMEDS, worked closely with Federal Emergency Management Agency medical teams to care for and transport thousands of victims.[97]

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The first Air Guard EMEDS facility was set-up adjacent to the runway at NAS New Orleans. The officers that had overall responsibility for setting up the EMEDS at NAS New Orleans were Colonel William Riggins, State Air Surgeon of Texas, and Lt. Col. Maureen McCarthy, Massachusetts ANG. Initially, the medical staff included 13 physicians, 20 Air Guard medics and 5 Army Guard medics. Air Guard physicians, in their civilian lives, were experienced trauma specialists, emergency medicine physicians, anesthesiologists, pulmonary and critical care specialists, emergency medicine physicians, and general



A military patient is wheeled toward a waiting medevac helicopter after being treated at the Air Guard EMEDS facility at NAS New Orleans. (Photograph by MSgt Bob Haskell)

internists. The staff also included several highly experienced nurses, who also worked in their civilian careers as critical care nurses. The facility experienced no shortage of volunteers. Air Guard EMEDS strength at NAS New Orleans grew to 92 medical personnel from 8 states. EMEDS planners at the Air National Guard Readiness Center found they had too many volunteers and had to turn down some. The Readiness Center sent a message to all medical units to send only people needed to fill critical needs. Most of the equipment used to operate the NAS New Orleans EMEDS facility came from the Air Guard EMEDS training unit located at the Air Guard's Alpena Combat Readiness Training Center in Michigan. It was the first time that unit participated in an actual operational mission.[98]

The primary focus of the NAS New Orleans EMEDS facility was to provide medical care for the military personnel operating in the New Orleans area. It remained operational as long as there were National Guard troops deployed to the region. Air Guard medical specialists treated patients arriving with a variety of ailments and injuries ranging from heat stress and blisters to fractures. By 16 September, they had treated 7,028 patients.[99]

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The destruction of the Hancock Medical Center in Mississippi left hundreds of local residents without medical care. Members of the 172nd Medical Group, Mississippi ANG, along with members of Air Guard medical units from other states, established an EMEDS facility in Hancock County. Over 85 Air Guard medical personnel worked in this facility, and the bulk of the equipment supporting the Hancock EMEDS facility came from the 190th Medical Group, Kansas ANG, which was normally reserved for overseas contingency operations. As the demand for medical support increased in Mississippi, additional Air Guard EMEDS facilities were set up at Camp Shelby, Bay St. Louis, and at Gulfport CRTC. Overall, Air Guard medical personnel treated over 4,251 patients at Gulfport and Bay St. Louis, Mississippi.[100]

Air Guard medical personnel also augmented several EMEDS operated by the active duty Air Force at New Orleans International Airport and in Baton Rouge, Louisiana. In addition, several Air Guard medical personnel worked in the National Guard Chemical, Biological, Radioactive, Nuclear, or High-Yield Explosive Enhanced Response Force Package (CERFP) at the Superdome. They also worked in the Small, Portable, Expeditionary Aeromedical Rapid Response, or SPEARR facility at Ellington Field in Texas. Two days before Katrina made landfall in Louisiana, members of the 159th Medical Group, Louisiana ANG, set up a "special needs" shelter at the Superdome in New Orleans where unit doctors, nurses, and med-

ics performed triage to an estimated 5,000 of the 25,000 evacuees at the Superdome over a period of 7 days. The day after Katrina made landfall in Louisiana, the 149th Medical Group, Texas ANG, arrived by convoy at the Earnest T. Morial Convention Center in New Orleans, which was about a mile away from the Superdome, to set up a medical facility similar to that of the 159th Medical Group. Medical specialists from both units performed their duties in horrid working conditions.[101]

Other contributions made by Air Guard medical personnel included their flight surgeons who deployed to Louisiana and Mississippi to help establish public health clinics in places where civilian clinics had been destroyed by the hurricane. One important function of the make-shift public health clinics was to make environmental health assessments, such as identifying specific health risks facing relief workers and victims, and employ measures to minimize the side effects of these hazards. For example, the most dangerous health threat facing personnel was from the sewage mixed in the flood waters. Soldiers and airmen were told to frequently change into clean, dry uniforms, socks, and boots. The use of portable showers at NAS New Orleans enabled the troops to maintain good personal hygiene. The Air Guard doctors also assisted in preventing mosquitoes and other biting insects from breeding in non-drainable collections of standing water. Light traps were set-up around the base to keep the population of adult mosquitoes to a minimum. The Public Health function evolved daily to become a collective effort of medical personnel representing the active duty military, the Air and Army National Guard, and several federal agencies.[102]

More than 1,069 Air Guard medical personnel deployed to the Gulf region, responding to both Hurricanes Katrina and Rita. The majority of medical personnel supporting EMEDS operations came from Alpena CRTC, Michigan ANG, the 190th Medical Group, Kansas ANG, the 159th Medical Group, Louisiana ANG, the 172nd Medical Group, Mississippi ANG, the 186th Medical Group, Mississippi ANG, the 166th Medical Group, Delaware ANG, and the 117th Medical Group, Alabama ANG. Air National Guard medics treated over 14,966 civilian and military patients. This included the 6,326 civilian patients that received immunization shots by Air National Guard community outreach medical teams. Over 30,000 hurricane victims received medical treatment from the overall Air Force EMEDS system.[103]



Air Guard personnel offload Meals Ready to Eat from a Nebraska Air Guard KC-135R at NAS New Orleans. (155th ARW Photograph)

AERIAL PORT OPERATIONS

The constant delivery of relief aid for hurricane victims in Louisiana and Mississippi was a large and complex operation. An integral part of the airlift effort was the global cargo and passenger movement operation known as aerial port function. The huge amount of relief supplies arriving every minute of every day demanded an able bodied group of ground personnel to receive, support and manage the arrival and departure of hundreds of airlift aircraft. This effort included off-loading cargo and passengers, and servicing aircraft. A Contingency Response Group (CRG) provided an air-logistic capability for up to 30 days or until such time that a base infrastructure could sustain operations on its own. The CRG was a unique subset of Air Force capabilities designed specifically to quickly secure and protect airfields, assess and open air bases, and perform initial airfield and air base operations to ensure a smooth transition to subsequent operations.[104]

The Air Force began setting

set-up CRG elements to establish airfield operations for hurricane relief operations on 30 and 31 August at New Orleans International Airport and Keesler Air Force Base, MS, to handle airlift operations. Their main focus was to get critical relief supplies and workers off the aircraft and distribute them as quickly as possible. However, the high demand for airlift management to support hurricane relief efforts forced an overall Air Force effort to establish airlift hubs at airfields throughout the hurricane-stricken area. As part of the Air Force CRG effort, the Air National Guard deployed members assigned to Tanker Airlift Control Elements (TALCE) and Aerial Port Squadrons (APS) designated as Contingency Response Group Element (CRGE),[105] to meet the need for airlift-ground handling and airlift command and control capability in a very high operations tempo at several locations.[106]

During the hurricane relief operation, the Air National Guard had set up five CRGE operations at airfields in Louisiana, Mississippi, and Texas. On 2 September, the first two CRGE operations were set up at two airfields in Mississippi. Members from TALCE and APS units assigned to the 136th Airlift Wing, Texas ANG, and the 137th Airlift Wing, Oklahoma ANG, set up a CRGE at the Gulfport Combat Readiness Training Center (CRTC), which was the main operating base for sustained Air Guard relief operations in Mississippi. Gulfport CRTC was also the primary location for staging Air Guard Aeromedical evacuation missions.[107]

A second CRGE in Mississippi was set up at Stennis International Airport by members of the 118th Airlift Wing, Tennessee ANG, to support FEMA's air-cargo handling requirements. Stennis International Airport was used primarily by FEMA as an operating base. At the height of hurricane relief operations in Mississippi, more than 170 Air Guard personnel participated in the CRGE operation. TALCE and APS personnel were deployed by the 109th Airlift Wing, New York ANG, 118th Airlift Wing, Tennessee ANG, 136th Airlift Wing, 137th Airlift Wing, 143rd Airlift Wing, Rhode Island ANG, 137th Airlift Wing, Oklahoma ANG, and the 165th Airlift Wing, Georgia ANG.[108]

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On 3 September, the 123rd Airlift Wing, Kentucky ANG, deployed its TALCE and APS personnel to Alexandria International Airport in Alexandria, Louisiana, to open up the first Air Guard CRGE operation in the state. This operation was significantly smaller. Its complement of workers consisted of 22 people. On the following day, the 133 AW's TALCE and APS personnel established a CRGE at Naval Air Station (NAS) New Orleans. Eventually, the CRGE at NAS New Orleans would comprise 85 TALCE and APS personnel from the 109th Airlift Wing, New York ANG, 123rd Airlift Wing, Kentucky ANG, 133rd Airlift Wing, Minnesota ANG, and the 136th Airlift Wing, Texas ANG. Naval Air Station New Orleans in Belle Chase, Louisiana, had the largest Air Guard presence in Louisiana to support hurricane relief operations. Since NAS New Orleans was the primary receiving port for heavy air cargo, Air Guard CRGE and APS personnel handled hundreds of crates of bottled water, MREs, and various types of transportation vehicles.[109]

On 8 September, the 146th AW, California ANG, deployed 38 CRGE personnel to Ellington Field, Texas, to open an air-logistical hub. By 17 September, Air Guard CRGE personnel began returning to their respective home stations. The 123rd AW departed Alexandria Airport, the 118th AW departed Stennis, and the 146th AW left Ellington Field on 22 September. However, in preparation for the arrival of Hurricane Rita, members of the 123rd AW CRGE returned to Alexandra Airport on 26 September, and earlier in the week members of the 136th Tanker Airlift Control Element and 136th Aerial Port Squadron, Texas ANG, quickly redeployed to their home state of Texas for hurricane relief duty at Ellington Field. The unit had spent the previous two weeks at Gulfport CRTC, Mississippi, where the airflow into the field was considerably larger than at Ellington Field. According to TSgt. Michelle Kiral of the 136th TALCE, "we come in and handle all the airflow into and out of an airfield." From 24 to 26 September, members

of the 136th TALCE managed the arrival of C-5, C-130, and Army CH-47 helicopters, and processed nearly 37 tons of cargo which included food and water loaded onto CH-47 Chinooks, which was delivered by the Federal Emergency Management Agency and sent to Hawthorne, Texas. The air-cargo handling operation tempo was dramatically less at Ellington Field compared to what happened in New Orleans. The relief supplies needed in the aftermath of Hurricane Rita did not depend as heavily on aircraft for delivery as they did in New Orleans because there was no flooding. Relief officials for Hurricane Rita were able to send supplies on truck convoys.[110]

Although the Air Force CRGE function performed well, there were challenges that the individual CRGE elements had to overcome. Trying to establish logistic aerial ports was problematical for the CRGEs, because of the lack of information about when aircraft would arrive. To support the hundreds of aircraft that arrived unannounced, Air Guard CRGE personnel had to quickly off-load relief supplies, relocate equipment and supplies, refuel aircraft, escort arriving passengers to the terminal, and prepare aircraft for departure. The problem was exacerbated when handlers dealt with commercial chartered aircraft, which off-loaded off their unmarked cargo without telling anyone who it was for. Such incidents disrupted the flow of traffic and produced long working hours for the airmen. Despite the challenges, the men and women of the CRGEs were instrumental in making the 2005 Hurricane Katrina/Rita relief operation the largest and most successful domestic airlift operation in US history.[111]

COMMUNICATIONS, ENGINEERS, AND SECURITY

Other Air Guard capabilities that played a role in the relief operation included civil engineering, communications, logistics, and security. Of the 1,900-plus Air Guard personnel participating in hurricane relief efforts by the end of September, most were in civil engineering (263), communications (607), security logistics (73), and services (180), Air National Guard Civil Engineers helped to reestablish public services and clean up the damage caused by Hurricane Katrina. However, the problem facing Air

Air Guard Security police personnel assemble at Gulfport CRTC, Mississippi. (NGB/PA Photograph)



Guard planners at the Air National Guard Readiness Center was the loss of CE capability in the states affected by the storm. To replace the loss of CE capability the ANGRC deployed a PRIME BEEF capability that consisted of a 55-member team, Engineering and Installation (EIS) recovery support operation, three 5-kilowatt generators, and command and control function. In addition, two RED HORSE units from the 202nd RED HORSE (Florida ANG) and the 203rd RED HORSE (Virginia ANG) provided heavy equipment support.[113]



Members of the 142nd Security Squadron, Oregon ANG, patrol Bourbon Street in New Orleans. (Photograph by the 142nd SFS)

A critical way that the National Guard helped to provide stability in the hurricane- stricken region was by providing security to reestablish law and order in the cities. It was reported that lootings, shootings, and riots took place in New Orleans and in the south western areas of the Mississippi Gulf area. An official with the Louisiana State Police advised US Northern Command that if they were sending people to New Orleans, "tell them to come packing and to come locked and loaded." Even Mississippi officials advised the National Guard Bureau to have their people "prepare for the worst." The most volatile issue was lawlessness in the streets of New Orleans and at the convention center where there were tens of thousands of people.[114]

Although martial law was not declared anywhere in the United States, an emergency condition did exist in parts of the states directly affected by Hurricane Katrina. Local law enforcement agencies established curfews, and the Governors of Louisiana and Mississippi extended police powers to members of the Army and Air National Guard to augment and expand the manpower and law enforcement capabilities of the existing civilian police forces.[115]

By far, the loss of law and order in New Orleans was paramount. However in less than 36 hours after Army and Air National Guard security forces arrived, the situation dramatically improved in the city. Thousands of Army and Air National Guard members, associated with Military Police and Law Enforcement, quickly deployed to Louisiana and Mississippi to assist with law enforcement duties. Deployment of Air National Guard Security Forces personnel to Louisiana began on 31 August with arrival in New Orleans of the Texas Air National Guard Security Forces Squadron. On the next day, 1 September, the National Guard Bureau Joint Operations Center issued a directive to all Air National Guard Security Forces Squadrons that every member who was not critical mission essential to Wing security was ordered to be available for deployment to the Gulf region. In addition, more than 1,400 Army National Guard troops arrived daily in New Orleans via Air Guard C-130 aircraft for security duty. By 2 September, the New Orleans Police had a sufficient force, augmented by over 1,000 National Guard troops, to overwhelm any resistance at the convention center. Fortunately, the overwhelming force restored order at the convention center without any opposition. By 4 September, there were more than 7,000 National Guard troops providing security in New Orleans. Air Guard Security Forces began arriving in Mississippi at the

Gulfport CRTC on 1 September.[116]

Although the Air Guard's participation in the restoration of law and order at the convention center was small, it was probably the most dramatic event for them in their two weeks in the region. Air Guard Security Forces personnel knew they were going to Louisiana and Mississippi on a security mission. However, as Major Andy Trautman from the 164th Security Forces Squadron, Tennessee ANG, put it, "to what extent and what level it would entail was yet to be determined." For the most part, Air Guard Security Forces operating in New Orleans helped with locating displaced people, securing property and protecting against looting. They also helped with helicopter evacuation missions from Tulane Hospital. A Joint Army and Air Guard security team of 20 people helped to secure a rooftop and parking garage at Tulane Hospital to help the evacuation of about 60 patients. TSgt. "Butch" Palmoore of the 164th Security Forces Squadron said that the hardest part of the evacuation mission was keeping the families together. Their priority was getting the elderly and sick evacuated without breaking the families apart. According to TSgt. Palmoore,

by the time everyone made it to the rooftop, helicopters were waved in, one after another until the last soul was gone. This was the most gratifying experience in my 23 years of service.[117]

Helicopters were lined like taxi cabs waiting for someone to flag them in, load the helicopters and send them on their way. In the LaFourche parish of Louisiana, about 90 Army National Guard and 20 Air National Guard security personnel worked shifts to clean roads, remove trees and get public buildings functioning again. The soldiers and airmen billeted themselves in buildings to prevent looting and other acts of lawlessness. Several suspects were detained and held for local officials. Security was also provided at various relocation centers that housed thousands of evacuees and provided security at the banks and government offices that were providing aid to the evacuees. Air Guard Security forces personnel were also sent to EMED facilities to protect the patients, staff and equipment since personnel safety was questionable in the early days of the relief operation.[118]

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By far, the Army National Guard provided a greater presence of law enforcement to civil authorities than did the Air National Guard Security Forces. In some instances, Air Guard Security Forces personnel joined with Army Guard Military Police members from the same state to help restore law and order. Thirteen members of the 115th and 128th Security Forces Squadrons, Wisconsin Air National Guard, blended with the 32nd Military Police Company to operate as a single element from NAS New Orleans. The combined Wisconsin Air and Army National Guard security team performed 30 security missions that included 8 base security missions, 21 escort missions, and 1 VIP security mission.[119]

Like everyone else affected by the storm, everybody tried to help one another. Air Guard Security Forces personnel also tried to help one another as much as possible. For example, members of the 184th Security Forces Squadron, Kansas Air National Guard, deployed to NAS New Orleans to relieve members of the 159th Security Forces Squadron, Louisiana ANG, from security missions, which enabled the Louisiana airmen to tend to their families and homes that were affected by Hurricane Katrina.[120]

Air Guard Security Forces personnel also helped directly with local law enforcement agencies by operating

Air Guard Security Forces personnel and the local police worked well together. Since the local police force used a school as temporary housing and as an armory, New Jersey Air Guard personnel helped the police acquire additional supplies. Beginning on 17 September, most Air Guard Security Forces personnel returned to their home stations. A small contingent remained behind for security and to support Hurricane Rita relief operations.

in some areas that were the heaviest damaged by the storm. For example, the 108th Security Forces Squadron, New Jersey ANG, arrived at NAS New Orleans to augment the Saint John The Baptist Parish Sheriff's department. To cover 24-hour operations, the unit split up into two security teams and each worked a 12-hour shift. The 108th Security Forces Squadron helped to process displaced citizens awaiting transportation out of the dangerous areas in the eastern part of New Orleans, and performed residential patrols. In addition, they assisted the New Orleans Special Weapons and Tactics personnel in investigating murders, enforcing a midnight curfew, and arresting looters.[121]

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COMMUNICATIONS

At the same time the Texas Air National Guard Security Forces contingent was arriving at NAS New Orleans, a large force of 284 Air Guard communications personnel arrived in the Gulf region to help restore communication networks. Air Guard communications personnel were divided into two communication teams. One team went to NAS New Orleans, and the second went to Gulfport CRTC. Air Guard communications equipment sent to the region included Interim Satellite Communications Incident Site Communications Sets (ISISCS) to help replace the loss of cellular phone capability in Louisiana and Mississippi. Air Guard communications personnel deployed to the Gulf region were from units assigned to Alabama, Arkansas, California, Colorado, Georgia, Indiana, Kansas, Louisiana, Maine, Maryland, Massachusetts, Minnesota, Mississippi, Missouri, New York, Ohio, Oklahoma, Oregon, Pennsylvania, Tennessee, Texas, Utah, Virgin Islands, West Virginia, and Wisconsin.[123]

Participation of Air Guard Air Traffic Control units in hurricane relief operations was limited to two squadrons. The 248th Air Traffic Control Squadron, Mississippi ANG, and the 259th Air Traffic Control Squadron, Louisiana ANG, set up mobile control towers in Metairie, Louisiana, and at the Gulfport-Biloxi airport. Having Air Guard mobile control towers established at these two locations made possible the safe and efficient arrival of a large volume of aircraft and helicopters on small airfields.[124]

Shortly after Katrina made landfall in Louisiana, the state's Joint Forces Headquarters called 45 members of the 259th Air Traffic Control Squadron to State Active Duty, and sent them to Metairie with their mobile air traffic control equipment, including the AN/MSN-7 mobile control tower. The unit's mission was to perform air traffic control operations on high ground, three miles from the Superdome. According to Major Kevin Eggler, Chief of Air Traffic Control Operations for the 259th Air Traffic Control Squadron, the unit was not sure what to expect when they arrived at their destination. Everything was underwater and New Orleans was devastated as far as they could see. Despite the physical damage in the area, members of the 259th were able to provide communication and an air traffic control services in a short period of time.[125]

The hurricane relief operation required helicopters of every kind to deliver relief aid, evacuate victims, rescue stranded residents, and transport officials everywhere in the Gulf region. This high volume of helicopters demanded effective and safe air traffic control. The 259th Air Traffic Control Squadron played a small but important role in maintaining control of helicopters, especially those needing to land and refuel near the Superdome. Metairie was a helicopter refueling spot that required Air Guard air traffic controllers to establish a traffic pattern that operated 24-hours a day. They accomplished this task without any incidents or accidents, and controlled over 3,400 helicopter sorties.[126]

Members of the 259th Air Traffic Control Squadron had a unique and heart-wrenching hurricane experience. In addition to responding to the state's call to active duty, most unit members had to themselves recover from the effects of the storm before they could report to their unit. At least six members of the Louisiana ANG were reported missing, and many members of the Louisiana ANG had a difficult time recovering from the storm and reorganizing themselves before they deployed. SMSgt DJ McPherson, Chief Controller with the 259th, divided his focus and energy on performing the mission and making sure his two children were safe, after the town they were living in was hit hard by the storm. Later, he learned that his children were reported safe. Adding to the stress of surviving and recovering from a hurricane, unit personnel reported to duty without any money, without orders, and no means of purchasing needed equipment from the local economy with official funds to support the mission.[127]

Starting from Key Field, Mississippi, after the hurricane struck, trucks full of air traffic control equipment and 20 members assigned to the 248th Air Traffic Control Squadron, Mississippi ANG, led by Major Robert Parker, headed for the Gulfport-Biloxi International Airport. The convoy traveled 165 miles at night. Truck drivers had to weave around fallen trees and debris to reach their destination safely.[128]

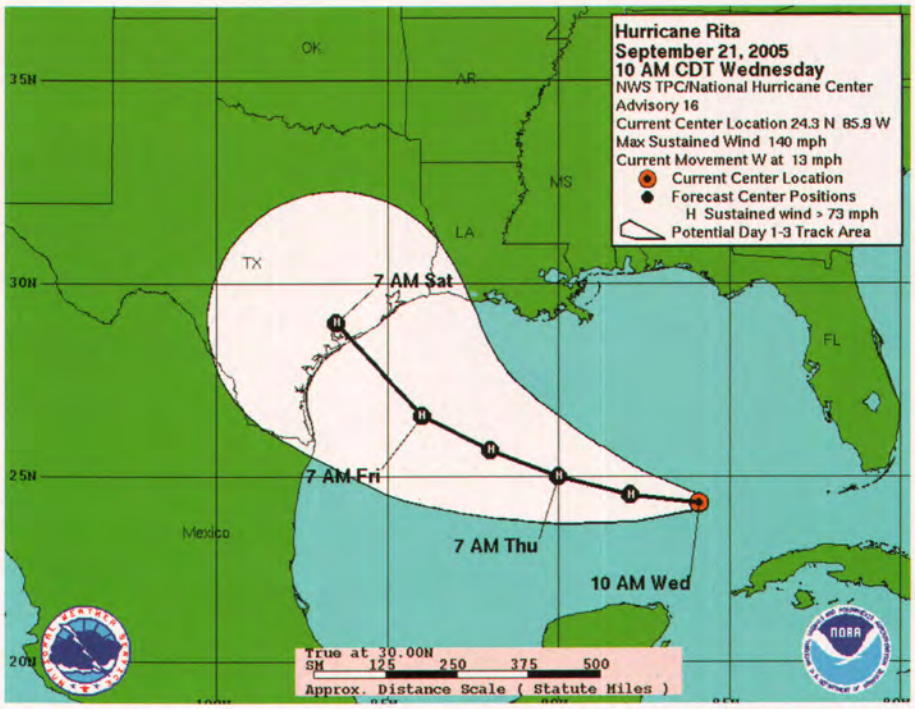
Unlike the 259th Air Traffic Control Squadron, the 248th's mission was to restore air traffic control service to the airport, which the hurricane had heavily damaged and forced Federal Aviation Administration air traffic controllers to evacuate. The 248th operated their mobile control tower to provide critical air traffic control to myriad search and rescue aircraft, air ambulances, and television helicopters operating from the airport. According to Chief Master Sergeant John Null, senior air traffic controller with the 248th, once the unit's mobile control tower was operational it was like moths to a light bulb. Aircraft carrying relief aid arrived in droves to the newly opened airfield. Air Guard controllers from the 248th continued to control air traffic at the airport for several days before they handed the responsibility back to the FAA after the latter's equipment was restored and personnel were able to return to work.[129]

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Chapter 5

HURRICANES RITA AND WILMA

As the Air National Guard provided relief support in Mississippi and Louisiana in the aftermath of Katrina, another storm was brewing in the Caribbean. On 18 September, Tropical Depression-Eighteen was located 390 miles east-southeast of Nassau in the Bahamas. Forecasters expected the disturbance to strengthen into a tropical storm within the next 24 hours. Eventually, the storm grew into a Category 5 hurricane that had maximum sustained winds of 165 mph. It was named Hurricane Rita. Meteorologists predicted that Rita's core would make landfall over the Texas coast in the early morning hours of 24 September. As part of the state's overall preparation for storm's arrival, Texas Governor Rick Perry issued a recall for all his National Guard forces and equipment to return from Louisiana and Mississippi. On 21 September, the Air Guard CAT alerted Air Guard units to prepare to respond to Hurricane Rita relief operations.[130]



This illustration shows Hurricane Rita's storm track predicted by the National Hurricane Center. Source: NOAA.

The Florida Keys were first to experience Rita's wrath. Prior to Rita's arrival over Key West, the 125th Fighter Wing's air-defense alert detachment located at NAS Key West evacuated their F-15 fighters to Jacksonville IAP, Florida, and sent unit personnel to Miami. Meanwhile, a C-130H from the 145th Airlift Wing, North Carolina ANG, was directed by the Florida Emergency Management Agency to fly an aeromedical evacuation mission for 25 elderly patients living in the Florida Keys before Rita arrived. Air Guard airlift units began in earnest to fly hurricane relief support missions to Texas. Anticipating the loss of communications from Hurricane Rita, the 280th Combat Communications Squadron, Alabama ANG, repositioned its communication operations from Ocean Springs, Mississippi to Lafayette Airport, Louisiana. Evacuations continued the following day with the 147th Fighter Wing, Texas ANG, sending eight of its F-16 aircraft and one C-26 aircraft from Ellington Field to Kirtland AFB, New Mexico, to avoid Rita's projected path. That hurricane's imminent arrival also forced the 146th Airlift Wing, California ANG's Tanker Airlift Control-Element to evacuate Ellington Field and return to home station at Channel Islands Air National Guard Station, California.[131]

On 23 September, the Texas Joint Operations Center requested the dispatch of Air Guard search and rescue, and combat control personnel and equipment from other states. Four members from the 123rd Special

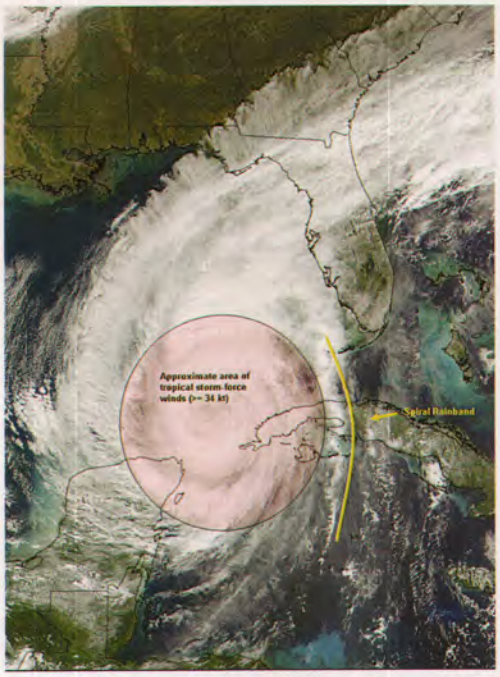
Tactics Squadron, Kentucky ANG, deployed to Louisiana to set up a base for search and rescue operations. Two combat controllers, a pararescueman, and a weather specialist arrived at Chennault International Airport in Lake Charles, Louisiana, after a seven-hour car ride to assess the condition of the airport. They found the runway was useable, but all of the air traffic control equipment in the control tower had been destroyed. TSgt Joe Youdell, 123rd STS pararescueman, located members of the local fire department and FEMA agents to establish search and rescue needs in the area. Meanwhile, the two combat controllers established air traffic control services by using their ultra-high frequency and very high frequency radios, and satellite communications equipment. In a 12-hour period, combat controllers handled 225 sorties by civilian and military fixed-wing aircraft and helicopters. Fortunately, no rescues were necessary.[132]

The Texas JOC pre-positioned additional rescue personnel and equipment provided by the 129th Rescue Wing, California ANG. The 129th RQW deployed one MC-130P and one HH-60G aircraft to support Joint Task Force-Rita. The MC-130 operated from Austin and the HH-60G flew from Odessa. Overall, 52 Air Guard pararescuemen were deployed to Louisiana, Texas, Florida, and Mississippi to participate in Hurricane Rita relief operations. Air Guard rescue units supporting that operation consisted of the 123rd Special Tactics Squadron, Kentucky ANG; 125th Special Tactics Squadron, Oregon ANG; 106th Rescue Wing, New York ANG, and the 210th Rescue Squadron, Alaska ANG.[133]

On 24 September, Hurricane Rita made landfall at 3:40 am Central Standard Time near the Louisiana-Texas border. The Texas JOC ordered the 136th Contingency Response Group-Element, Texas ANG, to establish a mobile command and control post to handle arriving and departing airlift aircraft at Ellington Field, Texas, which became the main operating base for Hurricane Rita rescue and relief operations in the state. From 19 to 30 September, Air Guard airlift aircraft flew 199 sorties, transported 1,604 passengers, and airlifted 777 tons of cargo, in support of Hurricane Rita relief operations. All of the Air Guard airlift missions were in Texas.[134]

HURRICANE WILMA

Hurricane Wilma was the twelfth hurricane of the 2005 hurricane season and the third hurricane of the Atlantic 2005 season to reach category 4 status. On 24 October, Hurricane Wilma made landfall at Cape Romano on the Gulf coast of Florida as a category 3 storm. The storm cut a path across Florida, from Miami to West Palm Beach, causing over six million people to lose electrical power. Because of the storm's destructive potential and the lessons learned from Hurricane Katrina, Florida Governor Jeb Bush did not wish to have a similar disaster as the one that occurred in New Orleans. As a result, the distribution of essential provisions for survival was paramount. Ice and water distribution points were quickly established through the efforts of over 2,400 members of the Florida Army and Air National Guard called to state active duty. Florida Guardsmen also provided local security to devastated areas. Even though the Florida government had the situation under control, the use of EMAC to source additional resources from other states was put into effect. Four days before Wilma made landfall, an EMAC between Florida and North Carolina was put into effect to evacuate medical patients from Key West via a North Carolina Air Guard C-130. Although the role of Air Guard in providing hurricane relief in Florida was significantly smaller than what was accomplished after Hurricanes Katrina and Rita, they nevertheless provided crucial airlift capability for the response efforts. More than 2,100 Air National Guard personnel from other states were immediately available to the Florida Governor. In addition, 11 KC-135s, 2 C-5s, 12 C-130s including 7 earmarked for an air-bridge to Key West if needed, 4 RC-26s, 1 HC-130, and 2 HH-60 7 aircraft were available to assist Florida civil authorities. However, only 30 sorties were flown to transport 185 passengers and 36 tons of cargo.



Overhead view of Hurricane Wilma

Chapter 6

COMMAND AND COORDINATION IN A JOINT DOMESTIC OPERATION

A successful execution of a joint military operation requires effective command, control, and coordination among various levels of command and units participating in the operation. The massive effort of the Army and Air National Guard during Hurricane Katrina was no exception. The Air National Guard's ability to send more than 6,000 of its members to the Gulf region, fly thousands of sorties, and employ a wide range of capabilities to support the hurricane relief effort was an enormous undertaking, but it could not have been possible without effective command, control, and coordination between the joint operation centers in each state, at the National Guard Bureau, and the Air National Guard Readiness Crisis Action Team. However, the massive relief operation also revealed several flaws in the National Guard command network. The two biggest problems of the complex National Guard command system were coordination and unreliable tracking mechanism of Guard personnel participating in hurricane relief efforts.[136]

After Katrina made landfall in Louisiana, both Louisiana and Mississippi suffered the complete loss of electrical power and telecommunications that prevented them from assessing the extent of storm damage, and reporting the degree of aid needed. People manning the Joint Operations Center (JOC) in both states could only say "send everything you can." Lt. Gen. Blum ordered the National Guard to get Guardsmen to the area as quickly as possible. However, doing so required an effective joint Army and Air National Guard command network at the national and state levels to carry out his orders. Delays in passing information between the Air National Guard Readiness Center, the National Guard Bureau Joint Operations Center and the multiple state JOCs caused delays in getting the necessary relief aid to Louisiana and Mississippi. Concern that such delays might cost lives among the hurricane victims spurred Air Guard planners at the ANGRC to find alternative solutions.[137] According to CMSgt. Steven Helm, who worked in the Air Guard Crisis Action Team (CAT) during the Katrina crisis:

The Air National Guard never could have generated all the relief airlift sorties and sent all those people to the region so quickly if the tasking process went through the NGB JOC. Instead of generating airlift sorties within 6 to 12 hours, it would have taken at least 24 hours to work through the JOC's cumbersome Army-centric process, and the delay would have cost lives among the hurricane victims along the Gulf Coast. Instead, the ANG worked through its own CAT and begged forgiveness later about bypassing the NGB JOC.[138]

The National Guard command network was designed to facilitate and coordinate a bi-lateral flow of information between the NGB JOC at Arlington Hall, Virginia, the ANGRC at Andrews AFB, Maryland, and at each JOC assigned to every state, U.S. territory and the District of Columbia. The NGB JOC and ANGRC served as the primary points for coordinating the

deployment of National Guard forces. The Air Guard CAT located in the ANGRC was a well-established operation center, active since Operation Desert Shield in 1990. Its policies and procedures had been continuously modified and updated through several contingency operations since then in order to achieve optimum operational continuity. The NGB JOC and ANGRC also provided critical information and guidance to each Governor in identifying, selecting, requesting, and deploying Guard forces. The state JOC also played an important role in the command network. Each JOC oversaw the readiness status of all Army and Air Guard units assigned within the state or territory. Throughout the hurricane response effort across the nation, the ANGRC and the NGB JOC played critical roles in the overall national support network established for requesting and sending aid to the Gulf region.[139]

In theory, the command and coordination process among the three National Guard command centers should have worked as follows. When Hurricane Katrina left Louisiana government without communication networks, the state JOC should have sent a requirement for satellite communications to the NGB JOC, after which the NGB JOC determined that the requirement should be filled by the Air National Guard. The NGB JOC would send a Request for Forces (RFF) to the ANGRC to fill the satel-

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The National Guard hurricane response was a joint effort. Members of the North Carolina National Guard are preparing to board a North Carolina Air National Guard C-130 of the 145th Airlift Wing to be transported to the hurricane-stricken area. It took a massive coordination effort between the state Joint Operation Center, the Army National Guard Readiness Center, and the Air National Guard Readiness Center to make this type of mission occur. (Photograph by MSgt Bob Haskell)

lite communications requirement for Louisiana. Once the ANGRC received the RFF, the Functional Area Manager (FAM) for Combat Communications reviewed the list of Air Guard Communication Squadrons available to fill the requirement and deploy. Upon selecting a unit, the FAM contacted the unit to confirm their ability to deploy. Assuming that particular unit was available, the official unit sourcing coordination began. The FAM sent a RFF via the CAT Director to the State JOC of the assigned communication unit. The NGB JOC received a courtesy copy of the RFF. Meanwhile, the National Guard Bureau would be coordinating to establish an Emergency Management Assistance Compact (EMAC) between the two states in order for the communication unit to cross state lines into Louisiana. Unfortunately, the coordination process among the National Guard command centers did not always work as intended.[140]

There were several reasons why the National Guard command network was flawed. When Katrina struck, the new system was only two years old and never had been fully exercised. The relative infancy and the lack established roles and responsibilities within the joint structure of the NGB JOC, ANGRC, and the state JOCS also caused command and control relationships to be cumbersome and inconsistent. Furthermore, planners in the NGB JOC and ANGRC experienced bogged down communications due to redundant information requests that overwhelmed the untested communication network.[141]

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There were other challenges with the new National Guard command network. Most of the people assigned to the state JOCs during the operation were not fully trained on how to use all the military resources in the state National Guard system. The command centers lacked a balanced staff of trained Army and Air National Guard personnel manning the desks. The NGB JOC and the state JOCs were designed to be manned as a joint-operation. However, during Katrina most state JOCs were manned primarily by Army Guard personnel. Historically, state command centers were frequently manned by Army Guard personnel because the Army National Guard's large force provided the primary source for supporting civil authorities in domestic emergencies. Despite the large number of Air Guard personnel involved in the 2005 hurricane relief operations, very few Air Guard personnel were assigned to the state JOCs. Their absence led to delays in getting the necessary Air Guard resources validated and deployed to the Gulf region because most Army Guard personnel manning the state JOCs lacked the necessary knowledge of Air Force operations, capabilities, and tasking procedures.[142]

Clearly, the hurricane relief operation highlighted the need for the NGB JOC and each state JOC to have a balanced manning of Army and Air Guard personnel in order to coordinate and task the proper capability. Senior Air Guard leaders at the ANGRC and at the unit level set out to educate Army Guard personnel on how the Air Force operated. The initiative helped to improve the flow of information between the state JOCs, the NGB JOC and the ANGRC.[143]

One of the solutions the Air Guard found to expedite getting aid to the Gulf region quickly was to by-pass the state JOC altogether and coordinate directly with Air Guard units. Although this was not the correct procedure the urgency of the mission prevailed. Moreover, that practice did not always work. Some units refused to talk to the ANGRC until they first coordinated with their respective state JOCs. According to one senior officer at the ANGRC, "we did what it took to accomplish the mission."

Another challenge was the lack of a standardized tracking of Guard personnel deployed to the Gulf region.

The ANGRC was unable to get an accurate count of Air Guard personnel deployed. In the early phase of the hurricane relief operation, daily ANGRC CAT briefings presented erroneous numbers of Air Guard personnel deployed. At times, the numbers were off by hundreds.[144]

The root cause of the problems include tracking of Air Guard personnel deployed to the Gulf region and the lack of a standardized tracking system among the JOCs assigned to the 54 states and territories, and tracking Guard personnel on State Active Duty was entirely the prerogative of the states. Moreover, the ANGRC was not required to track Air Guard personnel deployed on domestic operations. The ANGRC was set up to track Air Guard personnel deployed overseas on Title 10 Federal orders because of the standardized tracking mechanism used by Air Force Air Expeditionary Force deployment structure, and because state JOCs were not expected to track personnel on Title 10 orders. However, in domestic operations supporting civil authorities, the tracking of Air Guard personnel activated depended entirely on whether the state JOCs wanted to track their people.[145]

Since it was a state's right to choose whether they would track Guard personnel deployed during domestic operations, the NGB JOC and the ANGRC had no authority to order a state to track its personnel. All that the NGB JOC and ANGRC could do was encourage and show why it was important for the states to track their deployed personnel. Fortunately, most states agreed to produce daily personnel strength reports on the total number of Air Guard personnel deployed. Tracking Guard personnel greatly improved after they were placed in Title 32 status. Because it was a federal status, the placement of Guard personnel required units to publish official orders for each person mobilized for hurricane relief operations. Tracking based on orders published improved personnel accountability associated with the hurricane relief effort.[146]

To solve the problem of having no means of accurately tracking Guard personnel, a Joint Domestic Operations Plan Identification number, or PID was proposed to allow various command centers to efficiently source, track, and execute requests for forces in a timely manner. The plan would also provide Title 10 command centers such as Northern Command better situational awareness on Guard movements.[147]

EMERGENCY MANAGEMENT ASSISTANCE COMPACT (EMAC)

Air Guard units were able to respond rapidly without being federally activated due to the Emergency Management Assistance Compact 146, or EMAC. Only a small number of Air Guard personnel (less than 50 people) deployed to the region in federal-activated (Title 10) status. The National Guard considered EMAC to be a significant force multiplier in a domestic response operation, by using National Guard response capabilities from all 54 states and territories. Lt. Gen. Daniel James, III, Director of the Air National Guard, believed that the advantages of EMAC proved that the country have a national EMAC among all states, territories, and the District of Columbia. EMAC also allowed governors to gain access to a diverse set of personnel and equipment in other states. In addition, the ability of the governor to deploy Guard personnel in either State Active Duty (SAD), or Title 32 status, enhanced rapid response capability, because it did not involve the sometimes cumbersome federal call-up problem. Overall, the rapid and massive National Guard response to Hurricanes Katrina and Rita was due to a series of compacts established among the 54 governors. Once the governor of a state affected by a disaster declares a state of emergency, an EMAC can go into effect to allow other states to send relief assistance. It is this request that triggers the response from other EMAC-member states and sets the EMAC Operations system of coordination and deployment in motion.[148]

In disasters such as Hurricane Katrina, it would have been easier and quicker if the federal government intervened immediately to manage the relief operation. Assuming the President deemed necessary to federalize all military forces, this action would have put active duty and National Guard forces under one command and control organization. In addition, notwithstanding the problems experienced with FEMA, relief aid managed by a single agency versus multiple agencies could have resulted in a smoother flow of relief aid delivered to the victims. However, taking this course of action would have removed the role played by the state government, and its emergency management organization. Furthermore, the political fallout could have backfired against the federal government because it would be seen by the general public as taking away state's rights.

Although an EMAC permits governors to deploy their respective Guard units across state lines, there were limitations in providing the necessary capabilities needed in the Gulf Coast region. As the rescue and relief demands in the Gulf increased, the effectiveness of the resources and the capabilities available in each state decreased under EMACs and State Active Duty. Further, the risks facing Army and Air Guard personnel operating in the Gulf region led the Department of Defense to authorize Army and Air National Guard members to operate in Title 32, federally funded status, in order to provide them with medical insurance and federal funding.[149]

TITLE 32 MOBILIZATION FOR HURRICANE RELIEF OPERATIONS

During the course of providing hurricane relief support, the National Guard received an important benefit for its members. All Army and Air National Guard personnel participating in hurricane relief efforts were placed in federally funded Title 32 status. Originally, National Guard forces were activated and deployed in State Active Duty status; however, Lt. Gen. Blum submitted a request to the Office of the Secretary of Defense to place all Guard members participating in hurricane relief operations on Title 32 status. According to Lt. Gen. James, the Katrina relief effort needed a Title 32, not a Title 10 response. In 3 days, 28,000 National Guard personnel arrived in Louisiana and Mississippi. The acting Deputy Secretary of Defense Gordon England signed a memorandum on 7 September, 2005, that approved the use of federal funds "for use of the National Guard in Title 32 U.S. Code status to support Hurricane Katrina disaster relief efforts." This order was retroactive to 29 August, 2005.[150]

The main reason for the upgrade to Title 32 was that during the relief operations in Louisiana and Mississippi many hazardous conditions posed serious health risks to National Guard members that could have resulted in serious medical and health issue. Such hazards were experienced firsthand by Air Guard Pararescuemen in the flooded waters of New Orleans. Most states did not offer medical compensation benefits for Guardsmen serving under State Active Duty. By upgrading the status of Army and Air National Guard members from State Active Duty to Title 32 status, members were provided greater protection. Although Title 32 was federally funded, that status did not remove Governors ability to retain their command authority over their National Guard personnel, which permitted Army and Air National Guard forces to perform law enforcement duties and not violate Posse Comitatus. In addition, the transfer to Title 32 prevented many states from undergoing catastrophic fiscal deficits.[151]

Epilogue

After 30 September 2005, the hurricane relief tempo for active duty personnel diminished significantly. However, more than 32,000 National Guard members remained in the Gulf region to support civil authorities. In addition, Air Guard airlift aircraft continued delivering vital supplies and personnel to the region.[152]

Air National Guard units are organized to perform its federal and state roles, including support to civil authorities in natural disasters. Historically, the size and scope of the Air National Guard's, involvement in domestic operations like natural disasters has been smaller than the Army National Guard's, due to its much smaller force structure, different skill sets, geographically concentrated units, and the fact that most Adjutant Generals have been Army Guardsmen. Nevertheless, the Air National Guard retained sufficient training, equipment, and capability to support any disaster relief operation. Moreover, the Air National Guard's ability to perform its state role well was helped by its federal resources. For decades, the Air National Guard was successful in performing its dual roles largely due to its federal role. Crises like Hurricane Katrina allowed the Air National Guard to employ its airlift capability, rescue, combat communications, air traffic control, medical, security, and many other mission area capabilities to support the Governors of the 54 states and territories, and the President of the United States.[153]

The confusion of roles and responsibilities within the NGB command structure, coupled with the Army Guard's lack of knowledge regarding Air Force operations and the absence of a sufficient number of Air Guard personnel assigned to state JOCs, delayed the deployment of relief aid to the Gulf region. Nevertheless, the sheer magnitude of the Air Guard's response, in conjunction with their Army National Guard brethren demonstrate that the command and control problems was dealt with by the continuous dispatch of relief aid to the Gulf region. Although Hurricane Katrina showed the flaws of the infant NGB command system, the National Guard helped to provide rescue and relief to thousands of people, thus completing the mission. Many hard lessons were learned in the first weeks of September, which led to improvements in the National Guard command network.

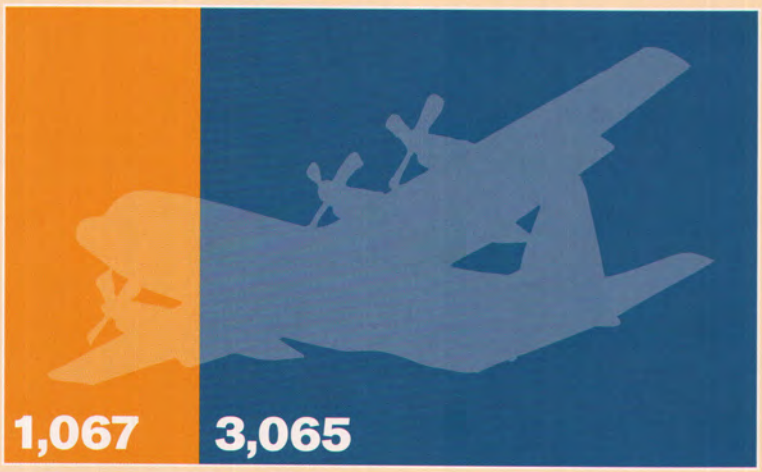
Weeks after the flood waters subsided in New Orleans and residents in Mississippi and Louisiana were returning to their homes and continuing to clean-up, the Army and Air National Guard continued to deploy personnel to help with the clean-up efforts. (NGB/PA Photograph)



ANG Airlift[1] Hurricane Katrina/Rita

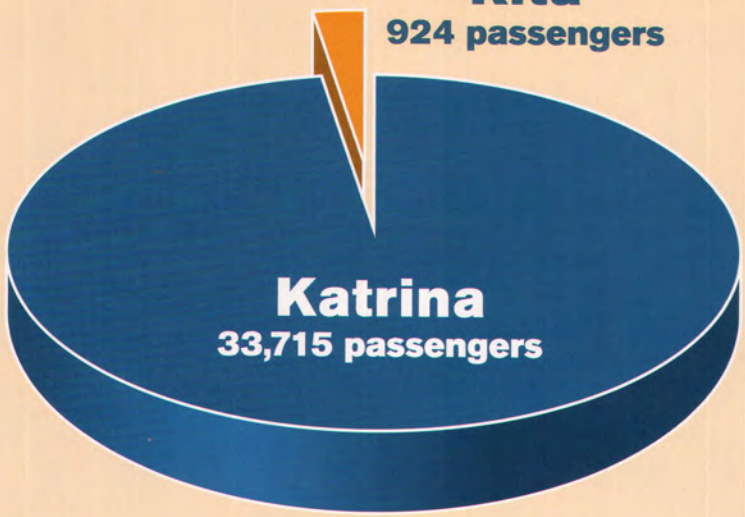
30 August to 29 November 2005

4,132 Total ANG airlift sorties flown



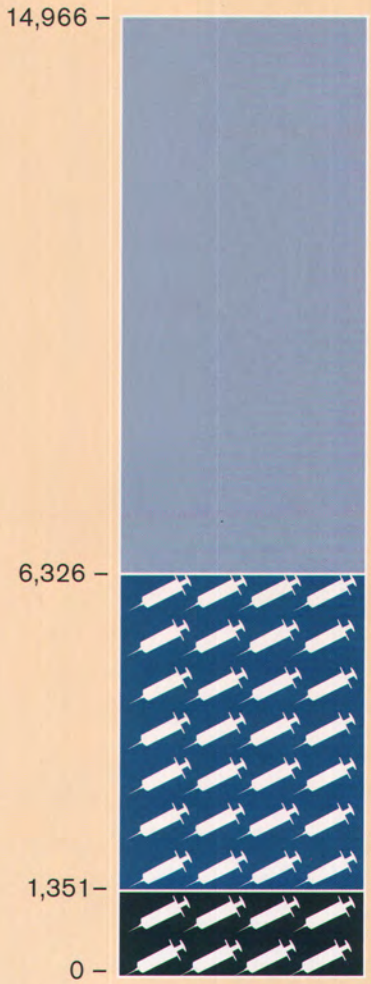
■ Sorties flown for Rita ■ Sorties flown for Katrina

34,639 Total passengers[2] airlifted by ANG (excludes air-evacs)



14,966

Total patients treated by ANG EMEDS



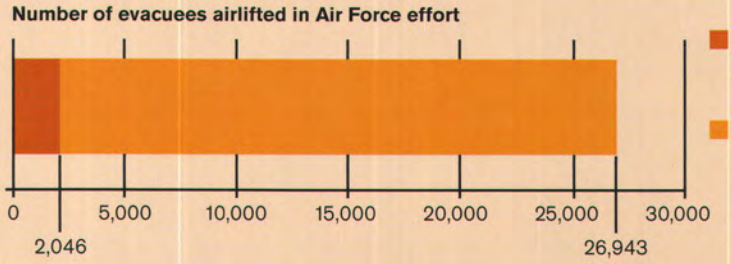
Patients given immunization shots by ANG Community Outreach team

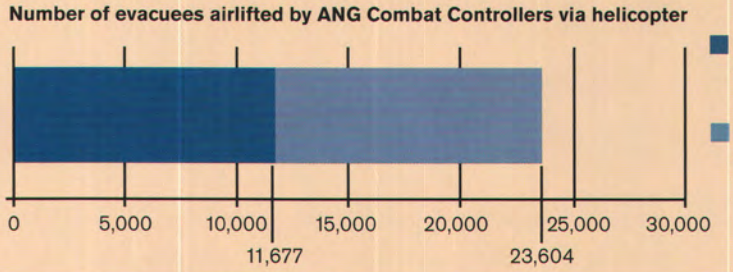
- at Bay St. Louis, MS
- in Gulfport, MS

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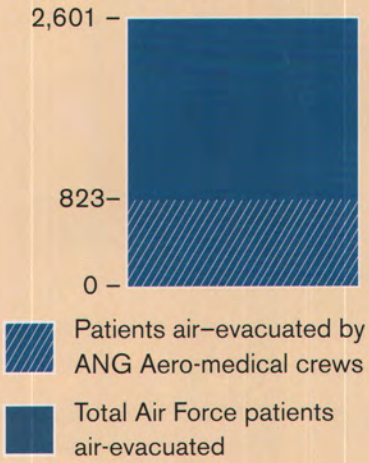
2. This number represents military, EMAC, and other essential personnel deploying to the hurricane stricken areas.

2,046 Total evacuees airlifted by ANG

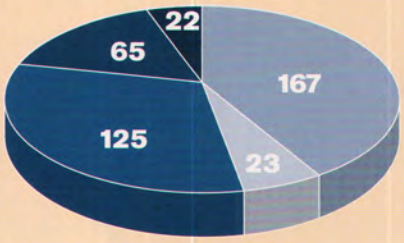




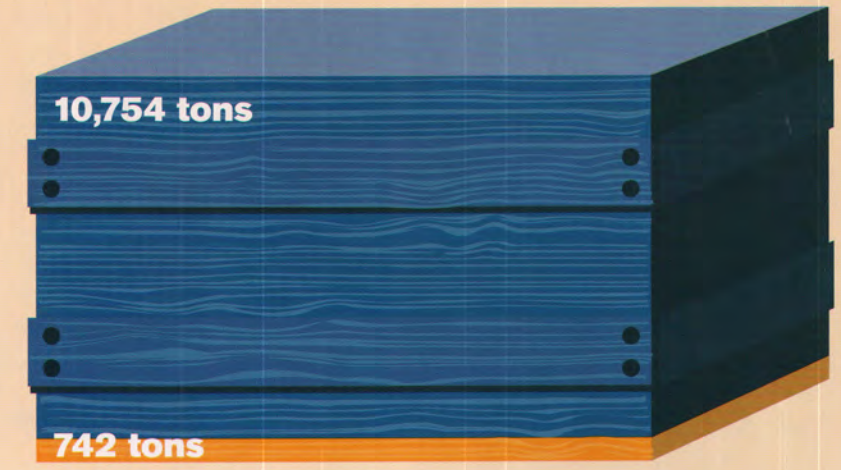
823 Total patients air–evacuated by ANG Aero-medical crews



402 Total ANG EMEDS[3] personnel deployed (1 Sep – 13 Oct)



11,496 tons Total cargo airlifted by ANG



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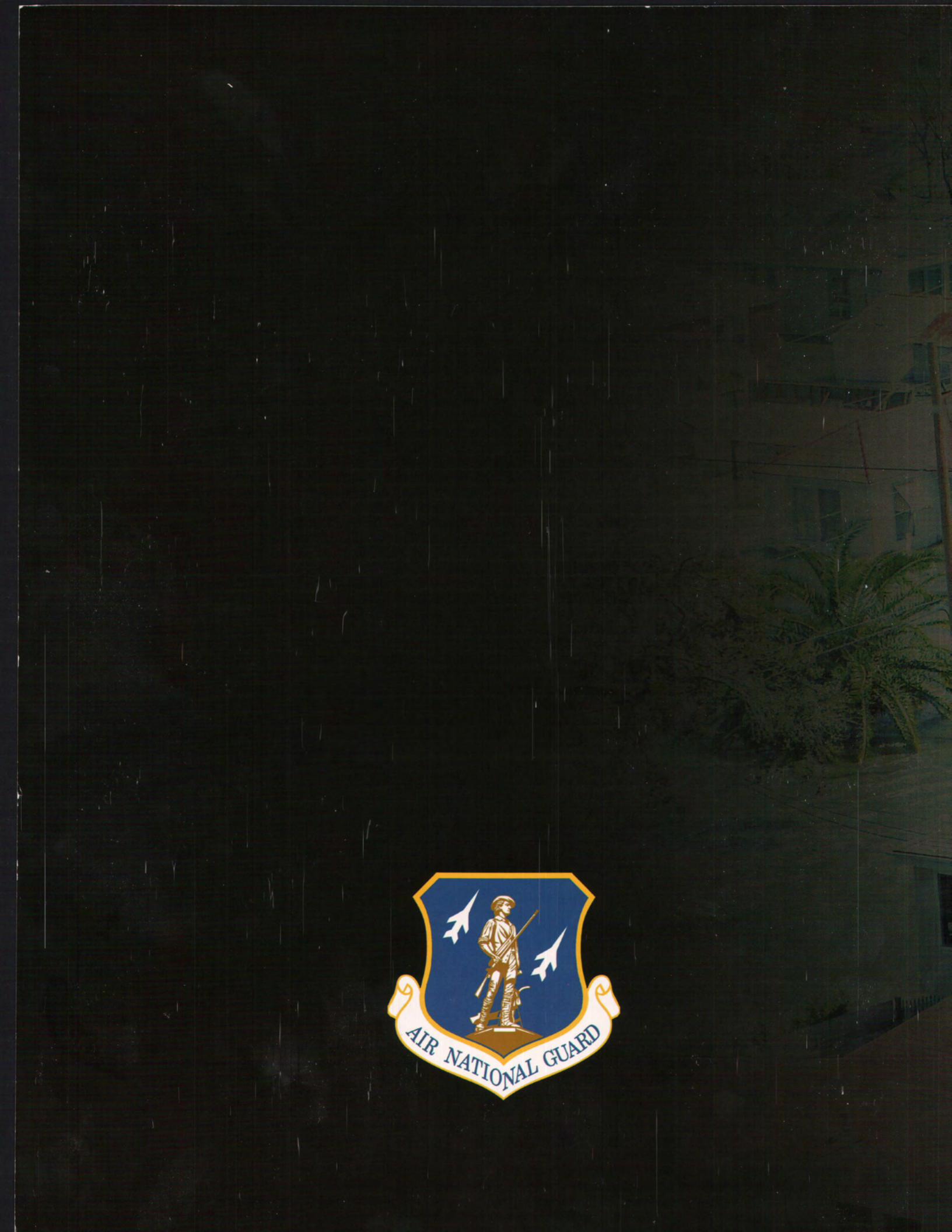
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