HURRICANE RECOVERY PROJECTS

ADG Engineering has completed numerous hurricane-recovery projects. Below are a few representative projects:

SUPERDOME RENOVATION FACILITY UP-GRADE – NEW ORLEANS, LOUISIANA
Following Hurricane Katrina in 2005, the Superdome facility needed significant repairs related to the hurricane, together with repairs associated with being a shelter for evacuees. Facility enhancements were also developed to bring the facility to current NFL standards for stadiums. Repair costs were approximately $158 million dollars. Enhancement costs were approximately $100 million dollars.

MCNEESE STATE UNIVERSITY HURRICANE RITA ASSESSMENT – LAKE CHARLES, LOUISIANA
ADG responded to Environmental Remediation needs at McNeese State University in Lake Charles following Hurricane Rita bringing the campus on-line in an extremely short time period by preparing over 25 bid packages in a month for multiple buildings throughout the MSU campus as a prime designer for the State of Louisiana. Design included creating plans for the removal or cleaning of contaminated materials in a manner that prevents the emissions of fungi and/or dust contaminated with fungal products from leaving a work area and entering an occupied or non-abatement area, while also protecting the health of workers performing the abatement.

JACKSON BARRACKS JOINT FORCE HEADQUARTERS –NEW ORLEANS, LOUISIANA
Following Hurricane Katrina, the entire Jackson Barracks complex for the Louisiana National Guard (LANG) had to be completely redesigned. ADG performed MEP design for 35% D/B bridging documents for multiple projects and are working on the design build teams for other projects in this campus wide undertaking.

SOUTH CAMERON HIGH SCHOOL – GRAND CHENIER LOUISIANA
This project consisted of the design of a new replacement facility for Cameron High School that was destroyed during Hurricane Rita. The replacement facility included approximately 102,000 square feet of classrooms, offices, kitchen, cafetorium, and library areas elevated approximately 14 feet above grade level. HVAC system design included air conditioning all areas, general restroom exhaust, science lab fume hood exhaust, and kitchen ventilation design. The air conditioning system was composed of several variable volume split system direct expansion air handling units supplying air through medium pressure duct work to VAV boxes in each classroom and constant volume split system direct expansion air handling units for the administration areas. All mechanical equipment was controlled by a DDC temperature controls system. Plumbing design included domestic water piping, sanitary sewer and vent piping, natural gas piping for the kitchen equipment and natural gas generator. Fire protection design included a wet pipe system throughout the facility served by a dedicated fire pump. The parking area and commons areas below first floor level were served by a corrosion resistant dry pipe sprinkler system.

LEBLANC ELEMENTARY SCHOOL – ABBEVILLE, LOUISIANA
Construction of a new 14 million dollar, 100,000 square foot elementary school which replaced a hurricane damaged facility. Construction of the project was completed in less than 20 months. The school was built with state of the art information technology systems, including interactive projection screens in each classroom, and the latest intercom technology providing distribution of video and Internet data.

HURRICANE RECOVERY PROJECTS

McNeese State University
General Mold Remediation
Lake Charles, Louisiana

Department Health and Hospitals
Briscoe Center
General Mold Remediation
Lake Charles, Louisiana

Department Health and Hospitals
J. Bennett Johnston Center
General Mold Remediation
Lake Charles, Louisiana

Office of Motor Vehicles
General Mold Remediation
Lake Charles, Louisiana

LUMCON
General Mold Remediation
Cocodrie, Louisiana

East Broussard / Forked Island School
Hurricane Repairs
Forked Island, Louisiana

Henry Gymnasium and Classrooms
Repairs and Renovations
Henry, Louisiana

Opelousas High School
Hurricane Repairs
Opelousas, Louisiana

5500 Veterans Boulevard
Hurricane Katrina Assessment
New Orleans, Louisiana

Jennings American Legion Hospital
Hurricane Rita Assessment
Jennings, Louisiana

Lake Charles Memorial Hospital
Hurricane Rita Assessment
Lake Charles, Louisiana

Jackson Barracks
Joint Force Headquarters
New Orleans, Louisiana

Louisiana Superdome
New Orleans, Louisiana
Hurricane Related Assessment and Repairs

Dillard University
New Orleans, Louisiana
Hurricane Related Assessment and Repairs

South Cameron High School
New Facility
Cameron, Louisiana

Regional Transit Authority
Repairs and Renovations
New Orleans, Louisiana

Hyatt Regency Hotel
Repairs and Renovations
New Orleans, Louisiana

Dillard University
Repairs and Renovations
New Orleans, Louisiana

NOAA Pascagoula Lab
Pascagoula, Mississippi

NOAA Galveston Lab
Galveston, Texas

Burton Coliseum New Arena
Hurricane Repairs
Lake Charles, Louisiana

Burton Coliseum
Hurricane Repairs
Lake Charles, Louisiana

Burton Coliseum Livestock Barn
Hurricane Repairs
Lake Charles, Louisiana

HURRICANE RECOVERY PROJECTS

Plaquemines Parish School Board
Hurricane Katrina Damage Assessment
Plaquemines, Louisiana

Hercules Drilling
Hurricane Rita Assessment
New Orleans, Louisiana

Phoenix High School
Hurricane Katrina Renovations
Plaquemines, Louisiana

Belle Chase Library
Hurricane Katrina Renovations
New Orleans, Louisiana

St. Maria Goretti Church
Hurricane Katrina Repairs
New Orleans, Louisiana

Mallard Cove Clubhouse Repairs
Lake Charles, Louisiana

Lake Charles Racquet Club Repairs
Lake Charles, Louisiana

Celebration Church
Hurricane Katrina Repairs
Metairie, Louisiana

United States Custom House
Hurricane Katrina Repairs Survey
New Orleans, Louisiana

Rockefeller Wildlife Refuge Residences
Hurricane Repairs
Cameron Parish, Louisiana

Rockefeller Wildlife Refuge West End Dorm
Hurricane Repairs
Cameron Parish, Louisiana

Williams Administration Building
Johnson Bayou, Louisiana

Calcasieu Parish Juvenile Detention Center
Hurricane Repairs
Lake Charles, Louisiana

Calcasieu Parish Police Jury
Magnolia Building Window/Wall Replacement
Hurricane Repairs

HURRICANE RECOVERY PROJECTS

FEMA TEMPORARY HOUSING FACILITIES

ADG designed over 40 temporary housing facilities for FEMA at various locations including universities, hospitals, airports, commercial areas, etc. working closely with FEMA, local authorities having jurisdiction, Department of Health and Hospitals, utility companies, etc.

FEMA Airport Baton Rogue Site #1

FEMA Airport Baton Rouge Site #2

FEMA Airport Baton Rouge Site #2A

FEMA Airport Baton Rouge Site #2B

FEMA Airport Baton Rouge Site #3

FEMA RV Emergency Trailer Park - Groom Road

FEMA RV Emergency Trailer Park - Lobdell Road

FEMA RV Trailers - Buckhorn Street - Monroe

FEMA RV Trailers - Robinson Road - Monroe

FEMA Trailer Park - 3131 Bienville

FEMA Trailer Park - Carondelet & Harmony

FEMA Trailer Park - Central Congregational

FEMA Trailer Park - Charles Riley Site

FEMA Trailer Park - City Park

FEMA Trailer Park - Ephesus

FEMA Trailer Park - Frey Plant Site

FEMA Trailer Park - Gideons Church

FEMA Trailer Park - God's House

FEMA Trailer Park - Kingsley House

FEMA Trailer Park - Monroe at Edinburgh

FEMA Trailer Park – Lake Charles Memorial Hos.

FEMA Trailers Treme Center

FEMA Trailer Park - Monroe at Olive

FEMA Trailer Park - Mt. Carmel Baptist

FEMA Trailer Park - Old J.C. Penny

FEMA Trailer Park - Tulane University

FEMA Trailer Park - Westbank Expressway

FEMA Trailer Park - Xavier

FEMA Trailer Park Audubon Park

FEMA Trailer Park Delgado Community College

FEMA Trailer Park Mt. Olive Baptist

FEMA Trailer Park Woldenberg Nursing Home

FEMA Trailers – DOTD - Bridge City

FEMA Trailers - Claiborne - Jackson Avenue

FEMA Trailers - Ft. Knox - Marrero, LA

FEMA Trailers - Jefferson Flea Market Site

FEMA Trailers - Perry Street Wharf Site

FEMA Trailers - Poydras St. at Galvez

FEMA Trailers - Shepard Creek

FEMA Trailers - West Minister Park Site

FEMA Trailers Kenner Regional Hospital

FEMA Trailers Louis Armstrong Airport

FEMA Trailers Stirling Property - Marrero, LA

FEMA Trailers Progressive Baptist - Marrero

HURRICANE PREPAREDNESS PROJECTS

ADG's experience with hurricane preparedness includes several facilities that are designed to follow specific criteria such as the following:

- Projects with 100% on-site full backup power generation. Cooling systems are critical and must be on standby power.
- Equipment must be protected from wind both on the roof and on the ground. Recent designs include solid concrete walls surrounding roof top and on-grade mechanical equipment along with structural details to ensure equipment stays secure.
- Flooding prevention. Critical MEP equipment must be kept out of water, and planning is done to ensure that spaces are designed into the architecture, which allows MEP equipment to be located above grade and above flood plains.

Veterans Administration Medical Center - Pineville, Louisiana

This project included the design of a new emergency power facility (building, roads, equipment) to provide three (3) new two megawatt natural gas fueled auxiliary power generators with provisions for a future fourth generator. The generators provided electricity at 13.8kV to automatic medium voltage paralleling gear. This new paralleling gear fed each end of a double ended medium voltage substation to provide auxiliary power during extended power outages at the facility. In addition, the scope was eventually modified to add the relocation and burial of two (2) existing overhead CLECO distribution lines currently serving the site to help harden the facility's electrical systems. The natural gas supplier, Atmos, construction a new high pressure gas line in the area to help deliver the substantial amounts of natural gas to the facility with minimal disruption to existing customers.

Lake Charles Memorial Hospital - Lake Charles, Louisiana

A lineup of paralleling gear is provided to control/distribute emergency electrical power from two (2) new 1,500 diesel fueled generators, one (1) existing 450kW diesel fueled generator and one (1) future 1,500 Kw diesel fueled generator. This installation is designed so that failure of any one generator will cause the stand-by generator to start and run and assume loading at appropriate times. This project also includes the replacement of one set of outdoor, double ended medium voltage distribution panels with a new indoor, double ended medium voltage panel.

HURRICANE PREPAREDNESS PROJECTS

ST. CHARLES PARISH EMERGENCY OPERATIONS CENTER - HAHNVILLE, LOUISIANA

In Hahnville at the emergency operations center for the parish, two (2) 600kW diesel fueled generators provide emergency power to the facility through automatic paralleling gear. Each generator is sized to provide 100% redundancy emergency power for the facility including the HVAC system. The fuel system is sized to provide 96 hours of continuous runtime at 100% load. The fuel system for each generator is separate from the other to minimize contamination from one fuel source shutting down the second generator. Upon a power failure, both generators start and share load within ten seconds of the power failure. After ten minutes, if the power requirements remain where only one generator is needed to handle the loads, the second generator drops off line and goes back to ready mode. In the event that the running generator fails for some reason, the second generator re-starts and assumes load within ten seconds.

CENTRAL LOUISIANA STATE HOSPITAL - PINEVILLE, LOUISIANA

This project addressed replacement of twenty-eight small capacity emergency generators distributed throughout this sprawling complex. Through evaluation of spatial building relationships, installation of eight new generators with required underground distribution was selected as the cost effective solution. New generators were diesel-fueled units with double-walled sub-base fuel tanks in weatherproof enclosures.

ST. MARY PARISH LAW ENFORCEMENT CENTER - ST. MARY PARISH, LOUISIANA

In St. Mary Parish, the correctional facility was designed with a 135kW diesel fueled unit that provided emergency power to emergency lighting and to the detention control system. However, after several hours of a power outage, the facility became uninhabitable due to lack of an operational HVAC system and hundreds of thousands of dollars of costs were incurred by the Sheriff's department to relocate the prisoner population. A one megawatt diesel fueled generator was designed for the facility to provide emergency power for one hundred percent of the facility with enough spare capacity to double the size of the facility without having to upgrade the generator. Upon the successful installation and testing of the new generator, the existing 135kW unit was removed.

HURRICANE PREPAREDNESS PROJECTS

LAFAYETTE GENERAL MEDICAL CENTER - LAFAYETTE, LOUISIANA

Two existing Waukesha brand 800kW diesel fueled auxiliary power generators were replaced with new, 800kW diesel fueled auxiliary generators. As part of a continuation of this project, an existing 350kW diesel fueled emergency power generator was replaced with a new 800kW natural gas generator. These three generators were connected together using automatic paralleling gear. This upgrade in generator capacity helped provide emergency/auxiliary power to other portions of the facility where generator power was desired but not required. This included providing auxiliary power to elevators and to non-critical patient care areas.

In addition to the above generator plant, a new emergency power system including two (2) 1000kW diesel fueled generators were provided and installed to provide emergency power to twelve new operating suites and ancillary spaces with enough capacity to handle a seven story tower addition. The two (2) new generators are connected together via automatic paralleling gear with each generator capable of supplying all code required emergency power with a single unit. The paralleling gear is designed to comply with NFPA 70 requirements for separation of emergency power branches (Critical Branch, Life Safety Branch, and Life Safety Branch) and is the first of its kind is this region of the country.

OUR LADY OF LOURDES REGIONAL MEDICAL CENTER - LAFAYETTE, LOUISIANA

A 1000 Kilowatt diesel fueled generator was located adjacent to the existing 600 kilowatt generator serving the Fitzsimon's building. Installation of this new generator required construction of a 2000 amp underground conduit duct bank between the main boiler room and the centralized generator position. Automatic paralleling switcher was provided for increase emergency system reliability in the event of a failure of one of two generators.

HURRICANE PREPAREDNESS PROJECTS

WEST CALCASIEU CAMERON HOSPITAL - SULPHUR, LOUISIANA

Upgrade of the generator plant to be two (2) 1000kW diesel fueled units connected to the facility's power system via automatic paralleling gear. The paralleling gear allows the facility to use the first generator up to acceptable conditions to assume the life safety and critical branch loads within ten seconds as required by the National Electrical Code (NFPA 70). The second generator then parallels with the first generator and connects to the emergency power system. Non-essential loads are then added to the emergency power system. Should one of the generators fail, the non-essential loads are dropped off of the system so that the remaining generator can still provide emergency power to the life safety and critical branch loads.

BEAUREGARD MEMORIAL HOSPITAL - DERIDDER, LOUISIANA

Beauregard Memorial Hospital added a single 600kW diesel fueled unit to its emergency power system. This new generator is in addition to the existing 400kW unit but the two units are not interconnected to each other. The new 600kW unit provides auxiliary back-up power to the HVAC plant so that the facility's patients can remain comfortable during power outages. In addition, the 600kW unit has the capacity to provide life safety and critical branch emergency power to future expansions of the facility.

OFFICE OF HOMELAND SECURITY AND EMERGENCY PREPAREDNESS - BATON ROUGE, LOUISIANA

The Office of Homeland Security and Emergency Preparedness was created through a joint effort of the State of Louisiana, FEMA Federal Emergency Management, the Department of Homeland Security, the Louisiana State Police, and the Louisiana National Guard to provide a centralized location for the coordination and management of statewide natural disasters such as hurricanes, tornadoes, ice freezes, and from industrial accidents of shipping, chemical plants, and any and all other statewide emergencies requiring the coordination of civilian, military, local and state police, and other state emergencies services. The building is constructed of blast resistant materials and is completely self sufficient with emergency generation, weather facilities, high/low/ and ultra-low frequency radio communications as well as tele-data capabilities. The building is approximately 42,970 sq. ft plus 11,000 sq. ft. of miscellaneous areas consisting of offices, dispatch rooms, living quarter accommodations, radio/communications rooms, computer facilities, weather station, media auditorium, and is continuously manned on a 24 hour basis. The building is designed to be totally self sufficient with back-up HVAC/Electrical/Plumbing systems in the event of power loss or other disruption of commercial services.

HURRICANE PREPAREDNESS PROJECTS

WEATHER FORECAST OFFICE - KEY WEST, FLORIDA

This 12,000 square foot facility set in historic downtown Key West, is designed to withstand 165 mile per hour winds, with an internal Severe Weather Occupancy Shelter (SWOS) designed to withstand 250 miles per hour winds. MEP systems are redundant with emergency generator and UPS backup systems, and also serve a FEMA Emergency Management Room and Ready Room with state-of-the-art telecommunications systems. The facility, designed to withstand a direct category five hurricane event utilizes sustainable design and achieved silver level LEED (Leadership in Energy and Environmental Design) rating certification, integrated into this unique, storm protected, secure facility.

ST. MARY PARISH COURTHOUSE HAZARDOUS MITIGATION PROJECT - FRANKLIN, LOUISIANA

The existing seven story building is located in downtown Franklin, LA on the Bayou Teche River. This building houses all St. Mary Parish Government Departments, an emergency operations center, judicial systems (courtrooms), and the Parish's female jail. The basement of the building houses the central plant (chillers, boilers, domestic water systems, etc.) and main electrical distribution systems and is below the FEMA floodplain. This project includes installing a flood wall around the building and modifying the existing electrical service and plumbing utilities on site to allow the facility to operate during an emergency natural disaster such as a hurricane or high flood waters.

GOVERNMENT OPERATIONS AND EMERGENCY CENTER - MORGAN CITY, LOUISIANA

Project consists of a new approximately 33,000 square foot two story government building. The building will house the Port of Morgan City personnel, an emergency operations center and several other tenants. The building and essential components such as HVAC, electrical system, generators, etc. will be located above flood level so the emergency operations center and 911 call center can operate during emergencies.

ABBEVILLE GENERAL HOSPITAL SAFE ROOM - ABBEVILLE, LOUISIANA

The Abbeville General Hospital (AGH) Safe Room facility building mechanical and plumbing systems were designed for a standalone service for use during emergency times (hurricanes, tropical storms, etc.) when no utilities are available to the building. The mechanical design of the AGH Safe Room consisted of energy efficient DX type A/C systems (A/H units with air cooled condensing units) with variable air volume (VAV) terminal units for space cooling and heating. Each VAV box had a thermostat for individual zone space temperature control. The plumbing system had a sewage storage tank with lift station. The domestic water system had a booster water pump system with a storage tank. All plumbing systems were piped and valve to be able to be isolated from the city utility systems if needed, during emergency use. All mechanical and plumbing systems requiring electricity were also backed-up by a dedicated emergency generator system. The project was completed with grant monies.

AVOYELLES PARISH POLICE JURY FEMA SAFE ROOM AND COMMUNITY CENTER - MARKSVILLE, LA

ADG Engineering provided mechanical engineering design for an approximately 4,350 square foot FEMA Safe Room building. The project consists of a large safe room with ancillary spaces such as restrooms, showers, food preparation spaces and offices. The mechanical components of the project are designed to meet and exceed the requirements of FEMA P-361 (Safe Rooms for Tornados and Hurricanes) and ICC 500 (Standard for the Design and Construction of Storm Shelters).

HURRICANE PREPAREDNESS PROJECTS

911 Building Lake Charles Back-up
Generator Study

Acadian Ambulance
emergency Generator Installation

Acadiana Regional Airport Tower
Emergency Generator

Acute Care Baton Rouge
Relocation of Emergency Generator

Allen Parish Hospital
Auxiliary Generator

Allen Parish Sheriff's Department
Generator and Transfer Switch

Andrus Insurance
Generator Installation

Anderson Regional Medical Center
Generator for Cancer Center

Anderson Regional Medical Center
Generator Upgrade

Barker GMC
Generator Installation

NOAA Beaufort Laboratory
Generator Addition

Beauregard Memorial Hospital
Generator Addition

Bunkie Evacuation and Civic Center
Emergency Generator

Cameron Parish School Board
Grand Lake Elementary New Generator

Cameron Parish School Board
Hackberry High School Generators

Chevron Energy Facility
Generator Installation

Christus St. Patrick's Hospital
Generator #3 Replacement

Central Louisiana State Hospital
Replacement of Emergency Generators

Church Point Community Center
Generator Installation

Conoco Office Building
Emergency Generator

Coushatta Golf Course
Grand Pavilion Generator

Calcasieu Parish Police Jury
Animal Control Center Emergency Generator Replacement

Calcasieu Parish Police Jury
CDBG Generators at 6 sites

Calcasieu Parish Police Jury
Coroners Building Generator

Calcasieu Parish Police Jury
Juvenile Detention Training Center Generator

Calcasieu Parish Police Jury
Mosquito Control Facility Emergency Generator

Dr. Ponder Medical Office Building
Generator Installation

Fidelity Bank Metairie
Generator Installation

Fidelity Bank Covington
Generator Installation

Fidelity Homestead Veterans Branch
Emergency Generator

HURRICANE PREPAREDNESS PROJECTS

First National Bank Morgan City
Generator Installation

Ft. Polk Bayne Jones Hospital
Chiller and Generator Additions

Global Data Systems
Emergency Generator

Haliburton
Generator Installation

Harlan Appalachian Regional Medical Center
Emergency Generator

Iberia Parish Sewer District #2
Generator Installation

Jennings American Legion Hospital
Backup Generator Installation

Jennings American Legion Hospital
Emergency Generator Replacement

Jeff Davis Bank Administration Building
Generator Installation

City of Alexandria
Generator Installation

Lafayette Parish
Emergency Operations Center

Lafayette Regional Airport
Emergency Generator

Lake Charles E911
Emergency Generator Replacement

Calcasieu Parish Sheriff Office
Generator Installation at 3 Buildings

Lake Charles Memorial Hospital
Generator Replacement

Lake Charles Memorial Hospital
1000 KW Emergency Generator

Lake Charles Memorial Hospital
Gauthier Campus
Relocation of Generator

Lake Charles Memorial Hospital
Generator #4 Replacement

Lake Charles Memorial Hospital
Relocation of Generator and Elec. Gear - Main Campus

Lafayette General Medical Center
Emergency and Auxiliary Generator Replacements

Lafayette General Medical Center
Offsite Electric Steam Generator Layout

LSUE Science Building
Generator Installation

LUS FTTH Customer Service
Generator Installation

Medical Center Diagnostic
Installation of Generators and UPS

Mid-South Bank
Generator Installation

Village of Morse
Generator Installation

Southwest LA Center for Health
Generator Installation

West Calcasieu Cameron Hospital
Auxiliary Generator

HURRICANE PREPAREDNESS PROJECTS

Moss Regional Emergency
Generator Installation

McNeese State University
Generator Installation

New Orleans African American Museum
Emergency Generators

Opelousas General Health System
Emergency Generator Replacement

Opelousas General Health System
Relocation of Existing Generator

Opelousas General Health System
Emergency Generator Upgrade

Our Lady of the Sea Hospital
Auxiliary Generator

Port Barre' Police Station
Generator Installation

Regional Transit Authority
Desire Generators Replacement

Regional Transit Authority
Canal Emergency Generator

Regional Transit Authority
Canal Emergency Generator Mitigation

Regional Transit Authority
Canal SIS Emergency Generator

Thomas Tools
Generator Installation

Stone Energy
Emergency Generator

Sulphur Diagnostic Center Clinic
Generator Installation

SW LA Center for Health
Generator Installation

Scott City Hall
Emergency Generator

St. Mary Parish Law Enforcement Center
Generator Replacement

Northwestern State University
Iberville Hall Generator Installation

Park Place Hospital
New Generator Installation

Veterans Affairs Medical Center
Alexandria Auxiliary Generator

West Calcasieu Cameron Hospital
Auxiliary Generator

Women & Children's Hospital
Generator Addition (Lake Charles)

University Medical Center (Lafayette)
Generator Replacement & Electrical Upgrade