

Energy Assurance Plan

Recovery Act – Energy Assurance Planning – State of Louisiana

WORK PERFORMED UNDER AGREEMENT

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SUBMITTED BY

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Explanation of Terms

BCD	Barrels per Calendar Day
BEOC	Business Emergency Operations Center
BERG	Business Expansion and Retention Group
DEQ	Louisiana Department of Environmental Quality
DHS	Department of Homeland Security
DNR	Louisiana Department of Natural Resources
EIA	Energy Information Administration
EMS	Energy Management Systems
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
ESDTP	Energy Supply Disruption and Tracking Process
ESF	Emergency Support Function
FERC	Federal Energy Regulatory Commission
GOHSEP	Governor's Office of Homeland Security and Emergency Preparedness
HERO	Home Energy Rebate Option
IEA	International Energy Agency
ITGA	Information Technology and Geographical Analyst Team
LDAF	Louisiana Department of Agriculture and Forestry
LED	Louisiana Economic Development
LNG	Liquefied Natural Gas
LOOP	Louisiana Offshore Oil Port
LPSC	Louisiana Public Service Commission
MBD	millions of barrels per day
MCF	millions of cubic feet
NASEO	National Association of State Energy Officials
NIMSAT	National Incident Management Systems and Advanced Technologies
NIST	National Institute of Standards and Technology
NYMEX	New York Mercantile Exchange
OCS	Outer Continental Shelf
OEP	Office of Emergency Preparedness
PSA	Protective Security Advisors
RBAC	Role –based Access Control
SDMI	Stephenson Disaster Management Institute
SCADA	Supervisory Control and Data Acquisition
SIEC	Statewide Interoperability Executive Committee
SOP	Standard Operating Procedures
SPR	Strategic Petroleum Reserve
TBTU	Trillion British Thermal Units
UCG	Unified Command Group
US	United States of America

Executive Summary

Louisiana is a significant exporter of fuel and energy in the United States. As such, the extensive oil, gas, refinery, and petrochemical infrastructure within the state define a very different energy profile than most other states. Almost all of the energy consumed in Louisiana is produced within the state, making this infrastructure particularly critical to the state's energy assurance.

Hurricanes are the single most consistent high-probability, high-impact threat to the state's energy profile and energy assurance. In the last seven years alone, with Hurricanes Katrina and Rita in 2005, and Gustav and Ike in 2008, the state has suffered more deaths, property damage, and historical power outages, and has seen the largest evacuations in the nation to date. Hurricanes threaten life and property, and cause preemptive business interruptions and large scale citizen evacuations. In Louisiana, hurricanes also cause preemptive shutdown of the nationally significant petrochemical infrastructure component of the state's energy profile, causing impacts to Louisiana to be felt throughout the nation.

Louisiana has built a sophisticated and resilient set of public private partnerships to enhance energy assurance, particularly in emergency situations. The Louisiana Fuel Team, a cooperative effort between the state Department of Natural Resources and industry and trade organizations, has developed a detailed Play Book particularly focused on emergency evacuation fuel. With the Louisiana Business Emergency Operations Center, the state has built processes for more effective communication between industry and government. These organizations, working cooperatively with the Governor's Office of Homeland Security and the state Emergency Operations Center, and with academic partners at the National Incident Management Systems and Advanced Technologies (NIMSAT) Institute, make for a highly effective team in providing energy assurance to the state.

Introduction

This document describes the current state of the Louisiana energy profile, discusses the major threat of hurricanes to that profile, and discusses the various plans and procedures the state has implemented to mitigate, respond to, and recover from, events which impact the energy profile, particularly those processes whose purpose is to ensure electricity and fuel during and immediately after these events.

Louisiana's energy assurance plan was created by considering the following four components: (1) understanding the energy infrastructure, Louisiana's Energy Profile, and system interdependencies (2) assessing potential risks that threaten Louisiana's critical infrastructure, including studying historical disruptions, (3) developing effective plans and procedures to help minimize the impacts an energy supply interruption and rapidly restore the energy infrastructure should an emergency occur, and (4) increasing public awareness and participation.

The Louisiana State Energy Assurance Plan complies with the National Association of State Energy Officials (NASEO) guidelines [1], the NASEO Energy Assurance Planning Framework, the National Response Framework [2], the National Infrastructure Protection Plan [3] and the National Incident Management System [4]. LDNR will review and update the Louisiana State Energy Assurance Plan annually or as needed to reflect changing response trends and strategies and to incorporate lessons learned from exercises to response to actual energy emergencies.

Louisiana Energy Overview

Louisiana Energy Production

Louisiana is rich in crude oil and natural gas. Oil and gas deposits are found in abundance both onshore and offshore in State-owned waters. However, the vast majority of Louisiana's crude oil reserves and a large share of its natural gas reserves are found offshore in the Louisiana section of the federally administered Outer Continental Shelf (OCS) in the Gulf of Mexico. The Gulf of Mexico OCS is the largest U.S. oil-producing region, and the Louisiana section, which contains many of the Nation's largest oil fields, holds more than nine-tenths of the crude oil reserves in that region. Louisiana's crude oil reserves account for nearly one-fifth of the total U.S. oil reserves, and its natural gas reserves account for nearly one-tenth of the U.S. total. Louisiana's fossil fuel resources also include minor deposits of lignite coal, located in the northeastern part of the State [5].

According to statistics from the U.S. Energy Information Administration (EIA), Louisiana ranks 3rd in total energy production in 2009 with 7,302 trillion Btu of total production. [23] This is only behind Texas and Wyoming. Louisiana ranks 4th in crude oil [24] and 3rd in natural gas. [25] The crude oil numbers understate the importance of Louisiana because the Federal offshore production is counted separately. This is the largest source of domestic crude, and much of it is supported from Louisiana facilities and comes into Louisiana for refining. In 2011, approximately 20% of all the refining capacity of the U.S. was in South Louisiana. (3,241 thousand barrels a day out of a total of 15,282 barrels)[22]

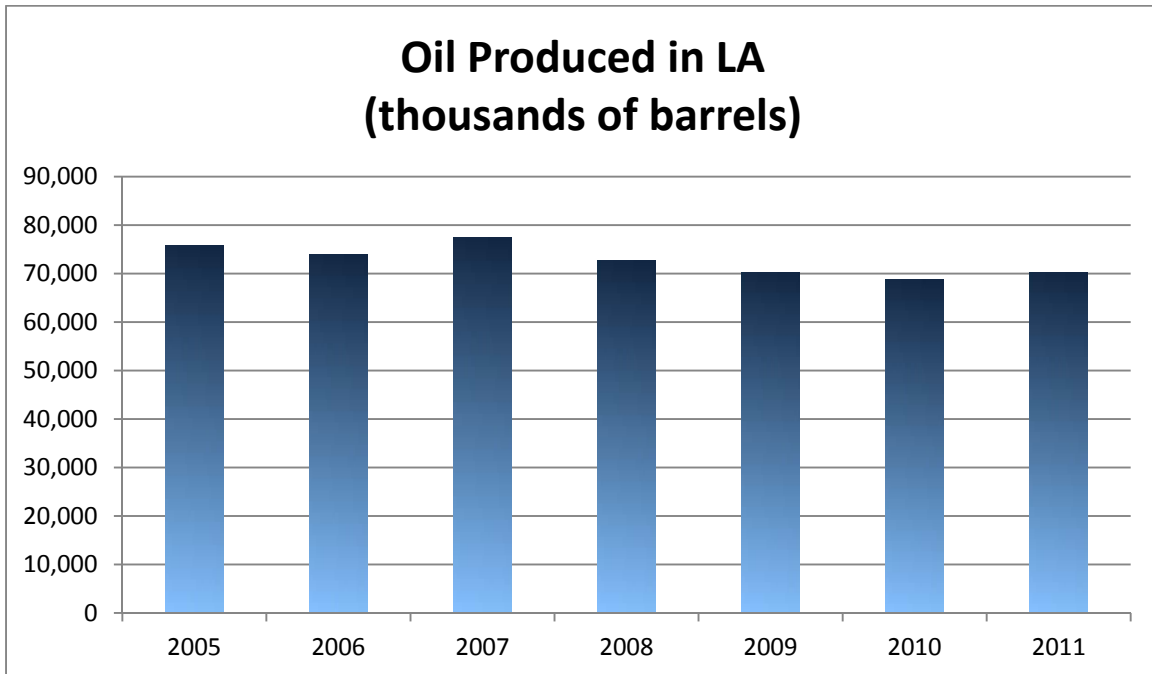
The discovery of these large quantities of crude oil led to the development of the refining and petrochemical industry in Louisiana. Louisiana's refining capacity grew with oil production until about 1970 when Louisiana's oil production peaked and began to decline. Refinery capacity continued to grow by processing more foreign oil and oil from other states as well. Approximately two thirds of refinery input is foreign crude. This changes weekly, but for the week of June 15, 2012, imports were 11,865 thousand barrels /day and total refining was at a level of 15,687 thousand barrels /day.[26] In 2011, three of the top five refineries in the U.S. were located in Louisiana and owned by Exxon, Marathon, and Citgo [6]. Citgo is wholly owned by the Venezuelan Government's national oil company.

Petroleum

Commercial oil production began in Louisiana in the early 20th century, soon after the discovery of the Spindle Top oil field in neighboring Texas. Louisiana's onshore production increased until about 1970, when it peaked at more than 1.35 million barrels per day. Output quickly declined thereafter and has fallen to a little more than one-tenth of the 1970 peak in recent years. As of 2009, Louisiana was the country's top crude oil producer when production from its section of the federally administered Outer Continental Shelf (OCS) is included. When that production is excluded, Louisiana ranks fourth in the nation behind Texas, Alaska, and California [5]. Figure 1

below represents the amount of crude oil produced in thousands of barrels per year between the years of 2005 and 2011, including OCS production.

Figure 1: Louisiana Oil Production in Thousands of Barrels

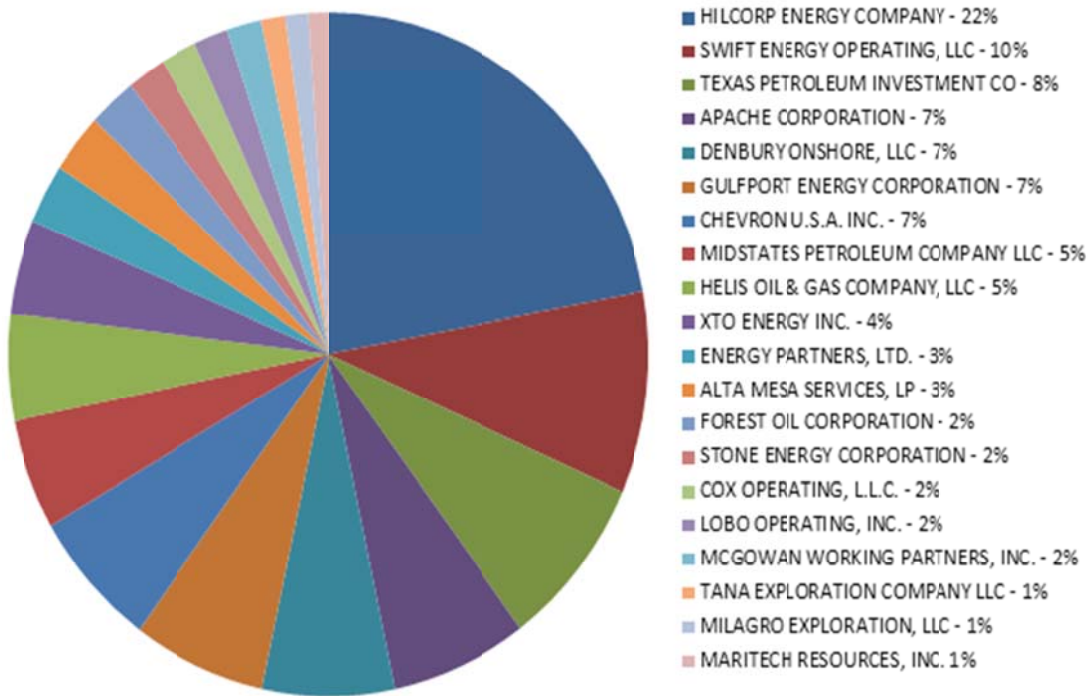


Source: LDNR

Louisiana is also a major importer of crude oil from around the world, typically bringing in about one-fifth of all foreign crude oil processed in the United States. The State receives petroleum supplies at several ports, including the Louisiana Offshore Oil Port (LOOP), the only port in the United States capable of accommodating deep draft tankers. LOOP, which began receiving foreign crude oil in 1981 after domestic U.S. production peaked in the 1970s, can import up to 1.2 million barrels per day and is connected through a network of crude oil pipelines to about one-half of U.S. refining capacity. Associated with LOOP are Clovelly Dome, a 40-million-barrel salt cavern storage facility, and the Capline pipeline, which is the largest pipeline system delivering crude oil from the Gulf Coast to the Midwest. [7] Because Louisiana's infrastructure provides multiple connections to the nation's commercial oil transport network, the U.S. Department of Energy chose the state as a site for two of the Strategic Petroleum Reserve's four storage facilities. The two facilities are located in salt caverns in Bayou Choctaw and West Hackberry [5]. There are more than 1,100 companies that produce crude oil in the state of Louisiana. Many of them are privately owned and relatively small companies, but for the most part the largest producers are large, investor owned corporations. Figure 2 lists the top oil producing companies for the year 2011 in Louisiana oil fields.

Figure 2: Top Crude Oil Producers in Louisiana

Crude Oil Produced in Louisiana in 2011



Source: LDNR

Refining

State crude oil production and imports that are not sent to other States are processed at Louisiana’s 17 operating refineries, clustered mostly along the Lower Mississippi River and in the Lake Charles area. With a refining capacity of over 3 million barrels per day, Louisiana produces more petroleum products than any state but Texas. Many of Louisiana’s refineries are sophisticated facilities that use additional refining processes beyond simple distillation to yield a larger quantity of lighter, higher value products, such as gasoline. Because of this “downstream” capability, Louisiana refineries often process a wide variety of crude oil types from around the world, including heavier, lower value varieties [5]. Figures 3 and 4 below represent the capacity and throughput, respectively, in 2011 for refineries located in Louisiana. Daily capacities are represented in thousands of barrels per calendar day (bcd), while Figure 4 numbers are total number of barrels for 2011.

Figure 3: Capacity of Refineries Located in Louisiana

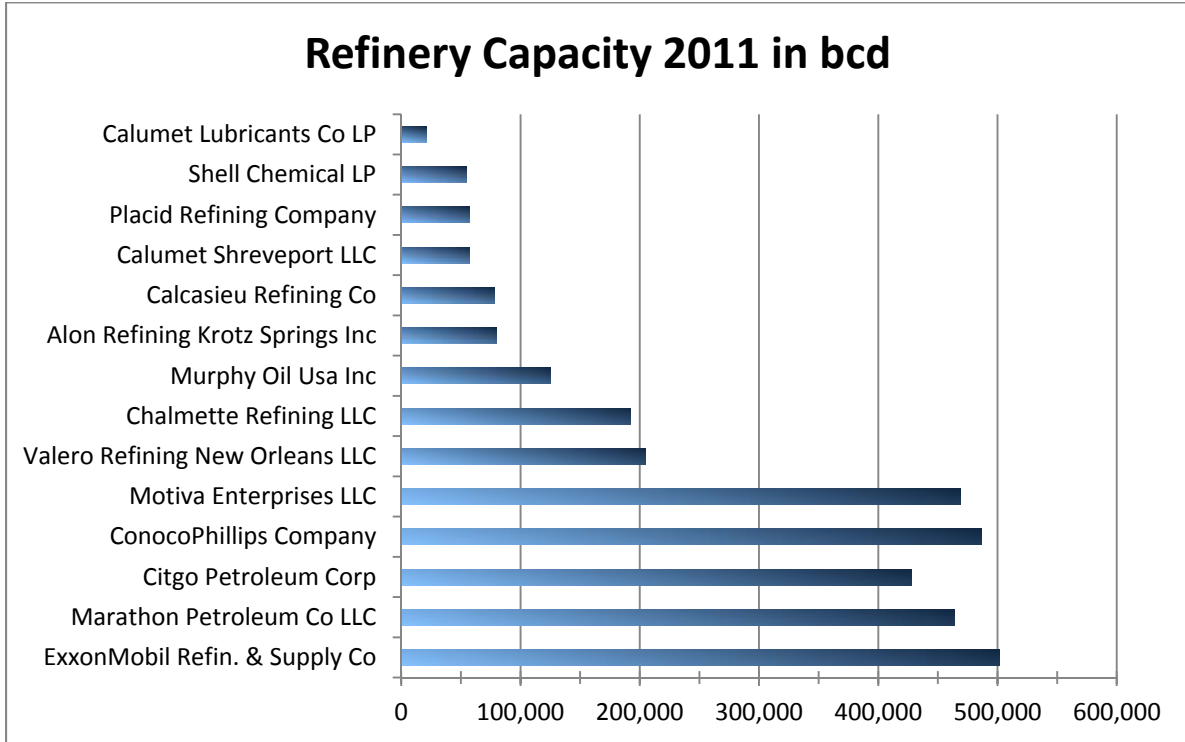
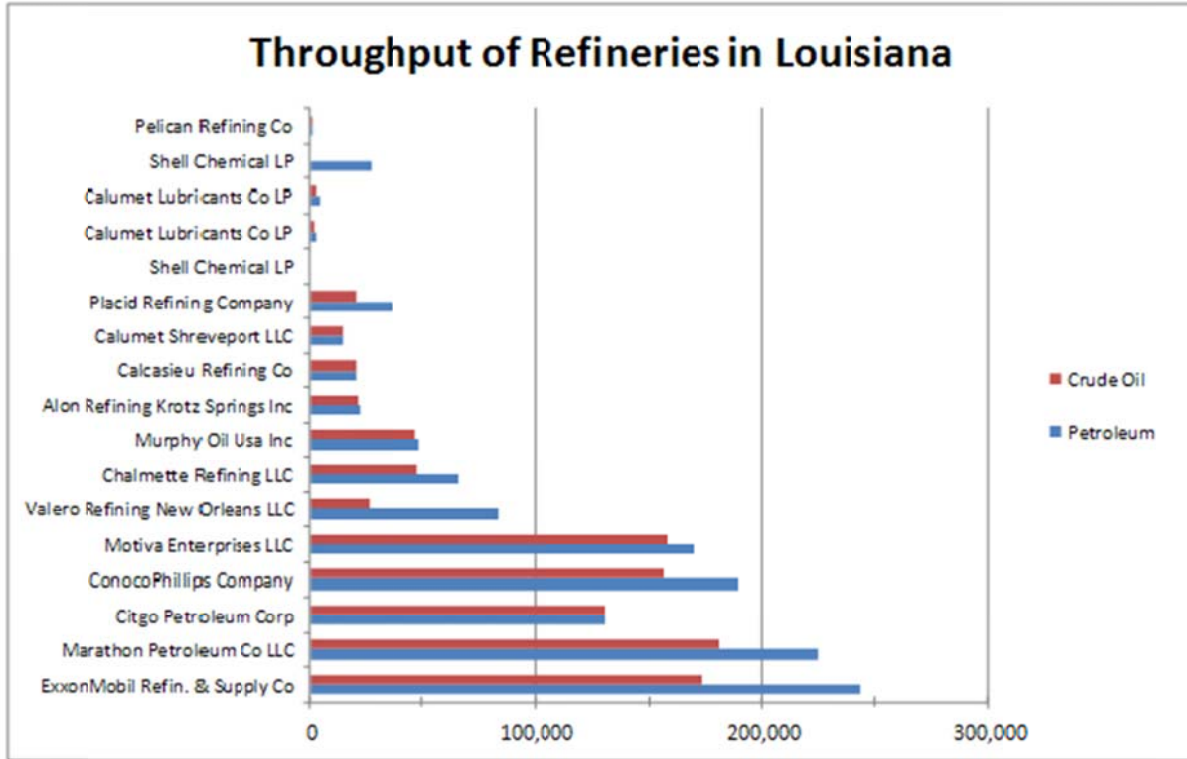


Figure 4: Annual Throughput of Refineries in Louisiana



In addition to refining, integrated oil companies are engaged in all other aspects of the petroleum industry which range from the exploration of crude oil to the marketing of finished petroleum products. Independent refiners, on the other hand, purchase most of their crude oil on the open market rather than producing it. Refiners such as Placid Refining Co. and Calcasieu Refining Co. are examples of independent refiners.

According to the EIA, Louisiana maintains its second place ranking among the states in number and capacity of refineries. Texas is first and California is third. [8] Louisiana refineries make up approximately 20% of U.S. refining capacity. [22] The ExxonMobil refinery in Baton Rouge is the second largest refinery in the U.S. and eleventh largest in the world according to the Oil and Gas Journal. [9] Valero Energy, which owns two refineries in Louisiana, is the largest independent refiner in the U.S. The ownership of refineries is currently in a considerable state of flux as major integrated oil companies have been selling off their refineries to independents such as Valero or spinning them off into separate independent firms such as Phillips 66. [10]

Natural Gas

Louisiana is one of the top natural gas-producing states in the country. Including output from the Louisiana Outer Continental Shelf (OCS), Louisiana ranks second in the nation in natural gas production. Excluding OCS production, Louisiana ranks fifth. About three-fifths of the State's natural gas production typically takes place in the OCS, although substantial production takes place in the northern and southern parts of the state, as well as offshore in state waters. Louisiana's offshore natural gas platforms were damaged by Hurricanes Katrina and Rita in 2005, and production was curbed for several months afterward. In 2008, hurricanes Gustav and

Ike also caused damage offshore and forced production shutdowns. Historical impacts of hurricanes will be discussed in greater detail in a later section [5].

Louisiana plays an essential role in the movement of natural gas from the U.S. Gulf Coast region to markets throughout the country. Despite high demand from state consumers, Louisiana delivers most of its natural gas production to other states via a vast network of interstate pipelines. Over half of the natural gas that is supplied to Louisiana enters the state via pipelines from Texas. Table 1 below presents the amount of natural gas that is transferred through Louisiana to other states via pipeline.

Table 1: States that Received Natural Gas from Louisiana via Pipeline in millions of cubic feet (mcf)					
	2007	2008	2009	2010	2011
Alabama		76,426,141	210,043,686	449,174,418	435,105,343
Arizona	348,645	340,017			
Arkansas	148,707,169	155,161,047	339,594,633	359,912,846	350,874,851
Michigan	166,779,485	131,352,227	294,715,154	305,742,220	260,523,042
Mississippi	3,489,015,439	3,443,317,352	3,462,524,217	3,563,099,152	3,837,276,340
Texas	11,284,295	12,655,191	67,222,884	225,907,486	351,814,523
Total	3,816,135,033	3,819,251,975	4,374,100,574	4,903,836,122	5,235,594,099

Louisiana also receives, stores, and re-ships natural gas supplies from numerous international sources, including Nigeria, Algeria, and Trinidad and Tobago. Louisiana has four natural gas marketing centers, including the Henry Hub, the most active and publicized natural gas market center in North America. The Henry Hub connects nine interstate and four intrastate pipelines, providing access to markets in the Midwest, Northeast, Southeast, and Gulf Coast. Almost half of all U.S. wellhead production either occurs near the Henry Hub or passes close to the Henry Hub as it moves to downstream markets. In addition, the Henry Hub is the delivery point for New York Mercantile Exchange (NYMEX) natural gas futures contracts. [5]

Louisiana has 15 natural gas storage facilities and its storage capacity is among the highest in the nation. These storage facilities, located in depleted fields and salt caverns, allow Louisiana to store its natural gas production during the summer when national demand is typically low, and quickly ramp up delivery during the winter months when markets across the country require greater volumes of natural gas to meet their home heating needs. Due to the growing use of natural gas for electricity generation in the United States, Louisiana has occasionally withdrawn natural gas from storage during the summer months to help meet peak electricity demand for air-conditioning. [5]

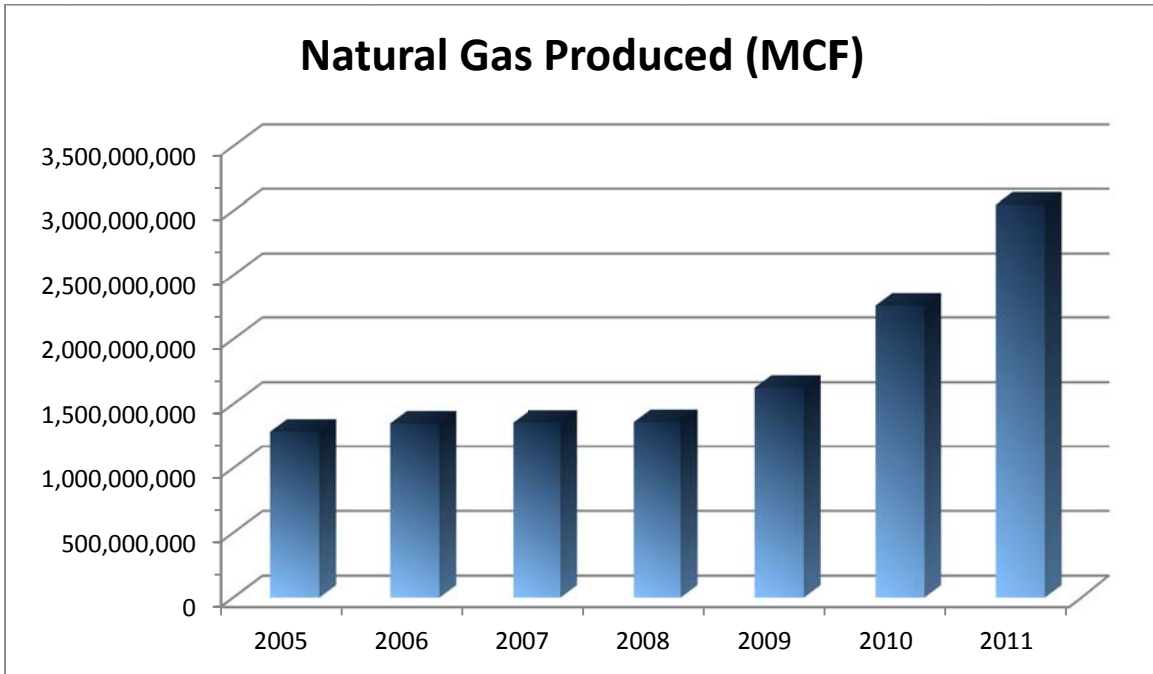
Louisiana's natural gas production history largely mirrors the state's crude oil timeline, with state production peaking in 1970 and OCS production peaking shortly after the turn of the century. To offset the decline in Louisiana's natural gas supply, which is in demand throughout the country, the state began to supplement indigenous production with foreign imports of Liquefied Natural Gas (LNG). Louisiana contains one offshore and three onshore LNG import terminals, more than any other state in the nation. Louisiana's first LNG import terminal, located in Lake Charles, came online in 1981 and is the second largest LNG import site in the United States. As of 2009, the largest LNG terminal is located in Sabine, Louisiana, which opened in 2008 and can import up to 2.6 billion cubic feet per day. In addition, several new LNG import facilities along the Louisiana coast have been approved for construction. [5] Table 2 lists the leading natural gas producers in Louisiana, the number of producing wells, and the amount of natural gas produced in 2011. Figure 5 shows the amount of natural gas in millions of cubic feet (mcf) produced in the state over the years of 2004 to 2008.

Table 2: Top Ten Natural Gas Producers in Louisiana for 2011

Company	Number of Producing Wells	Natural Gas Produced (cubic feet)
CHESAPEAKE OPERATING, INC.	871	567,123,662
EXCO OPERATING COMPANY, LP	1122	364,742,215
PETROHAWK OPERATING COMPANY	244	265,247,843
ENCANA OIL & GAS (USA) INC.	249	260,839,024
EL PASO E&P COMPANY, L.P.	1145	163,942,664
QEP ENERGY COMPANY	514	132,673,673
SWEPI LP	117	119,885,757
COMSTOCK OIL & GAS--LA, LLC	299	88,513,387
HILCORP ENERGY COMPANY	655	76,206,263
J-W OPERATING COMPANY	560	59,951,728

Source: LDNR

Figure 5: Natural Gas Produced in Louisiana 2005-2011



Source: LDNR

Coal

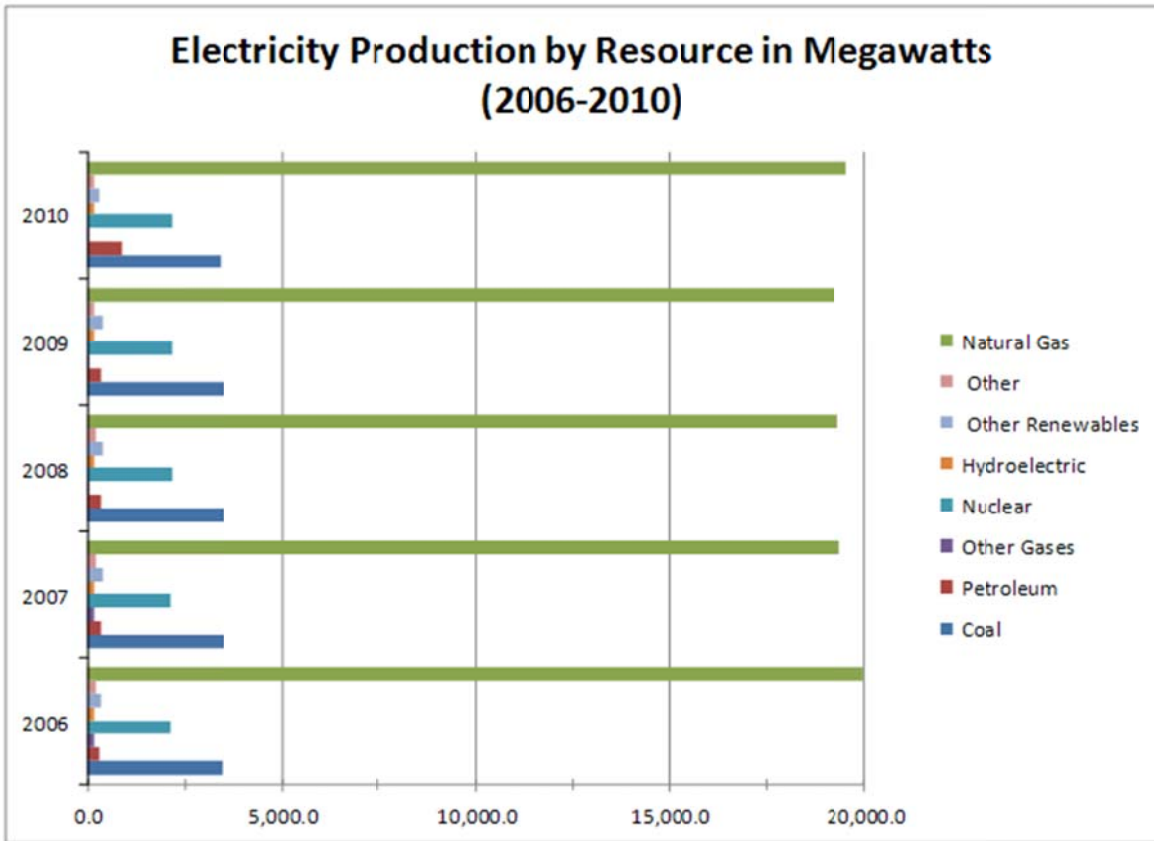
Coal, Louisiana's second leading generation fuel, typically accounts for about one-fourth of State electricity production. Louisiana has two coal mines in the northwestern part of the State, which supply lignite coal to the nearby Dolet Hills power plant. Louisiana's remaining coal-fired power plants are supplied with subbituminous coal, almost exclusively from Wyoming. In 2008, 2009, and 2010 the two mines combined produced 3,657, 3,843, and 3,945 thousand short tons of coal respectively. [11] The amount of coal consumption for electric power generation in Louisiana in the years of 2008, 2009, and 2010 were 15,722, 16,337, and 16,217 thousand short tons respectively. [12] This amount is roughly four times the amount of what is produced in the state. Imports from states such as Wyoming are used to make up the difference necessary.

Electricity Production

Natural gas is Louisiana's leading fuel for electric generation, typically accounting for nearly one-half of electricity produced within the State. Louisiana has some hydroelectric generation but very little electricity production from other renewable energy sources. Louisiana's per capita residential electricity consumption is high, due in part to high demand for air-conditioning during the hot summer months and the widespread use of electricity as the primary energy source for home heating. Figure 6 presents the amount of electricity produced using each different energy source. The figures are in units of megawatts.

Louisiana has two operating nuclear reactors. River Bend Station is owned by Entergy Gulf States Inc. It is a boiling water reactor, manufactured by General Electric (turbine generator manufactured by General Electric) with a 966 megawatt capacity. Waterford 3 is owned by Entergy Louisiana Inc. It is a pressurized water reactor, manufactured by Combustion Engineering (turbine generator manufactured by Westinghouse) with a 1,157 megawatt capacity.

Figure 6: Electricity Production by Resource in Louisiana (2006-2010)



¹Other gases includes blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

²Other Renewables includes wood, black liquor, other wood waste, municipal solid waste, landfill gas, sludge waste, agriculture byproducts, other biomass, geothermal, solar thermal, photovoltaic energy, and wind.

³Other includes batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, tire-derived fuels and miscellaneous technologies.

Source: U.S. Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

Louisiana Energy Consumption

Louisiana ranks high among the states in overall energy consumption. In 2009, Louisiana ranked 8th in total energy consumption and 3rd in per capita energy consumption. One of the main reasons for Louisiana's high energy consumption is the extremely energy intensive petrochemical and petroleum refining industry that is located in the state. The abundance of Louisiana's natural resources has historically meant low energy prices, which have attracted a large cluster of energy intensive industries to the state. Tables 3 and 4 show where Louisiana ranks among the states in multiple energy consumption categories.

Table 3: Louisiana U.S. Rankings for Energy Consumption by Category from 2009

Category	U.S. Rank	TBTU
Residential	23	358.1
Commercial	23	282.2
Industrial	2	2079.2
Transportation	13	646.6
Total	8	3,366.3

Source: DOE-EIA (2009)

Table 4: Louisiana U.S. Rankings for Energy Consumption from 2009

Category	U.S. Rank	TBTU
Coal	30	252.52
Natural Gas	3	1,794.30
Petroleum	3	1,302.86
Electricity	18	268.42
Total	8	3,366.3
Per Capita	3	750

Source: DOE-EIA (2009)

The large amount of energy consumed by the petrochemical and petroleum refining industry is reflected in the high percentage for the industrial sector and the high percentages for natural gas and petroleum. The majority of energy consumed by the residential sector occurs during the summer due to Louisiana's hot summer climate. Table 5 shows the top five retailers of electricity in Louisiana. It also shows the amount of electricity sold in megawatt hours by sector. The final line in the table shows the percent of the total sales in Louisiana for each sector.

Table 5: Top Five Retailers of Electricity, with End Use Sectors, 2010 (Megawatt hours)

Entity	All Sectors	Residential	Commercial	Industrial	Transportation
Entergy Louisiana Inc	30,648,320	9,533,413	6,642,360	14,472,547	-
Entergy Gulf States Louisiana LLC	19,823,070	5,537,761	5,484,381	8,800,928	-
Cleco Power LLC	8,991,892	3,978,190	2,743,012	2,270,690	-
Southwestern Electric Power Co	6,249,270	2,804,132	2,478,332	966,806	-
Entergy New Orleans Inc	5,071,970	1,860,713	2,697,329	503,144	10,784
Total Sales, Top Five Providers	70,784,522	23,714,209	20,045,414	27,014,115	10,784
Percent of Total State Sales	83%	73%	83%	96%	100%

- (dash) = Data not available.

Source: U.S. Energy Information Administration, Form EIA-861, "Annual Electric Power Industry Report."

Most of the data in this section, and much of the text describing that data, comes directly from the Louisiana State Energy Profile from the Energy Information Administration (EIA) website. The State Energy Profile can be viewed at: <http://tonto.eia.doe.gov/state/state-energy-profiles.cfm?sid=LA>.

Historical Disruptions to the Louisiana Energy Profile

Overview

Located along the coast of the Gulf of Mexico, Louisiana is susceptible to major hurricanes each season. Tropical systems have unleashed a tremendous amount of damage to the state and to industry that operates in Louisiana, especially in recent years. Even when a storm does not make direct landfall within the Louisiana borders, energy producers may still incur serious damage to equipment located onshore or in the Gulf of Mexico. Energy producers are also forced to shut down operations when there is a threat of a possible hurricane coming near their facilities for the safety of its employees and to minimize damage to production equipment and facilities. Since 2005 Louisiana has seen four major hurricanes cause serious damage; Hurricanes Katrina and Rita in 2005, and Gustav and Ike in 2008.

Katrina (August 29, 2005) and Rita (September 24, 2005)

Hurricane Katrina was one of the strongest storms to impact the coast of the United States during the last 100 years. With sustained winds during landfall of 125 mph, this strong category 3 hurricane storm barreled ashore on the morning of August 29, 2005. Hurricane Katrina alone caused widespread devastation along the central Gulf Coast states; however, Hurricane Rita

arrived less than one month later to deliver a second blow to an already reeling Gulf Coast region.

The combination of Hurricanes Katrina and Rita shut down oil and gas production from the Outer Continental Shelf in the Gulf of Mexico, the source for 25 percent of U.S. crude oil production and 20 percent of natural gas output. In anticipation of Hurricane Rita, roughly 4.7 million barrels per day (mbd) of refining capacity was shut-in in the Houston/Texas City, and Port Arthur/Lake Charles areas of Texas and Louisiana. By the beginning of October, 2.2 mbd of refining shuttered by Hurricane Rita remained shut-in. Additionally, four oil refineries in Louisiana and Mississippi that provide 900,000 barrels per day of petroleum products were seriously damaged by Hurricane Katrina, and did not restart for several weeks. This combination of factors resulted in the shut down of roughly one-third of U.S. refining capacity for some period of time.

Transportation facilities, including the Colonial and Capline pipelines in Louisiana, reduced operational capacities in anticipation of Hurricane Rita. Much of the product from Gulf refineries is transported by pipeline to the East Coast and Midwest. The Capline Pipeline operated at 75% capacity transporting crude oil to the Midwest. The Colonial Pipeline operated at 50% percent of capacity in western Louisiana, but was fully operational east of Krotz Springs, LA. In some instances, capacity was constrained by inadequate supply to transport, reflecting the production and refining capacity in the Gulf that remained offline.

On August 31, 2005 Secretary of Energy Bodman announced that the Bush Administration authorized releases from the Strategic Petroleum Reserve (SPR) crude oil. Seven refiners requested loans of crude oil totaling more than 13 million barrels. The release of SPR oil and the announcement on September 2 from the International Energy Agency (IEA) of a coordinated drawdown of 60 million barrels of crude and refined products calmed markets by early in the week of September 5, 2005. This supply was reflected in increasing gasoline inventories. Prices fell as low as \$2.75/gallon in the middle of September 2005.

At the end of September 2005, more than 340,000 customers remained without power in Louisiana —more than 190,000 from Hurricane Katrina, and an additional 149,000 from Hurricane Rita. Entergy reported in the first days after the storm that a major obstacle initially to restoring service was lack of food and water for its repair crews, many of whom were sleeping in their trucks.

On August 31, 2005, Environmental Protection Agency (EPA) Administrator Stephen Johnson granted the request from Louisiana for EPA to waive certain gasoline and diesel fuel standards in order to help increase available fuel supplies. For gasoline, EPA waived volatility standards that would otherwise prohibit the sale of gasoline in certain areas in response to supply limitations. EPA also waived sulfur standards for diesel fuel, so that fuel produced for non-road uses could be legally used in highway vehicles. This waiver was intended to help mitigate some of the disruption in diesel fuel supplies.

Gustav (September 1, 2008) and Ike (September 13, 2008)

Hurricane Gustav smashed into Louisiana three days after the third anniversary of Hurricane Katrina. The Category 2 storm made landfall on September 1st at about 9:30 am, just over 70 miles southwest of New Orleans, in Terrebonne Parish. With peak winds of over 90 miles per hour, Gustav was the third major storm to hit the state in three years. The storm's northwesterly path created a wide swath of destruction that was surpassed only by Katrina. Fortunately, the death toll was much lower than in 2005.

Precautionary shutdowns in the Gulf of Mexico in advance of Hurricane Gustav brought refinery activity and oil and gas extraction to a virtual halt. By August 31, the Minerals Management Service reported that about 1.25 million barrels per day (or well over 90 percent) of the federal portion of the Gulf of Mexico's crude oil production was shut-in. Nearly 6.1 billion cubic feet per day (or about 80 percent) of the federal portion of the Gulf of Mexico's natural gas production was shut-in. Nineteen of the twenty-two major natural gas pipelines in the Gulf of Mexico declared "force majeure", effectively shutting in all operations along their systems in the Gulf of Mexico. This included operations at Henry Hub, the largest centralized point for spot and futures natural gas trading in the United States. Many of the natural gas processing plants along the path of the storm shut down operations to allow workers to evacuate the area.

Those in charge of responding to the challenges of Gustav were able to apply lessons learned from the storms of 2005. In the aftermath of Hurricanes Katrina and Rita, then-Governor Kathleen Blanco ordered the creation of procedures and contracts aimed at speeding response time in future crises. Hurricane Gustav put those protocols to the test.

Governor Jindal acted swiftly to get the gears of government in motion. Seven days before Hurricane Gustav hit Louisiana's shore, he declared a state of emergency. Six days before the storm's arrival, he had begun deploying troops.

Other actions taken days prior to landfall:

- Evacuation buses on stand-by in the New Orleans area
- State Emergency Operations Center activated
- Shelters prepared in Hammond, Baton Rouge, Alexandria, Monroe and Bossier City
- Assembled large quantities of meals and water at staging areas

During Hurricane Gustav, three quarters of Louisiana residents experienced winds of at least 58 miles per hour. According to New Orleans demographer Gregory C. Rigamer, more than half the state was hammered by hurricane force winds. Katrina's equivalent wind field covered 39 percent of Louisiana. According to the Louisiana Public Service Commission, 1,313,902 of the 1,993,152 residential electricity customers, and nearly two-thirds of commercial and industrial electricity customers in Louisiana, lost power as a result of Gustav. Looking at Gustav's path and intensity, it's easy to see why. Moving from the central Louisiana coast in a northwesterly direction, Gustav tracked along the state's major electrical transmission lines, hurling debris at, and in some cases toppling, high voltage towers and other equipment.

The result for Entergy was:

- 2 nuclear plants shut down
- 14 fossil fuel electricity generating plants offline
- 13 of 14 transmission paths from Baton Rouge to New Orleans disrupted
- 169 transmission structures down
- 212 of 798 transmission lines not working
- 257 of 456 substations out of service

A total of 828,982 Entergy customers were without power at the peak of the storm. Nine days later, 88 percent were back on line. That left 117, 590 customers in the dark.

Cleco, which services mainly rural areas in Louisiana, had 90 percent of its 273,000 customers lose power. It was the largest outage in the company's history. Ninety percent of its distribution circuit miles were de-energized, which was nearly 20 percent more than with Hurricane Rita. In seven days, it had restored power to 99 percent of its customers.

The long wait for electricity drew much criticism from unhappy residents, business owners and politicians, including Governor Jindal. Initial estimates for some areas of the state were three weeks or more. The governor called the timeline for restoration of power "unacceptable." Entergy's head of transmission, Randy Helmick, told the Louisiana Public Service Commission [PSC] it was "... the best restoration we've ever achieved."

Commissioners inquired about steps electric companies had taken to reduce the possibility of system damage from severe weather. Asked about the feasibility of running power cables underground to protect them from wind damage, Helmick responded that such construction is extremely costly. He cited a 2008 study by the state of Oklahoma that estimated the cost per meter [user] to be about \$16,000. That would be just to bury the distribution lines from the substations to the end-user. Burying the transmission lines would nearly double the cost.

Representatives from Entergy and Cleco told the PSC that they were both on target with their multi-year preventive maintenance plans, which include trimming trees around distribution lines. Many lines fell victim to large trees 100 feet or more from utility right-of-ways.

As the area was recovering from Hurricane Gustav, Hurricane Ike, a Category 2 hurricane, came ashore on the morning of September 13 pushing high water into Terrebonne Parish, inundating thousands of homes. In Jefferson Parish, Grand Isle was completely overtopped by the Gulf. The LA 1 highway was impassable. Flooding in parts of Plaquemines Parish was greater than for either of Hurricanes Katrina or Rita. Water levels on the Northshore of Lake Pontchartrain were higher than during Gustav. Despite its impact on the state, the 600-mile-wide giant named Ike landed in Texas, not Louisiana. Its fury showed that even a near-miss can mean devastation for residents here.

Hurricanes Gustav and Ike provoked the largest power outage ever in Louisiana. Just before Ike hurtled toward landfall, utilities had whittled the number of outages due to Hurricane Gustav to 74,323, or about 4 percent of the electricity customers in the state. After Hurricane Ike blew

through, a total of 205,128 homes or businesses were in the dark, or about 10 percent of the utility customers in the state.

The two hurricanes caused more outages in Louisiana than the larger, more powerful hurricanes of 2005 because they touched nearly all parts of the state. As mentioned above, Hurricane Gustav hit the center of the Louisiana coast, traveled up the spine of the state's transmission grid, and knocked out power to Baton Rouge and the New Orleans area before hitting Alexandria. Hurricane Ike hit southwest Louisiana, and then arced through Texas into northwest Louisiana, causing widespread outages in the Shreveport-Bossier City area. Gustav walloped the transmission lines that are the state's power highways, while Hurricane Ike damaged the distribution lines that carry electricity through communities. Flooding also stalled power restoration efforts in coastal parishes.

In anticipation of Hurricane Ike, twelve refineries in Texas and Louisiana were shut down. These twelve refineries had a total capacity of 3.0 million barrels per day (about 17 percent of U.S. operable capacity), and represent about 1.1 million barrels per day of gasoline output (about 12 percent of U.S. gasoline demand in September) and over 700,000 barrels per day of distillate fuel output (about 18 percent of U.S. demand in September), based on recent historical data. Dating back to before refineries first shut down before Hurricane Gustav, to September 26, 2008, nearly 45 million barrels of products were not produced, including nearly 21 million barrels of gasoline and over 14 million barrels of distillate fuel. This does not include reduced production from refineries that reduced runs at various times during Hurricanes Gustav or Ike. Natural gas processing plants (with total capacity of over 13 billion cubic feet per day) were shut down and did not resume operations until plant inspections were complete.

As seen, the big historical impacts to the Louisiana Energy Profile have been disruptions to electricity generation and distribution and fuel, both of which rely on the oil and gas production, refining, and distribution infrastructure. [13]

Stage Agencies and Their Roles in Energy Assurance

There are multiple state agencies involved in preparing for, preventing, and responding to energy emergencies including but not limited to the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP), Department of Natural Resources (DNR), Department of Agriculture & Forestry (LDAF), Public Service Commission (PSC), Louisiana National Guard, Louisiana Department of Environmental Quality (DEQ) and Louisiana Economic Development (LED).

Governor's Office of Homeland Security and Emergency Preparedness and the Unified Command Group

The Governor's Office of Homeland Security and Emergency Preparedness is the designated group that directs Louisiana's emergency and/or disaster operations as part of the Governor's Unified Command Structure. See Appendix E for a copy of Executive Order BJ 08-32 located in the State Emergency Operations Plan, which lists each agencies responsibility during an

emergency as well as gives authority to GOHSEP as the lead state office in response to all disasters. Also see Appendix B for an Organization Chart of the Unified Command Structure.

Department of Natural Resources and the Louisiana Fuel Team

The Department of Natural Resources has established the Louisiana Fuel Team in an effort to supplement the state's emergency response to the public's need for fuel during times of evacuation and/or other emergencies. The Louisiana Fuel Team is comprised of representatives from multiple governmental agencies, the private sector, and trade organizations that come together to assist the State during times of emergency. The mission of the Louisiana Fuel Team is to identify and minimize disruptions to the public fuel supply during times of emergency. This includes assuring a reliable fuel supply to stations along emergency evacuation routes; and in assuring expeditious recovery of the fuel network post-emergency. Public sector Fuel Team members include representatives from DEQ and DNR, including but not limited to: designated IT, GIS, and other personnel designated by the Fuel Team Coordinator. Private sector members include representatives from the refiner and supplier sector (LA Mid-Continent Oil and Gas), retail sector (LA Oil Marketers and Convenience Store Association), and tank truck carrier sector (LA Motor Transport Association).

The procedures of the fuel team in managing these events are documented in the Louisiana Fuel Team Playbook (See Appendix H). This playbook was developed through significant time and effort by DNR, the private sector and trade organizations involved, and outline the Concept of Operations, the Roles and Responsibilities of all parties, and specific plans for emergency response, particularly focused on evacuations.

The Louisiana Public Service Commission

"The LPSC consists of five elected Commissioners who serve overlapping terms of six years and a staff of 92, created by Article VI, Section 3-9 of the Louisiana Constitution of 1921. The LPSC succeeded The Railroad Commission of Louisiana, which was created by the Constitution of 1898. The LPSC's constitutional authority was reaffirmed by the Constitution of 1974, in Article IV, Section 21.

The overall goals of the Commission are to ensure a regulatory balance that enables utilities to provide customers with safe, adequate and reliable service, at rates that are just and reasonable, equitable and economically efficient, and that allow utilities an opportunity to earn a fair rate of return on their investment. In addition, the Commission continues to take an active and cautious role in the development of a competitive, market-based approach to utility regulation whenever such an approach is in the public interest. See Appendix G for an organization chart for the LPSC.

From the “Louisiana Public Service Commission 5-Year Strategic Plan FY 2011-12 through 2015-16” comes the following Objective, Strategies, and Metrics related to supporting energy assurance:

Objective I.2: Assist the Governor’s Office of Homeland Security and Emergency Preparedness (GOHSEP) in rebuilding the state’s utility infrastructure after damaged due to emergencies and natural disasters.

- **Strategy I.2.1:** Promote partnerships and collaboration with other state agencies and other entities
- **Strategy I.2.2:** Maintain the established implementing procedures for all primary functions associated with the maintenance and restoration of telecommunications, natural gas, electric, and water and sewerage service during and after a disaster
- **Strategy I.2.3:** Provide qualified employees to staff the Emergency Operations Center and give emergency operations support, as assigned, during a declared emergency
- **Strategy I.2.4:** Be responsive to the needs of all external stakeholders

Performance Indicators:

- **Input:** Number of days activated
- **Efficiency:** Number of day’s reports submitted timely
- **Outcome:** Percentage of outage reports and outage maps provided to the GOHSEP by established deadlines or as required
- **Outcome:** Percentage of priority customer accounts that have critical utility services restored following reporting and identification of priority need

Louisiana Economic Development and the LA BEOC

Through the Business Expansion and Retention Group (BERG), Louisiana Economic Development, as a part of the LA BEOC, maintains relationships with the top economic drivers and employers operating in Louisiana. During an emergency the BERG team communicates with all of the companies they have relationships with to assess their situations and the economic impact of the event on their company. This information is used to assess the total impact on the state and to prioritize state resources in the response and recovery efforts after an event.

The LA BEOC includes industry associations and trade organizations that represent all of Louisiana businesses. Included in these are representatives of the chemical, oil and gas, and energy producing industries. Each of these organizations will be taking part in business outreach to assess the situation and facilitate communication between an effected company and GOHSEP. See Appendix C for an organization chart for the LA BEOC.

Cyber Security

The official policy from the Louisiana Office of Information Technology is for the responsibility and authority for information management to be established and maintained by each State Agency. The Agency's Chief Executive Officer/Secretary or equivalent is designated as the owner of that Agency's information and as such must practice due care and due diligence to ensure the confidentiality, integrity and availability of that information. Although this responsibility is often delegated to lower level management, this individual is also responsible for ensuring that all aspects of the organization's planning, development, classification and operation comply with applicable enterprise policies and standards. See Appendix F for a copy of the Office of Information Technology Policy. Cyber Security is also discussed within the parameters of the smart grid in the Energy Emergency Response Plans section.

As this plan evolves, Louisiana will address the following cyber security issues:

- Consider vulnerabilities to cyber attacks and establish communication lines early among the appropriate parties
- Identify available cyber security resources at the state and federal level as well as within the private sector
- Educate and train employees about cyber preparedness and good information technology practices
- Ensure home and office electronic filing systems are backed-up on a regular basis and have up-to-date virus protection
- Insist that key emergency responders have hard copies of contact information and response plans are readily available
- Prepare a response plan that includes a provision that assumes the federal government may also be under a cyber attack, and ensure that it is updated regularly
- Consider "black start" capability for critical IT systems. A backup should be available that is outside of, but capable of connecting to and repairing any compromised IT system that is critical to energy delivery, safety, and security

Private Energy Producers, Largest Consumers, Associations and their Interaction with the State

The private sector is well represented in Louisiana's response to any emergency through the Louisiana Business Emergency Operations Center (LA BEOC) and the Louisiana Fuel Team. The LA BEOC has been established as a public-private partnership between the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP), Louisiana Economic Development (LED), the National Incident Management Systems and Advanced Technologies (NIMSAT) Institute at the University of Louisiana at Lafayette, and the Stephenson Disaster Management Institute (SDMI) at Louisiana State University. The LA BEOC works under the Governor of Louisiana and the Unified Command Group (UCG), under the direction of LED and with the support of GOHSEP. Under the direction of LED and GOHSEP,

the NIMSAT Institute will lead the LA BEOC, when the LA BEOC is activated, managing the incident and the LA BEOC's coordinated response.

In addition, the partnership includes business and industry representatives from across the state's 18 critical infrastructure sectors. The Business and Industry representatives from the energy sector below have seats at the LA BEOC. This is in addition to the major power plants that are seated at the State Emergency Operations Center. Each of the organization below has agreed to communicate to the entire industry in which its association represents, rather than exclusively its membership.

- LA Association of Business and Industry
- LA Mid-Continent Oil and Gas
- LA Motor Transport Association
- LA Oil Marketers and Convenience Store Association
- Ports Association of Louisiana
- LA Chemical Association

Also included at the LA BEOC are relevant regional economic development organizations such as:

- Acadiana Economic Development
- Baton Rouge Area Chamber
- Central Louisiana Economic Dev. Authority
- Greater New Orleans, Inc.
- South Louisiana Economic Council
- Southwest Louisiana Economic Development

Assessing the Consequences and Severity of Energy Emergencies

With 85% of the infrastructure and resources needed to successfully implement state energy assurance in the private sector, successful public private partnerships, working through the LA BEOC, the Fuel Team, and ESF 12 are key. Some of the principles and processes required cut across both of our stated problem areas: electricity and fuel. These are abilities to assess the problem and its impact on downstream infrastructure and the economy, abilities to track energy supply disruptions, and abilities and procedures for public and private entities to effectively communicate with each other. Another cross-cutting capability that could ensure a more orderly (and perhaps later) oil, gas, and refinery shut down process, and most importantly could enable significantly earlier regeneration of capability after the event, is the ability to enable smart grids of co-generated power, during times of emergency, at locations where this is feasible.

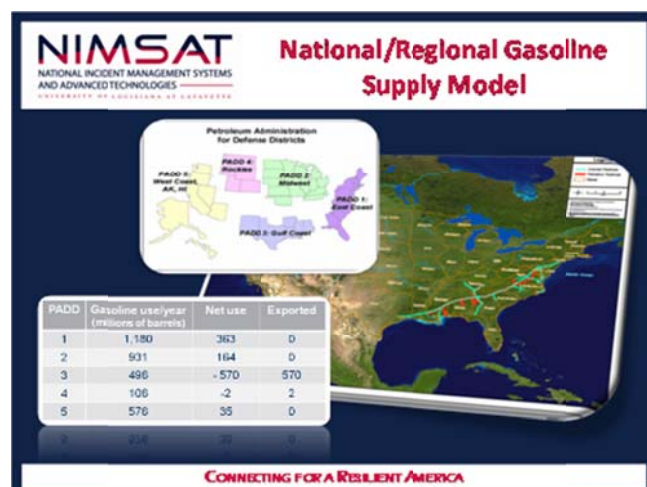
Monitoring of Energy Markets

Energy supply monitoring should take place regularly. State Energy Offices and Public Utilities Commissions keep track of energy developments pertaining to the state, its region, and the nation through industry contacts, trade publications, and statistical reports. The EIA website(<http://www.eia.doe.gov/>) and the Monthly Energy Review

(<http://www.eia.doe.gov/emeu/mer/contents.html>) provides an abundance of reports and statistics on all types of energy, arranged in a variety of ways to make the data easy to find.

The monitoring of electricity supply and demand is done on a day-to-day basis by operating companies. Utilities generally prepare annual forecasts estimating demand for electricity and the means to satisfy it for the following five years. Other forecasted information includes:

- expected price for fuel and other necessary purchases;
- expected fuel and purchased power availability; and
- plant status and similar data



The Henry Hub, which is situated at Sabine Pipeline LLC's Henry Gas Processing Plant, interconnects nine interstate and four intrastate pipelines. These pipelines include: Acadian, Columbia Gulf, Dow, Equitable (Jefferson Island), Koch Gateway, LRC, Natural Gas Pipe Line, Sea Robin, Southern Natural, Texas Gas, Transco, Trunkline, and Sabine's mainline. Collectively, these pipelines provide access to markets in the Midwest, Northeast, Southeast, and Gulf Coast regions of the United States.

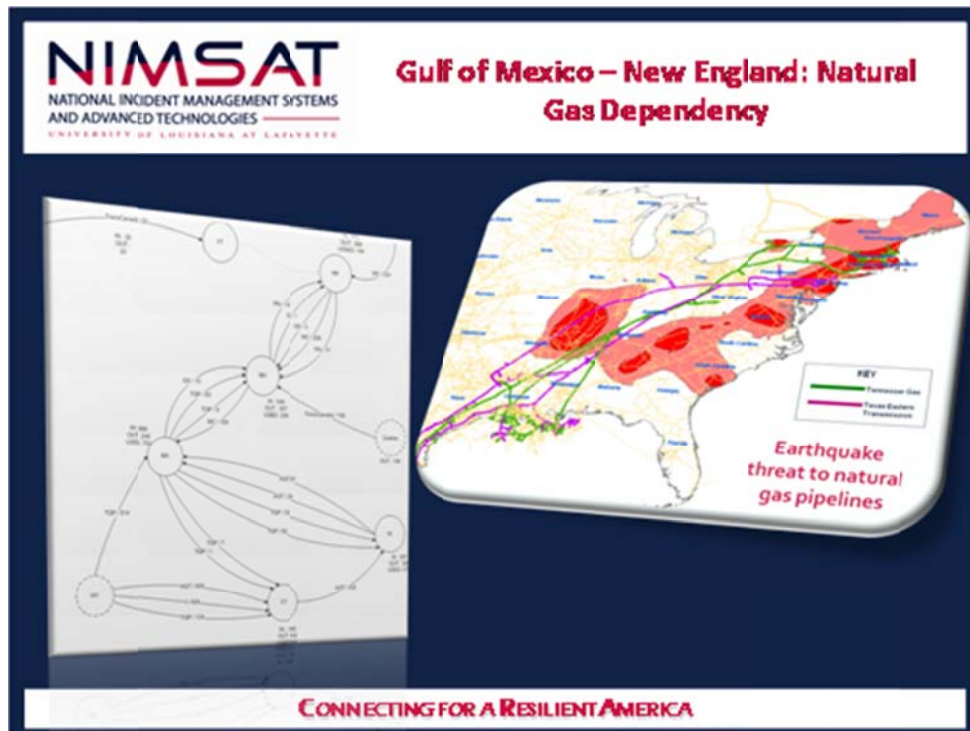
Petroleum markets are monitored continuously by marketers and commercial buyers. Statistical organizations such as the EIA maintain databases containing information used to determine recent market behavior and anticipate supply disruptions

Analyzing the Effects of Disruptions to Energy Markets

The NIMSAT Institute has conducted analyses information portals such as the EIA databases to identify the interdependency of critical infrastructures and disaster supply chains. Such analyses have revealed that a disruption to select refined product pipelines in Southern Texas will significantly impact the availability of fuel in South Alabama to evacuate people during hurricanes – compromising disaster response operations, as illustrated in Figure 7.

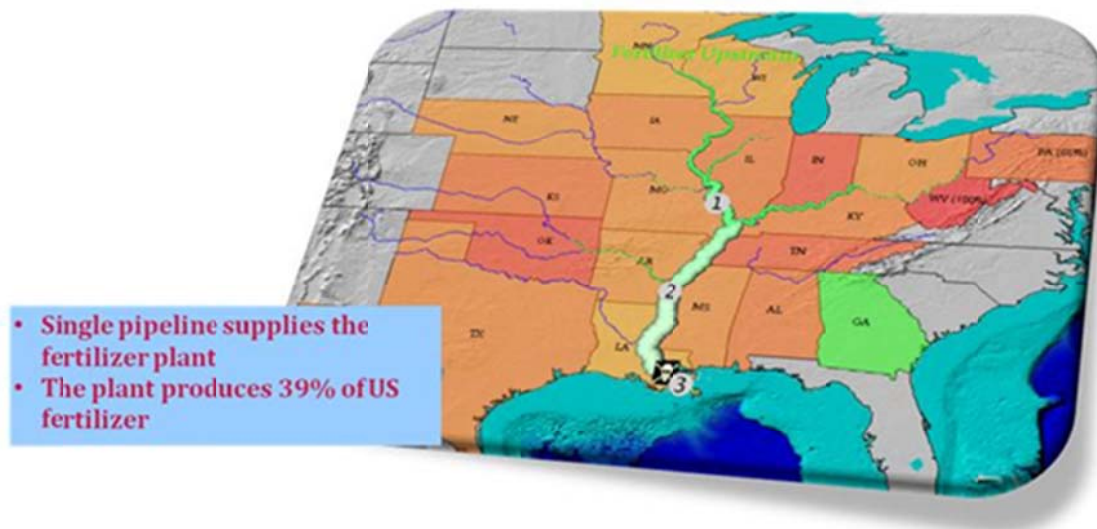
With similar analytical effort the NIMSAT Institute has also determined that disruptions to the flow of natural gas from the Gulf of Mexico states (the majority of which passes through Louisiana) can significantly impact the availability of natural gas in New England states (Figure 8).

Figure 8: Natural Gas Dependency of New England States on the Gulf Region



Likewise, the NIMSAT Institute has also shown that the fertilizer supply for agriculture activity within the Mississippi River valley is highly dependent on natural gas from the Gulf of Mexico region, and specifically to a single processing facility involving single points of failure in natural gas distribution and in processing capability (Figure 9).

Figure 9: Natural Gas Dependency of Mississippi River Valley Agriculture



Such analyses will serve as proactive decision support tools within the State EOC and the LA BEOC to help prioritize critical infrastructure recovery and restoration. The outage and impact data collected and discussed in the following sections will be used to similarly assess the impacts of each future event.

Emergency Communication Procedures

Louisiana recognizes that the support of local, regional, and state public safety leadership across Louisiana is critical to the successful development of a statewide, user-driven approach to providing reliable communications for the entire emergency response community.

For purposes of energy assurance, all official emergency communications should adhere to the Louisiana Statewide Interoperable Communications System Executive Committee Plan (SIEC, 2007) as established by Executive Order KBB 2006-17 of Governor Kathleen Babineaux Blanco, and modified by Executive Order KBB 2006-24. The SIEC was formally established by Act 797 (SB788) of the 2008 Regular Legislative Session and signed into law by Governor Bobby Jindal.

Within the Louisiana Fuel Team there is a Project Management Team made of various positions with unique responsibilities that involve communicating information.

Fuel Team Coordinator - DNR Deputy Assistant Secretary or other designated appointee:

- Responsible for overall implementation of the Fuel Team activities
- Designates members of the Project Management and Information Technology and Geographical Analyst (ITGA) Teams
- Works closely with private and public sector members to develop and successfully implement Fuel Team activities

- Coordinates with law enforcement and GOHSEP to gather and disseminate time critical information to the Fuel Team and ensure fuel team issues are addressed

Operations Group – DNR personnel designate by the Fuel Team Coordinator:

- Prepares and manages contracts and technology advances to supply fuel availability information
- Prepares, verifies, and maintains comprehensive fuel station database
- Coordinates Fuel Team meetings (both internal and public)
- Coordinates implementation of training regimen with the ITGA Team members
 - LDNR Fuel Team members
 - EOC representatives
 - Other applicable personnel
- Act as a liaison between public and private sector for the Fuel Team Coordinator
- Miscellaneous duties assigned by the Fuel Team Coordinator or the Project Manager

Utility companies and other private sector partners are encouraged to communicate any issues hindering their recovery within their service areas to the EOC through the LA BEOC as outlined in the LA BEOC Standard Operating Procedures (SOPs).

Relevant section of the LA BEOC SOP manual is excerpted below:

Parish Information Exchange: Parishes may communicate “Issues Hindering Recovery” of energy companies within their community to the State of Louisiana through the LA BEOC. This information may arrive through the industry representatives, LED, GOHSEP and/or individual staff at the LA BEOC. All Issues Hindering Recovery and other messages of interest will be collected via the LA BEOC. Tasking should be worked first by Parish OEPs, and then by the State EOC (GOHSEP), through WebEOC. If needed, such tasking will be given to the LA BEOC by GOHSEP using WebEOC. Various people within the LA BEOC will be communicating from time to time with Parish OEPs, and with other parish officials. These discussions may result in information exchange regarding issues hindering recovery and messages of interest with the LA BEOC. It is the responsibility of the LA BEOC person receiving this direct tasking to politely remind the tasking person that these taskings must be worked through both the Parish EOP, and then the State EOC, through WebEOC. If such a tasking is presented to the Planning Section Chief, he will direct the LA BEOC person who presented the tasking to close the loop with the tasking individual, and with the applicable Parish EOP.

Individual Business Tasking: Energy companies may communicate their Issues Hindering Recovery to the State of Louisiana through the LA BEOC. This information may arrive through the industry representatives, LED, GOHSEP and/or individual staff at the LA BEOC. All “Issues Hindering Recovery” and other messages of interest will be collected via the LA BEOC. Tasking should be worked first by Parish OEPs, and then by the State EOC (GOHSEP), through WebEOC. If needed, such tasking will be given to the LA BEOC by GOHSEP using WebEOC. Various people within the LA

BEOC will be communicating from time to time with businesses. These discussions may result in information exchange regarding “Issues Hindering Recovery” and messages of interest with the LA BEOC.

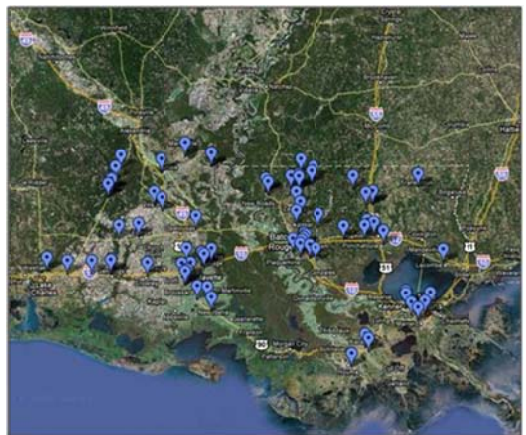
Information regarding “Issues Hindering Recovery” and messages of interest will be collected and consolidated through the LA BEOC industry seats and provided to the LA BEOC LED BERG officer for that specific industry and/or cluster. The LED BERG will then provide the information to LED or GOHSEP for action. All “Issues Hindering Recovery” and messages of interest should be communicated with the corresponding parish. It is the responsibility of the LA BEOC LED BERG team to close the loop with the appropriate industry representative and parish. In addition, the LA BEOC Planning Section Chief should be notified to allow for logging of the task and he will direct the LA BEOC person who presented the tasking to close the loop with the industry representative, and with the applicable Parish EOP.

It should be noted that regardless of the communication path taken, whether it be through local emergency officials or through industry representatives in the LA BEOC, the end result of these communications is the notification of the state EOC that an energy disruption has taken place and appropriate details conveyed to allow for proper assessment of the situation.

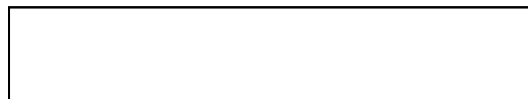
Management Decision Process

Identifying and Tracking Energy Disruptions

The Louisiana plan for tracking energy disruptions is described in a separate document, the Energy Supply Disruption Tracking Process (ESDTP). Energy disruptions will be reported to the appropriate agency and/or regulating authority as indicated in SOPs and/or by law. GOHSEP will maintain situational awareness throughout the state in anticipation of, response to, and recovery from, emergency events that require activation of the energy assurance plan



The Louisiana Fuel Team and the LA BEOC support GOHSEP by providing another level of visibility on the potential and realized energy disruptions. The establishment of public-private partnerships with the energy sector and industry organizations enables the State of Louisiana another way to track the duration of supply disruptions, response efforts, as well as restoration and recovery time of energy supply chains. Louisiana is also able to leverage these relationships to accurately estimate the economic impact of emergencies.



Tracking the Duration of Supply Disruption: Appendix B shows the Unified Command Structure of the State of Louisiana Emergency Operations Center and where the Infrastructure Support Branch and LA BEOC are located. Appendix C shows how the LA BEOC is organized and specifically where the Business Expansion and Retention Group (BERG) of LED are located. During emergencies, under the overarching lead of the LA BEOC, designated individuals from the State EOC's Infrastructure Branch will reach out to the critical infrastructure owners and operators of energy industry CIKR whereas the LA BEOC's BERG team will reach out to large employers and economic drivers to immediately track the duration of the supply disruption, using a standardized survey.

The NIMSAT Institute has developed this survey in consultation with public and private sector representatives and has implemented the survey as a web-based instrument (Appendix D) to collect data related to the disruption and present the information to public sector officials as a GIS-based situational awareness tool, as shown in Figure 10, to monitor the status (up/down) as well as the duration of disruption of various critical components of Louisiana's energy sector.

Validation of Information

There are multiple resources that will be utilized during an energy emergency that will work together to create a comprehensive outlook of the actual situation and impact. The comprehensive outlook will be used as validation to the reporting sent to GOHSEP, who will maintain situational awareness throughout the state in anticipation of, response to, and recovery from, emergency events that require activation of the energy assurance plan. Some of the state and federal agencies and partnerships that will do this work are discussed below.

The State of Louisiana's energy profile and energy assurance plan are unique because of the state's position as a major energy producer, both onshore, in state waters, and in support of energy production in federal waters. NIMSAT has created databases of critical energy infrastructure in the State to map the "platform-to-the pump" supply chain including offshore oil and gas platforms, refineries, pipelines, distribution terminals and systems and retail gas stations, in coordination with Louisiana DNR, Department of Environmental Quality, Department of Agriculture, GOHSEP and LED.

Through the efforts of the LED BERG team, the energy industry representatives sitting in the LA BEOC, and the survey available on the web portal, the state is now able to estimate the actual economic impact of an emergency more accurately than in past. Energy companies will be able to directly express to government representatives the status of their operations. If facilities are shut down, the company can alert the LA BEOC what is hindering their recovery, whether it is damage to facilities, power outages, employee issues, etc. These "Issues Hindering Recovery" will be analyzed at the state EOC and state resources may be sent to assist in the recovery of business. Based on the company responses, LED and the LA BEOC will be able to calculate the economic impact and send that information back to the state EOC and the UCG. With this information, the governor is able to request assistance from the federal government in the form of emergency declaration resources.

The Louisiana Public Service Commission (LPSC) is responsible for maintaining emergency operations and service restoration plans for natural gas and electrical utilities. The LPSC Coordinator will obtain reports from affected natural gas and electric utilities under the LPSC jurisdiction regarding the number of utility service outages and the expected date and time of restoration. The coordinator will convey state assessed needs and requirements for utility services to the jurisdictional utility industry in order to facilitate the restoration of service when and where required as long as emergency conditions exist.

The Department of Homeland Security's Protective Security Advisors (PSA) are located in every region of the United States. These PSAs are trained critical infrastructure protection and vulnerability mitigation subject matter experts. Regional Directors are Supervisory PSAs, responsible for the activities of eight or more PSAs and geospatial analysts, who ensure all Office of Infrastructure Protection critical infrastructure protection programs and services are delivered to state, local, territorial, and tribal stakeholders and private sector owners and operators. Regional Directors and PSAs also conduct specialized site visits and provide information and guidance on critical infrastructure issues.

Regional Directors and PSAs assist owners and operators of critical infrastructure by coordinating requests for Department-provided services such as training, grants, and vulnerability assessments. Regional Directors and PSAs provide an invaluable on-the-ground perspective to the Department's national risk picture by identifying, assessing, monitoring, and minimizing risk to critical infrastructure at the regional and local levels. They also assist law enforcement and state homeland security advisors with ongoing state and local critical infrastructure security efforts such as local exercises and planning initiatives.

Regional Directors and PSAs support security planning and coordination for National Special Security Events and other large scale special events, including political meetings and economic summits (such as the G-20), sporting events (national championship games and series), and other national level special events. The PSA located in Louisiana will be located within the LA BEOC and the report generated from this position will be used to validate the information gathered by other agencies that will be sent to GOHSEP and the Unified Command Group.

Legal Authorities Used in Response to an Emergency

The legal authority of agencies involved in responding to any type of emergency in the state of Louisiana comes from Executive Order BJ 08-32. The Executive Order states that it is the policy of the state of Louisiana for all homeland security and emergency preparedness functions to follow the principles outlined in the National Incident Management System and the director of the Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP), state of Louisiana, shall direct the state of Louisiana's emergency and/or disaster operations.

It also states that the Louisiana Emergency Operations Plan is binding on all departments, commissions, boards, agencies, organizations and employees of the state of Louisiana, and on all local governments or political subdivisions of the state authorized or directed to conduct homeland security and emergency management operations. The director shall supplement the provisions of the Plan by prescribing rules, regulations, and procedures. Once adopted, the

supplement shall also be binding on all departments, commissions, boards, agencies, organizations and employees of the state of Louisiana, and on all local governments or political subdivisions of the state authorized or directed to conduct homeland security and emergency management operations. Any supplement or subsequent changes to the plan shall continue to follow the principles outlined in the National Incident Management System, or its successor, and also provide for the emergency operations that may be implemented should an emergency and/or disaster strike the state of Louisiana or an area within the state of Louisiana. Executive Order BJ 08-32 in its entirety can be found in Appendix E.

Public Information Program

The GOHSEP “Get a Game Plan” initiative is emphasized in the months before and after Hurricane Season to increase the preparedness of each family to respond to the potential impacts of a hurricane. The initiative recommends families create emergency kits to be prepared at all times to evacuate an area that may be impacted, protect their valuables, and stay informed at all times. The overall goal is to create a general state of preparedness throughout the state, not only with government agencies.

Ultimately GOHSEP handles all media relations during an emergency. The State Emergency Operations Center will release statements and generally announcements made by the Governor are made during press conferences held at the GOHSEP facility. Through the official website for disasters, www.emergency.louisiana.gov, GOHSEP will release information as it arises. The Louisiana Department of Natural Resources Public Communications, as part of the Louisiana Fuel Team, works in concert with GOHSEP to develop press releases for the public prior to, during, and after an emergency situation.

Through the Louisiana Business Emergency Operations Center web portal, www.labeoc.org, information is posted on the News Alerts pages that are deemed to be relevant and critical to business in Louisiana. Registered businesses are able to sign up to receive notification as information is posted. News alerts posted to labeoc.org can pertain to, but are not limited to evacuation and re-entry information, power outages, and situational reports released by GOHSEP. All posts made to the news alerts page will originate from the Joint Information Center of GOHSEP to ensure that messages with contradictory messages are not released to the public.

Energy Emergency Response Plans

Fuel Assurance

As outlined in the Revised Emergency Support Function (ESF) 12 Energy and Utilities Annex (Appendix A), the Louisiana Department of Natural Resources (DNR) is responsible for the coordination of industry assets and expertise with the State's communication and command capabilities to gain greater efficiency and expedite evacuations and recovery.

The Fuel Team Coordinator will compile and report information on the anticipated fuel demand should the anticipated emergency event require public evacuation, assisted by the Fuel Demand Estimation Model, illustrated in Figure 11. Sociologists at the NIMSAT Institute surveyed thousands of residents along Louisiana's 12 coastal parishes on their past actions and stated preferences in order to model human behaviors during evacuations, especially during back-to-back hurricanes and other such complex events.

The resulting "Evacuee Behavioral Model", provides an understanding of the origin and preferred destinations of evacuating populations, and the timing of evacuations, based on a set of pre-defined storm scenarios. Computational scientists, working in concert with transportation engineers, translated these behaviors into predictive models of evacuation traffic based on a "Transportation Network Model" for the specific purpose of quantifying the surge in fuel demand along the evacuation network, to help public and private sector officials in evacuation and fuel supply chain capacity planning. The team's supply chain researchers worked with the Louisiana Oil and Gas Association and the Louisiana Oil Marketers and Convenience Store Association in mapping the capacities, throughputs, replenishment rates, and surge capacities of the production and distribution networks within the region's fuel supply chain network. The resulting "Fuel Demand Estimation Model" incorporates our understanding of the supply of fuel within the region, and provides outputs on the amount of fuel needed to support a large scale evacuation in response to a hurricane-type disaster scenario.



Model

This Fuel Demand solution was utilized for evacuation planning during Tropical Storm Bonnie and hurricane exercises by the State of Louisiana during the 2010 season. The model in its current form, and with its currently planned improvements, provides the following outputs to support evacuation resource planning:

- Translates population survey data into how many people would evacuate from a given region to another; and when are they likely to leave over a 5-day period preceding a hurricane landfall;
- Translates evacuee behaviors into predictions of traffic volumes on the evacuation network, at discrete intervals of time over the time period;

Finally, the model translates traffic volumes into demand for fuel along the evacuation corridors as a function of time, as shown in Figure 11.

Electricity Assurance

As outlined in the revised Emergency Support Function (ESF) 12 Energy and Utilities Annex (Appendix B), the Louisiana Public Service Commission (LPSC) is responsible for maintaining emergency operations and service restoration plans for natural gas and electrical utilities. These responsibilities are coordinated with the DNR ESF 12 Coordinator, who will convey the state's assessed needs and requirements for natural gas services to intrastate natural gas transporters in order to provide service when and where it is needed for as long as emergency conditions exist. Priorities for the allocation of natural gas in the restoration of emergency utilities will be assigned by the Commissioner of Conservation and will be coordinated with public and private natural gas distribution companies. Restoration of services to priority customers, such as public safety, hospitals, nursing homes and single family residences will be given first priority.

The LPSC Coordinator will obtain reports from affected natural gas and electric utilities under the LPSC jurisdiction regarding the number of utility service outages and the expected date and time of restoration. The coordinator will convey state assessed demand and requirements for utility services to the jurisdictional utility industry in order to facilitate the restoration of service when and where required as long as emergency conditions exist. Priorities for the allocation of state resources in the restoration of emergency utilities service will be identified by the LPSC and will be coordinated with affected jurisdictional public utility companies. The first priority for utility restoration will be as established in existing jurisdictional utility emergency operating procedures and as directed by the state.

Coordinators from these agencies will compile and report outages in their respective areas of responsibility to the Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP) to maintain situational awareness in anticipation of, response to, and recovery from, emergency events that require activation of the energy assurance plan.

Managing Supply, Assuring Public Needs and Reducing Demand

As seen in 2008 with Hurricane Gustav, in the event that there are power outages across a large area, the demand for fuel will be increased greatly due to people attempting to power their homes with personal generators. Even before the hurricane made landfall demand skyrocketed to fuel cars for the mandatory evacuations that were issued. Due to this drastic increase in demand, it became apparent through public private partnerships that the supply of summer fuel, which was necessary at the time of the year, would not be sufficient for evacuation and return. The EPA granted a fuel waiver requested to allow for winter fuel to be allowed into the state and resupply fueling stations.

Through the Get a Game Plan Program, GOHSEP informs the citizens of Louisiana on ways to conserve energy and be better prepared for a disaster event. The plan includes recommending that every home stock up on fuel prior to hurricane season. This will result in a reduction in the

initial impact on demand and it will save citizens from having to wait in long lines at fueling stations.

In addition to increasing awareness and preparation throughout the state, Louisiana has attempted to reduce demand on the electric grid by offering tax incentives for private citizens and businesses through programs such as the Home Energy Rebate Option (HERO) Program and Act 371. The HERO Program, started in 2009, is a tax incentive program developed to encourage the building of energy efficient new homes, improve the energy efficiency of existing homes, and also encourage business owners to retrofit existing commercial buildings. [27] In 2007, the Louisiana Legislature passed Act 371, which gives a tax credit for solar and wind energy systems.

“The credit shall be equal to fifty percent of the first twenty-five thousand dollars of the cost of each wind energy system or solar energy system, including installation costs, that is purchased and installed on or after January 1, 2008. The credit may be used in addition to any federal tax credits earned for the same system. A taxpayer shall not receive any other state tax credit, exemption, exclusion, deduction, or any other tax benefit for property for which the taxpayer has received a tax credit under this Section.”

With the Alternative Fuel Vehicle (AFV) and Fueling Infrastructure Tax credit, the state offers an income tax credit worth 50% of the cost of converting a vehicle to operate on an alternative fuel, 50% of the incremental cost of purchasing an original equipment manufacturer AFV, and 50% of the cost of constructing an alternative fueling station. Only vehicles registered in Louisiana may receive the tax credit. Alternatively, a taxpayer may take a tax credit worth 10% of the cost of the motor vehicle or up to \$3,000, whichever is less. For the purpose of this incentive, alternative fuels include compressed natural gas, liquefied natural gas, liquefied petroleum gas/propane, biofuel, biodiesel, methanol, ethanol, electricity, and any other fuels that meet or exceed federal clean air standards. The regulations determining exactly which vehicles are subject to this credit are under review at the time of the submission of this report. [14]

Smart Grid and Emergency Co-Generation

The Smart Grid is an initiative by government and industry to improve the efficiency and reliability of the electrical power grid. It should be noted that “the Smart Grid”, as conceptualized by the United States Department of Energy, is characterized by the use of information generated by components within the electrical power grid to efficiently maximize power system assets while minimizing consumption. When discussed throughout this EAP, “The Smart Grid” refers to the full realization of this concept as envisioned in the various government programs that will be discussed below.

In addition to improved electric grid reliability, the Smart Grid will provide flexibility and offer financial rewards for all stakeholders. The success of the Smart Grid hinges on the ability to communicate the flow of information and make decisions based on that information.

Control of the current power grid is restricted to a select number of users. The Smart Grid by contrast will require the input and control of nearly every stakeholder, from utility companies to

regulatory entities to power consumers, both commercial and residential. This analysis is intended to describe the basic characteristics of the smart grid, identify the current state initiatives to promote smart grid implementation, and recommend what needs to be done to enable the Smart Grid to contribute to energy assurance.

Benefits

The benefits of the Smart Grid are centered on its flexibility to adapt to changes in generation, consumption and disruptions.

Reliability: through the use of information communication and control, the Smart Grid will provide reliable power with fewer and shorter outages. The grid will have the ability to heal itself, by detecting problems in real-time, and isolating the problem while keeping the rest of the grid operational. Problems can be repaired without impacting the rest of the grid, and allow fast recovery to normal conditions. It will also be able to isolate select areas or groups of users in an emergency, such as a hurricane or terrorist attack.

Safety: the Smart Grid will continuously monitor itself to detect unsafe conditions. Cyber security features will be incorporated into all devices to prevent malicious attacks and losses of data due to power disruptions. Protection will include physical defenses, electronic defenses, and safety procedures and protocols.

Distribution Management: power distribution systems are complex to control, with numerous transformers, switches, and controlling devices. The Smart Grid will automate the distribution process, improving response times to disruptions and therefore reducing losses. It will also allow for the implementation of microgrids. Microgrids coordinate the generation and distribution of electricity to end users, but on a local level. For example, a microgrid could tie a select number of power sources and consumers on a common electrical framework, which would in turn be tied to the larger electrical grid at a single point. In the event of a disturbance to the larger grid, the microgrid would isolate itself while maintain power continuity to its select sources/consumers. When the larger grid returns to normal, the microgrid would reconnect. Microgrids can connect power resources and/or customers who have similar capabilities, threats, or distance proximity.

Demand Response: the Smart Grid will offer financial benefits to consumers. They will have access to the real-time data of their home or business power use and possess the ability to adjust activities in response to this information. The framework needed to allow this to happen will include smart meters, smart appliances, and peak demand pricing.

Energy Resource Integration: one of the main goals of the Smart Grid is to allow for the integration of multiple forms of power generation, including conventional technologies such as coal, gas, and nuclear power, as well as newer technologies such as wind, solar, hydrokinetics, geothermal, and biomass. The strength of the Smart Grid is it can incorporate these various forms of power generation as they become viable and available. A traditional problem with renewable energy, such as wind and solar, is they provide intermittent power, causing rapid power fluctuations. When a power source is not available other sources must be able to be

ramped up to meet demand. By using real-time data from sensors and monitors throughout the system, the Smart Grid will be able to control the variable nature of new energy technologies. It will also be able to control insufficient transmission capacity, such as that coming from a remote wind farm.

Challenges

Challenges to the progress of the Smart Grid can be separated into 4 areas: education, regulation, privacy, and security.

Education: large industrial customers are familiar with peak demand pricing, with knowledgeable and experienced personnel assigned to save the operation money. However the vast majority of customers, especially residential, will have difficulty adjusting to the ability to control their energy usage. While Louisiana rates for electricity are among the lowest in the country and might not provide as much of an incentive to save money as in other parts of the country, there will still be a need to educate customers on how to minimize their power bill.

Education programs will need to be rolled out along with the issuance of smart meters and appliances.

Regulation: the LPSC, the City Council of New Orleans, and in some instances, local governments are responsible for ensuring the utilities they oversee make investments that keep the prices of electricity low for consumers. During the initial implementation of the Smart Grid, the resiliency, reliability, and safety of the system will be difficult to quantify. Regulators will be hesitant to accept large investments in grid improvements from utilities, which will ultimately be passed on to consumers. Regulators will need proof that grid improvements will deliver the promised benefits and cost savings.

Privacy: because the fundamental aspect of the Smart Grid is the communication and control of information, there is concern that the confidential information of users could get into malicious hands. This violation of privacy could be used for identity theft, monitoring of daily activity, and the marketing of unsolicited services based on home or business energy usage. Privacy of system information will be tantamount to public acceptance.

Security: as more devices and new technologies are added to grid, there are concerns about how to protect that infrastructure. Cyber security will be discussed in more detail in a following chapter.

Key Technologies

The Smart Grid will not replace existing infrastructure with new and improved devices. Rather it will integrate new technologies into the framework of the current grid. Advanced technologies will come from one of the following areas:

Integrated Communications: high-speed, 2-way communication will make the Smart Grid an interactive platform for real-time information exchange. Open lines of communication will allow

all components to communicate and interact with each other. Smart meters at the end user junction will make the consumer a stakeholder in the process.

Sensing, Measurement, and Control: measurement and detection devices throughout the grid will evaluate the status of equipment and the integrity of the system. The control system will be automated, decreasing response times and reducing user-error. Control components will have to handle an ever increasing number of devices, such as the rollout of electric vehicles, in which every vehicle can be both a power consumer and power generator.

Interfaces and Decision Support: while improvements to the Smart Grid will be due mostly to automated control and response, there still exists the need for hands-on management capabilities by utility personnel. The utilities must be able to manage a diverse set of generating sources, control points, and customers. Specialized computer hardware and software will be developed to handle the dynamic flow of information.

Consumer Devices: the improved grid will fundamentally change the way people manage their power use, by providing the end-user with the ability to control consumption as well as from whom to purchase power. Real-time data from appliances and power consumption devices throughout the home or business and instant data on power prices will enable consumers to become active players in grid management. This will be an opportunity for industry to develop products consumers demand.

Implementation in Louisiana

As part of the Energy Policy Act of 2005, states were directed to prepare policies and procedures for the Smart Grid rollout. In response to this federal directive, the LPSC enacted a rule on advanced metering infrastructure for LPSC-jurisdictional utilities (LPSC General Order No. R-29213 consolidated with R-29213 Subdocket A). Shortly after the enactment of Commissioner General Order No. R-29213, Entergy Gulf States, Louisiana, L.L.C. (“EGSL”) and Entergy Louisiana, LLC (“ELL”) developed limited short term Advanced Metering System pilot programs. Pursuant to that same General Order, the LPSC approved a \$73.5 million roll-out of smart meters by Cleco Power, LLC in 2011 in Commission Docket No. U-31393.

In order to assess the implementation of advanced metering infrastructure/smart grid technologies and programs in the State of Louisiana, the LPSC is currently performing a federally-funded survey of advanced metering infrastructure and anticipates a full report this fall. The eventual implementation of a fully computerized electric grid and the integration of new technologies into the existing Louisiana grid framework will provide some unique challenges, requiring the coordination and input from several government and industry groups. Areas needing further collaboration include:

Distributed Generation: In 2010, 73% of Louisiana’s power generation came from natural gas, 12.8 % from coal, 8% from nuclear, and 1.2 from biomass. [15] Biomass from the sugar cane and forestry industries provide most of the feedstock for biomass boilers. This is the major source of renewable energy in the state. The EIA currently lists no significant wind or solar contributions for the state, despite generous tax incentives and net metering policies and

increasing residential solar installations. For the long term, new hydrokinetic projects are being tested for implementation in the Mississippi River, [16] and offshore wind farms in the Gulf of Mexico are in the first stages of development [17] in neighboring Texas.

Power Sharing via Microgrids: Louisiana has first-hand experience in the interdependence of the grid. During multiple hurricanes in recent history (Katrina and Rita in 2005 and Gustav and Ike in 2008), many of the State's refineries and petrochemical plants could not come back on-line due to lack of conventional power. Although many facilities had cogeneration ability, they lacked a Smart Grid to coordinate generating assets. This dependence of industrial facilities on the power grid is also found in the pipeline, bulk terminal, and retail sections of the supply chain. Pipelines need electricity to power pumping stations, and bulk terminals and gasoline retailers need electricity to power gas pumps. From the platform to the pump the fuel and electricity distribution systems are interdependent. Louisiana needs a smarter electric grid to power its disaster recovery and emergency evacuation needs, and to improve the resiliency of its nationally significant energy and petrochemicals industries.

Per the strategy described previously, cogenerating facilities could provide adjacent facilities with redundant power during a catastrophic event. In the 2006 report by the Louisiana Department of Natural Resources on cogeneration in the state, fifty co-generators are listed. Most are oil refiners, chemical plants, and natural gas facilities. Ten are involved in recycling agricultural or wood product waste. While organic waste is a promising biofuel, it does not offer good prospects for power sharing in Louisiana. The plants producing such waste are located in isolated areas hundreds of miles from other facilities. With seasonal operations, they also would not offer reliable power capabilities.

The majority of the remaining facilities are highly concentrated geographically and share common supply chains, such as raw materials and logistics infrastructure. Many are involved with existing partnerships or joint ventures, facilitating the sharing of energy assets. Potential microgrid locations with the greatest potential for power sharing have facilities clustered around 3 main geographic areas: Lake Charles (5), Baton Rouge (6), and New Orleans (7). [18]

Regulatory Framework: Electric utility regulators have understandably taken a cautious approach to multi-million dollar investments that could ultimately drive up costs to consumers. The energy crisis in the western U.S. during 2000 and 2001 [20] is estimated to have cost California \$40 million dollars and eventually contributed to the bankruptcy of ENRON. With this in mind, there may be potential for emergency-related investments in industrial microgrids that would allow the refining and distribution fuel supply infrastructure to operate independently of the public utilities and speed the recovery of public utilities and public safety in general.

The Legislature's enactment of LA-R.S 51:3061, *et seq.* established a statewide policy to encourage renewable energy generation through the use of net energy metering, allowing electricity customers to earn credit for the electric generation produced by residential generation from renewable resources. In 2005, the LPSC enacted its own net metering rules, which can currently be found in ongoing rulemaking Docket No. R-31417. As of April 2012, the net metering participation for customers of Louisiana's investor-owned utilities was as follows:

Entergy

- Entergy Gulf States Louisiana 186 installations
- Entergy Louisiana 354 installations

Swepco

- Approximately 344 installations

Cleco

- Approximately 227 total installations
- The majority of installations are residential

The Department of Natural Resources has been in the lead promoting an active program of state incentives that include property tax exemptions, personal tax credits, cash rebates, and sales tax exemptions. Full descriptions and requirements of each incentive can be found at the link below. http://dnr.louisiana.gov/assets/TAD/programs/solicitations/state_incentives_2009.pdf

Other Louisiana Initiatives

The Louisiana Department of Natural Resources (DNR) created EmPower (www.empowerlouisiana.org), Louisiana Renewable Energy Program to distribute funding received from the U.S. Department of Energy (U.S. DOE), under the State Energy Program, or SEP. The purpose of the EmPower Louisiana Renewable Energy Program is to encourage the development, implementation and deployment of cost-effective renewable energy technologies in Louisiana, to support the creation of additional employment opportunities and to stimulate market demand for other emerging renewable energy systems that meet certain eligibility requirements.

Cyber Security and the Smart Grid

As Smart Grid technologies are developed and implemented, a critical component of energy assurance will be the security of the system's information flow and control capability. Cyber security will include protecting the communication and control elements against both direct threats such as terrorist attacks, espionage, and disgruntled employees, as well as indirect threats such as natural disasters, equipment failure, and user error. Society's dependence on electricity poses a ripe target for malicious attacks. Since a system-wide failure would entail financial and social disaster, investments will need to be made to enhance its resiliency and protection. Types of threats to the system will be examined and the security model recommended to protect against them.

Threats

The Smart Grid will be composed of numerous sources of power generation, a highly complex web of transmission and distribution lines, end user devices to monitor and control consumption, and countless sensors and monitors throughout the entire system. Nearly all of these

components will have computer processors, memory, and software which will gather and process data, and making decisions based on that data. All of these devices offer an opportunity for a cyber attack. Regardless of the entry point, once in the system an attacker has the potential to cause system-wide failure.

Distributed Generation

A key benefit of the Smart Grid is its ability to incorporate future generation technologies. Compared to the current electrical grid which depends upon a central power station with radiating transmission lines and distribution networks to end users, the future grid will entail multiple generation points from multiple technologies including conventional generation such as coal, natural gas, and nuclear, but also wind, solar, hydrokinetics, geothermal, biomass, and electric vehicles.

As the number of generation point sources increases, so does the potential for the number of attacks. The resiliency of the Smart Grid is rooted in the concept that a portion of generating sources can fail, but which won't sacrifice the operation of the entire system. While existing power plants have highly capable protection mechanisms, new technologies will have to be developed that can handle the wide array of generating technologies, and at a reasonable cost to system designers. Especially when new storage technologies are implemented, along with electric vehicles inputting power to the grid, it is expected that every home and business could become a generating source, thereby offering millions of points of entry for cyber attacks.

Sensors and Monitors

Devices throughout the grid will measure the status, sending data to the management systems. They include smart meters at customer locations and sensors on transmission and distribution lines. Many of these devices can be in remote locations which are hard to physically protect. An attacker could easily modify and/or replace a device with a malicious one through which a cyber attack could enter the Smart Grid. For example, attackers could tamper with a set of monitors on the distribution network near a city or particular customer, sending erroneous data to the management system. The control mechanisms would then be making decisions on faulty information, possibly shutting down power to areas that in fact are operating correctly.

Controls

Control systems in the Smart Grid will gather data from sensors and monitors, evaluate the data, and make decisions to prevent failure. There are existing systems which control the current grid, such as Energy Management Systems (EMS), Supervisory Control and Data Acquisition (SCADA), and distributed control systems. However, there are a limited number of existing controlling devices. As the Smart Grid is implemented with exponentially more devices, the control systems needed to manage the data will need to be increased, as well as the software needed to control vast amounts of data and devices. If attackers are able to manipulate a control device, they can enter the EMS or SCADA system and therefore influence the entire grid. More control devices allow for more points of entry.

For example, as electric vehicle are rolled out, every charging station will have a smart meter which will allow for the gathering of information and the 2-way flow of electricity. It will be a source of recharging the vehicle's battery, but also for putting power on the grid from the vehicle. This will require the ability to communicate with the grid management system. If an attacker has control of the charging station or smart meter, he could launch an attack on the system.

System Security

Securing the Smart Grid will require a set of standards by which designers will adhere. The U.S. government has already initiated this process, with standards being developed by the National Institute of Standards and Technology (NIST). Rules and regulations are also forthcoming from the Department of Energy, the Federal Energy Regulatory Commission (FERC), and the Department of Homeland Security (DHS). These standards and regulations are intended to ensure the system is designed with appropriate security measures.

Cyber security will be designed with multiple defenses spread over the entire network. Defense mechanisms for all devices will include physical protection, electronic protection, detection, and monitoring. Field devices such as sensors, monitors, and meters will have anti-tampering technology to prevent attackers from manipulating devices directly. Any device with computing capability will have protocols to encrypt data and authenticate communication. Detectors and monitors will be installed at various points along the system, making security a constant function versus an entry point opportunity. Detectors will identify malicious items and monitors will observe system behavior, identifying abnormalities. With multiple lines of defense and various methods, attackers will have to employ more resources and methods to successfully enter the system. Cyber security will allow attacks to be mitigated as soon as possible and at any point in the system.

The multiple defense strategy will protect against attackers trying to enter the system, but it won't protect against an attack within the system, such as that from a disgruntled employee. To protect against this, the control system will have a specialized access and authentication framework. To successfully operate the Smart Grid there will need to be many individuals involved with monitoring and control. A simple policy can be employed for the framework called role-based access control (RBAC). RBAC assesses permission to perform specific functions and enter system areas to certain individuals, with unique passwords or authentication credentials to enter each control area. No individual will have permission to enter all areas. Therefore, to affect critical systems there will need to be participation and collaboration from multiple individuals, increasing the difficulty to coordinate cyber attack.

Linkages to Other Response Plans and Procedures

Multiple other state and national plans are discussed throughout this Energy Assurance Plan document. See the section on Assessing the Consequences and Severity of Energy Emergencies for information on Emergency Support Function 12 Energy and Utilities Annex. The Management Decision Process section discusses the Energy Supply Disruption Tracking Process (ESDTP) Report and how it is utilized in the EAP. The Louisiana Fuel Team Playbook is discussed in multiple sections including, Stage Agencies and Their Roles in Energy Assurance and Emergency Communication Procedures.

Each of these state plans is included in the overarching Louisiana State Emergency Operations Plan which describes each agencies role in responding to emergencies as well as the chain of command.

The National Response Framework and National Incident Management Systems structure with regard to incident command are utilized throughout the state EOP as well as the LA BEOC and the EAP.

Linkages to Non-Government Private Sector Plans and Procedures and Coordination with the Private Sector

The LA BEOC is a unique partnership between government and non-government entities that is discussed in detail throughout the EAP. See the, Private Energy Producers, Largest Consumers, Associations and their Interaction with the State, Emergency Communication Procedures, and Stage Agencies and Their Roles in Energy Assurance sections for greater detail.

Enhancing the Resiliency and Protecting Critical Energy Infrastructure

State Plan for Protecting Critical Infrastructure

The state of Louisiana has detailed plans in place and partnerships established with private industry that own and operate 85% of the critical infrastructure in the state. The identification of and communication between entities that own and operate critical infrastructure is coordinated by GOHSEP in coordination with the US Department of Homeland Security through their Protective Security Advisors (PSA). See the Management Decision Process section of this document for greater detail on the PSA.

Roles and Responsibilities of State Agencies Involved with Critical Infrastructure

Critical infrastructure related roles and responsibilities for GOHSEP include:

- Acting as a focal point for and promoting the coordination of protective and emergency response activities, preparedness programs, and resource support among local jurisdictions and regional partners
- Developing a consistent approach to CIKR identification, risk determination, mitigation planning, and prioritized security investment, and exercising preparedness among all relevant stakeholders within their jurisdictions;
- Identifying, implementing, and monitoring a risk management plan and taking corrective actions as appropriate;
- Participating in significant national, regional, and local awareness programs to encourage appropriate management and security of cyber systems;
- Acting as conduits for requests for federal assistance when the threat of current situation exceeds the capabilities of state and local jurisdictions and private entities resident within them;
- Facilitating the exchange of security information, including threat assessments and other analysis, attack indications and warning, and advisories, within and across jurisdictions and sectors therein

The enhancement of reliability and resiliency throughout the state is something that is taken very seriously in Louisiana. Due to the history of disruptions that have occurred in Louisiana, discussed in the Historical Disruptions to the Louisiana Energy Profile section, the state has had to plan for the worst. This is evidenced by the work towards building partnerships with established lines of communication between the private sector and the government, the creation of smart grid technology, and the processes in place to track disruptions and respond to them accordingly. These plans and partnerships will be critical in times of emergency when things are chaotic. The creation of technologies around maintaining energy supply and reducing the time of disruption will go a long way towards creating a energy resilient state.

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Appendix A: Revised ESF 12 Energy and Utilities Annex

I. PURPOSE:

ESF 12 outlines detailed implementing procedures for: 1) all primary functions associated with the maintenance and restoration of natural gas and electric utility service; 2) oil and natural gas production and transportation during and after a disaster; 3) provision of fuel for emergency public evacuation; and 4) water and wastewater utilities. It includes the roles and responsibilities of the primary responsible agencies, the Louisiana Public Service Commission (LPSC), the Louisiana Department of Natural Resources (DNR), and the Louisiana Department of Health and Hospitals (DHH), and that of support agencies including, but not limited to, the Louisiana Department of Agriculture and Forestry (LDAF), the Louisiana Water/Wastewater Agency Response Network (LaWARN), the Louisiana Department of Environmental Quality (LDEQ), and the Louisiana Business Emergency Operations Center (LA BEOC).

II. SCOPE:

State services under this ESF include and encompass: 1) the restoration of natural gas, electric utilities, water and wastewater utilities, oil and natural gas production and transportation – subject to interruption or destruction by emergencies and disasters, and 2) providing fuel during and immediately following the disaster until such time as normal fuel supply processes are restored. This ESF covers procedures for all phases of emergency management; including pre-disaster preparation and post-disaster responsibilities.

III. CONCEPT OF OPERATIONS:

ESF 12 has three primary responsible agencies. The Department of Natural Resources is responsible for the coordination of the supply of intrastate natural gas and the gathering and reporting of information about oil and gas production in State waters in the Gulf of Mexico. DNR is also responsible for the coordination of fuel supply to support public evacuation. The Public Service Commission is responsible for the regulation and restoration of private natural gas and electrical utilities. The Department of Health and Hospitals is responsible for the coordination of the supply, regulation and restoration of potable water and domestic sewage for the prevention of disease in the State of Louisiana.

A. MITIGATION:

The Secretary of the Department of Natural Resources (DNR), the Executive Secretary of the Public Service Commission (LPSC), and the Secretary of the Department of Health and Hospitals will designate Coordinators for ESF 12, Energy and Utilities.

B. PREPAREDNESS:

1. The DNR Coordinator will develop and maintain information about, and liaison with, offshore petroleum and natural gas producers and intrastate natural gas producers and distributors.
 - a. The coordinator will maintain access to the oil and gas applications of the Strategic Online Natural Resources Information System 2000 (SONRIS2000)
 - i. Give location of oil and gas activity including owner and operator contacts; GIS system
 - ii. Conduct an annual check on the system housed at GOHSEP (include in preparedness) and also as needed
 - iii. Conduct annual training for people using the system on or before June 1 and also as needed
 - b. Maintain a database of contacts which is updated annually (see page 15 of DNR Administrative Policy 11)
 - c. Maintain staff experienced in oil and gas emergency preparedness matters through coordination with the federal Department of the Interior's Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE), Louisiana Mid-Continental Oil and Gas and other producers to gain an understanding on information and needs preparatory prior to landfall (see annex C.1).
 - d. Maintain information needed by the Fuel Demand Model used for predicting fuel demand during public evacuations.
 - e. Participate and plan in training exercises with GOHSEP and the LA BEOC as needed
2. The LPSC Coordinator will assist in the development of plans, procedures, arrangements and agreements to identify jurisdictional electric and natural gas impairments resulting from emergencies and disasters and assist in the acquisition, mobilization and employment of resources to restore service to affected jurisdictional customers.
 - a. Maintain electric emergency operating and service restoration plans
 - b. Establish a reporting procedure for electric, gas and telephone utilities
 - c. Assist GOHSEP to identify critical infrastructure needs with respect to the restoration of utility services
 - d. Participate and plan in training exercise with GOHSEP as needed
 - e. Annual meeting with GOHSEP prior to hurricane season
 - f. Update contact list with utilities prior to hurricane season
3. The Department of Health and Hospitals (DHH) Coordinator will establish procedures for the use and quality of drinking water supplies used during and after an emergency, including

bottled water supplies, treatment units/facilities and water tanker supplies. The DHH Coordinator will establish procedures to assess damage to water utilities, issue water use advisories, and direct assessment and restoration activities for water utilities. The DHH Coordinator will work with the DEQ Coordinator in planning for the assessment and restoration of wastewater utilities and for the use of temporary discharge, storage, conveyance and treatment facilities for domestic wastewater. The DHH Coordinator will assist in the acquisition, mobilization and employment of resources to restore service to affected water and wastewater utilities.

- a. Maintain review of changes and approvals to water/wastewater emergency operating and service restoration plans
- b. Coordinate the development of procedures for LaWARN and volunteer agencies, such as the Louisiana Rural Water Association in assessment and restoration activities
- c. Assist GOHSEP to identify critical infrastructure needs with respect to the restoration of utility services
- d. Participate and plan in training exercise with GOHSEP as needed
- e. Annual meeting with GOHSEP prior to hurricane season
- f. Maintain experienced staff and standard operating procedures for water/wastewater emergency preparedness matters with coordination with EPA, DEQ, PSC, Louisiana Rural Water Association and LaWARN to gain an understanding on information and preparation needs prior to the occurrence of an emergency; include liaisons

C. RESPONSE:

1. As DNR becomes aware of an emergency that could cause an interruption of petroleum or natural gas production in offshore areas, such as an approaching tropical system, the ESF 12 Coordinator will gather and report information on the extent of production reduction. Such information will be gathered in accordance with procedures established by DNR Administrative Policy 11.
2. The DNR ESF 12 Coordinator will compile and report information on the location and capacities of natural gas transmission and distribution pipeline systems.
3. The DNR ESF 12 Coordinator will compile and report information on the anticipated fuel demand should the anticipated emergency event require public evacuation, using the Fuel Demand Model. The DNR ESF 12 Coordinator will convey the state's assessed needs and requirements for the restoration of services to commercial gas stations along evacuation routes.
4. The LPSC ESF 12 Coordinator will obtain reports from affected natural gas and electric utilities under the LPSC jurisdiction regarding the number of utility service outages and the expected date and time of restoration. The coordinator will convey state assessed needs and requirements for utility services to the jurisdictional utility industry in order to facilitate the restoration of service when and where required as long as emergency conditions exist. Priorities

for the allocation of state resources in the restoration of emergency utilities service will be identified by the LPSC and will be coordinated with affected jurisdictional public utility companies. The first priority for utility restoration will be as established in existing jurisdictional utility emergency operating procedures and as directed by the state.

5. The LPSC ESF 12 Coordinator will provide utility service outage reports to GOHSEP during state emergencies for those natural gas, electric and telephone utilities under LPSC jurisdiction, and assist GOHSEP to identify and prioritize the allocation of State resources in the restoration of utility services.

6. The LPSC ESF 12 Coordinator will assist in re-establishing utility services to those accounts identified and prioritized by GOHSEP, and assist in the coordination and allocation of emergency power equipment through the procedures as established by GOHSEP.

7. The LPSC ESF 12 Coordinator will assist in the allocation and employment power generation equipment made available by local governments, state agencies, the federal government and private organizations for the maintenance and restoration of services in the affected jurisdictional utility service areas.

8. The Department of Health and Hospitals (DHH) Coordinator will direct the use and manage the quality of drinking water supplies used during and after the emergency, including bottled water supplies, treatment units/facilities and water tanker supplies. The DHH Coordinator will assess damage to water utilities, issue water use advisories, and direct assessment and restoration activities for water utilities. The DHH Coordinator will work with the DEQ Coordinator in managing the assessment and restoration of wastewater utilities and in directing the use of temporary discharge, storage, conveyance and treatment facilities for domestic wastewater. The DHH Coordinator will assist in the acquisition, mobilization and employment of resources to restore service to affected water and wastewater utilities.

9. The DNR ESF 12 Coordinator will convey the state's assessed needs and requirements for natural gas services to intrastate natural gas transporters in order to provide service when and where it is needed for as long as emergency conditions exist. Priorities for the allocation of natural gas in the restoration of emergency utilities will be assigned by the Commissioner of Conservation and will be coordinated with public and private natural gas distribution companies. Restoration of services to priority customers, such as public safety, hospitals, nursing homes and single family residences will be given first priority.

10. The DHH Coordinator will manage reporting of water and wastewater utility operating condition assessments to government entities as needed.

11. The DHH Coordinator will coordinate the actions of LaWARN and volunteer agencies, such as the Louisiana Rural Water Association in assessment and restoration activities with the assistance of the DEQ Coordinator.

12. The DHH Coordinator will assist in the allocation and employment of power generation equipment, fuel, disinfection and repair supplies made available by local governments, state

agencies, the federal government and private organization for the maintenance and restoration of water and wastewater services in the affected utility service areas.

D. RECOVERY:

The ESF 12 Coordinators from DNR, LPSC, and DHH/OPH will continue to monitor the progress of rebuilding and restoring utility capacity and service in their respective areas of jurisdiction and responsibility and report on such progress.

1. DNR will track all natural gas reduction and production by putting out a daily report through SONRIS system, emails, and phone calls as needed. DNR will also track fuel demand and supply during public evacuations and recovery, and will report as needed.

2. LPSC will track utility service outages as reported by those utilities under its jurisdiction to GOHSEP

3. DHH will track service outages as reported by those utilities, will take and analyze bacteriological samples to assess viability of drinking water utilities and will provide daily public notice of water quality in affected areas. DHH with the assistance of DEQ will track and permit restoration of water and wastewater service and use of temporary services as needed. DHH will authorize additional laboratory services (either contractual or donated) as needed for drinking water analyses. DEQ may authorize additional laboratory services (either contractual or donated) as needed for wastewater discharge analyses

4. The Louisiana National Guard will provide infrastructure protection as assets are available and missions are assigned in accordance with existing plans, including mobile electrical generation units

IV. ORGANIZATION AND RESPONSIBILITIES:

A. The Department of Natural Resources has the primary responsibility for the portions of the Energy and Utilities ESF 12 that relate to intrastate natural gas and the gathering and reporting of information about the offshore production of petroleum and natural gas. DNR also has the primary responsibility for portions of ESF 12 that relate to providing fuel for public consumption during and immediately following public evacuation, until such time as normal fuel processes and supply are restored.

B. The Louisiana Public Service Commission has the primary responsibility for the portions of the Energy and Utilities ESF 12 that relate to the regulation and coordination of electric power and natural gas supply systems.

C. The Louisiana Department of Health and Hospitals has the primary responsibility for the portion of Energy and Utilities ESF 12 that relate to the regulation and coordination of water and wastewater utilities in cooperation with the jurisdictions over wastewater discharges that are the responsibility of the Louisiana Department of Environmental Quality.

D. The support agencies for Energy and Utilities operations are responsible for developing and maintaining plans, procedures and asset inventories to support the ESF 12 Coordinators. Support Agencies include, but are not limited to:

1. Louisiana National Guard
2. Department of Environmental Quality
3. Louisiana Rural Water Association
4. Louisiana Water/Wastewater Agency Response Network
5. Department of Agriculture and Forestry

V. COMMAND AND CONTROL:

Command and control will be exercised as provided in the Basic Plan.

VI. CONTINUITY OF GOVERNMENT:

Continuity of government will be as provided in the Basic Plan.

VII. ADMINISTRATION AND LOGISTICS:

A. If State and in-state resources are inadequate to the tasks assigned, the ESF 12 Coordinators will report the situation and the needs to GOHSEP, which will seek additional resources through the LA BEOC. If resources are still inadequate after efforts by the LA BEOC, GOHSEP will seek additional assistance from EMAC (LRS 29:733) and from the federal government pursuant to a Presidential Disaster Declaration.

B. Every agency providing emergency energy and utilities support will maintain records of the operations, including cost records that can be used after the emergency to obtain reimbursement from state or federal sources.

VIII. PLAN MAINTENANCE:

The ESF 12 Energy and Utilities Coordinators are responsible for developing, maintaining and coordinating plans, procedures, arrangements and agreements in support of this ESF.

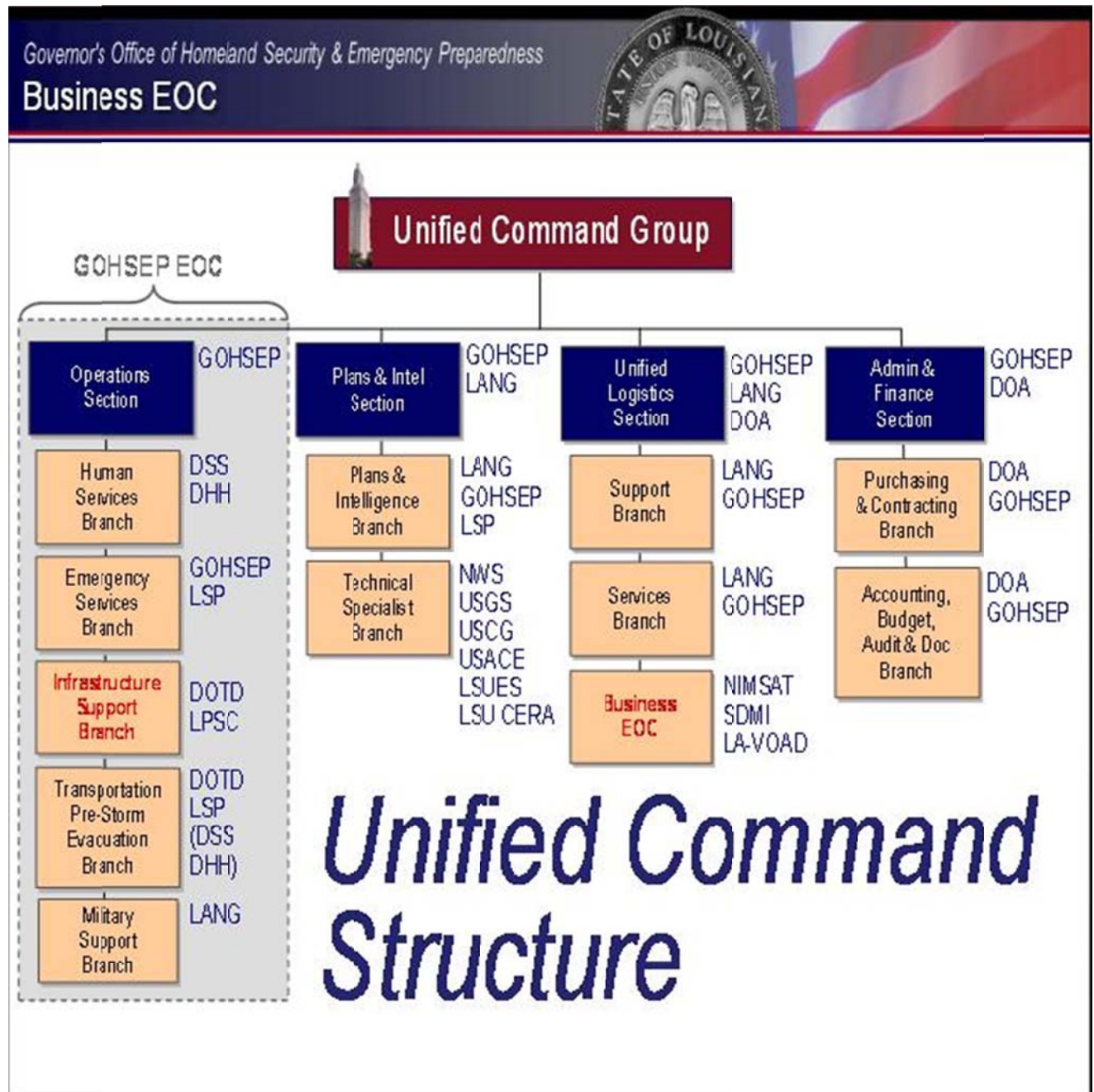
IX. AUTHORITIES AND REFERENCES:

Authorities and references are included in the Basic Plan.

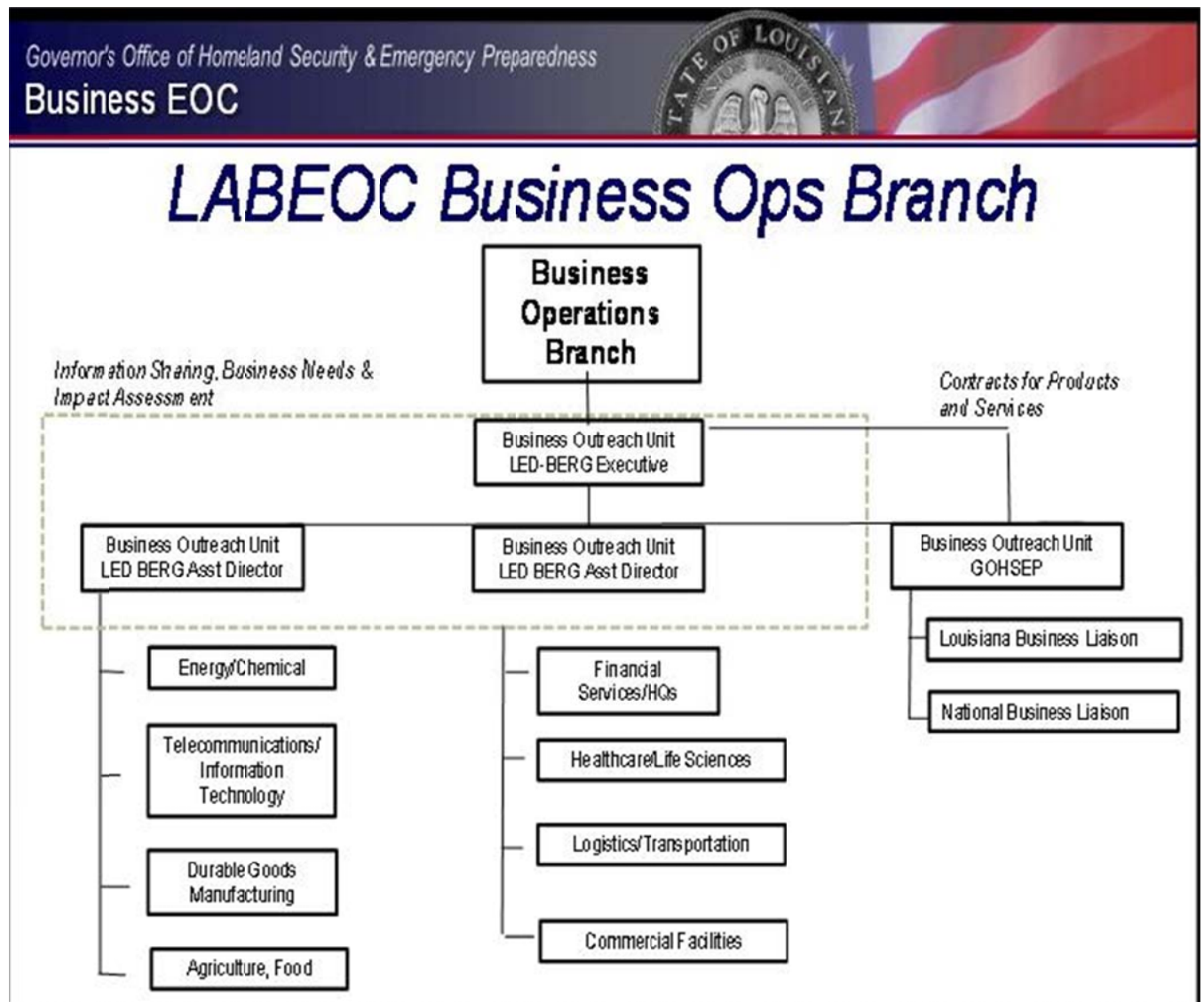
X. APPENDICES:

1. ESF 12 Responsibility Chart (Not included)
2. State-Federal Crosswalk (Not included)

Appendix B: Unified Command Structure



Appendix C: LA BEOC Organization



Appendix D: Business Disruption Survey

Survey Questions on Energy Sector Disruption

A. Facility

1. Damage to facility? (Y/N)
2. What type of damage: (open ended)
3. Water or Debris Blocking Access to Facility (Y/N)
4. Estimated physical damage to the facility (\$)
5. Estimate duration days of closure (in days)
6. Contacted local EOC offices? (Y/N) (with notes)

B. Workforce

1. Are workers able to get to your facility: (Y/N)
2. If no, why? (Open Ended)
3. Estimated jobs impacted due to non-operation (number)
4. Estimated payroll affected due to non-operation (\$)

C. Utilities

1. Electricity On: (Y/N)
2. Electricity Provider: (open-ended)
3. Gas On: (Y/N)
4. Gas Provider: (open-ended)
5. Water On: (Y/N)
6. Water provider: (open-ended)
7. Telecom on? (Y/N)
8. Telecom provider(s): (open-ended)
9. Which utility providers have you contacted? (open-ended)

D. Transportation/Markets

1. Are you able to get supplies to the facility?: (Y/N)
2. How long do you anticipate not being able to receive supplies: (in days)

3. % of customers affected due to non-operations: (%)
4. Needed supplies (open ended)
5. Name major suppliers affected (open-ended)
6. Name major customers affected (open ended)

Appendix E: Executive Order BJ 08-32 and Amendment BJ 08-94

EXECUTIVE ORDER BJ 08-32 Emergency Operations Plan

WHEREAS, the state of Louisiana must be prepared to respond in a coordinated, effective and efficient manner to all the emergencies and disasters to which it is subjected;

WHEREAS, it is the policy of the state of Louisiana for all homeland security and emergency preparedness functions to follow the principles outlined in the National Incident Management System, or its successor, and La. R.S. 29:722(C); and

WHEREAS, the state of Louisiana will best achieve effective coordinated emergency planning by updating the state's current emergency operations order through the replacement of Executive Order No. KBB 2006-34, issued on August 3, 2006, and by the Governor's Office of Homeland Security and Emergency Preparedness updating its emergency operations plan;

NOW THEREFORE, I, BOBBY JINDAL, Governor of the state of Louisiana, by virtue of the authority vested by the Constitution and the laws of the state of Louisiana, do hereby order and direct as follows:

SECTION 1:

A. The director of the Governor's Office of Homeland Security and Emergency Preparedness, state of Louisiana, (hereafter "director"), shall direct the state of Louisiana's emergency and/or disaster operations.

B. The director, or the director's designee, shall also coordinate the activities of all non-state agencies, departments, and/or organizations involved in emergency management within the state of Louisiana.

SECTION 2: A. This Executive Order shall constitute the Louisiana Emergency Operations Plan ("Plan"), which shall be binding on all departments, commissions, boards, agencies, organizations and employees of the state of Louisiana, and on all local governments or political subdivisions of the state authorized or directed to conduct homeland security and emergency management operations.

B. The director shall supplement the provisions of the Plan by prescribing rules, regulations, and procedures. Once adopted, the supplement shall also be binding on all departments, commissions, boards, agencies, organizations and employees of the state of Louisiana, and on all local governments or political subdivisions of the state authorized or directed to conduct homeland security and emergency management operations.

C. Any supplement or subsequent changes to the plan shall continue to follow the principles outlined in the National Incident Management System, or its successor, and also provide for the emergency operations that may be implemented should an emergency and/or disaster strike the state of Louisiana or an area within the state of Louisiana;

SECTION 3:

A. The director shall control the activation and/or implementation of the Plan and the conclusion and/or deactivation of the Plan.

B. The director shall also control the activation and deactivation of the state Emergency Operations Center (hereafter "Center").

C. The activation of the Center shall constitute the implementation of the Plan.

SECTION 4: The departments, offices, agencies, and organizations of the state of Louisiana government have primary and support responsibilities for the following Emergency Support Functions (ESF):

ESF	ANNEX	DEPARTMENT/AGENCY	PRIMARY /SUPPORT		
ESF1	Transportation	Department of Transportation and Development	P		
		Louisiana National Guard	S		
		Department of Agriculture and Forestry	S		
		Department of Corrections	S		
		Department of Education	S		
		Department of Health and Hospitals	S		
		Louisiana State Police	S		
		Department of Wildlife and Fisheries	S		
		ESF 2	Communications	Governor's Office of Homeland Security and Emergency Preparedness	P
				Louisiana National Guard	P
Louisiana State Police	P				
Department of Agriculture and Forestry	S				
Department of Corrections	S				
Department of Culture, Recreation & Tourism	S				
Department of Economic Development	S				
Department of Education	S				
Department of Environmental Quality	S				
Governor – Division of Administration	S				
Governor – Office of Elderly Affairs	S				
Governor – Oil Spill Coordinators Office	S				
Louisiana State University System	S				
Department of Health and Hospitals	S				
Department of Justice	S				

		Department of Labor	S
		Louisiana Public Service Commission	S
		Louisiana Board of Regents	S
		Department of Revenue	S
		Department of Social Services	S
		Department of Transportation & Development	S
		Department of Wildlife and Fisheries	S
		Volunteer Organizations	S
ESF 3	Public Works & Engineering	Department of Transportation & Development	P
		Louisiana National Guard	S
		Governor – Division of Administration	S
		Department of Health & Hospitals	S
		Department of Natural Resources	S
		Volunteer Organizations	S
ESF 4	Firefighting	Department of Agriculture and Forestry	P
		Louisiana National Guard	S
		Department of Environmental Quality	S
		State Fire Marshal	S
		Department of Transportation and Development	S
		Department of Wildlife and Fisheries	S
		Volunteer Organizations	S
ESF 5	Emergency Management	Governor's Office of Homeland Security and Emergency Preparedness	P
		Louisiana National Guard	S
		Department of Agriculture and Forestry	S
		Department of Corrections	S
		Department of Culture, Recreation & Tourism	S

		Department of Economic Development	S
		Department of Education	S
		Department of Environmental Quality	S
		Governor – Division of Administration	S
		Governor – Office of Disability Affairs	S
		Governor – Office of Elderly Affairs	S
		Governor – Office of Indian Affairs	S
		Governor – Oil Spill Coordinators Office	S
		Louisiana State University System	S
		Department of Health and Hospitals	S
		Department of Justice	S
		Department of Labor	S
		Department of Natural Resources	S
		Louisiana Public Service Commission	S
		Louisiana Board of Regents	S
		Department of Revenue	S
		Secretary of State	S
		Department of Social Services	S
		Louisiana State Police	S
		Department of Transportation & Development	S
		Department of the Treasury	S
		Department of Wildlife and Fisheries	S
		Volunteer Organizations	S
ESF 6	Mass Care, Housing and Human Services	Department of Social Services	P
		Department of Corrections	P
		Governor’s Office of Homeland Security and Emergency Preparedness	S

		Louisiana Family Recovery Corps	S
		Louisiana Housing Finance Agency	S
		Louisiana National Guard	S
		Department of Agriculture and Forestry	S
		Department of Culture, Recreation and Tourism	S
		Department of Education	S
		State Fire Marshal	S
		Governor – Office of Disability Affairs	S
		Governor – Office of Elderly Affairs	S
		Department of Health and Hospitals	S
		Louisiana State University System	S
		Department of Insurance	S
		Department of Labor	S
		Department of Natural Resources	S
		Louisiana Board of Regents	S
		Department of Veterans Affairs	S
		Department of Revenue	S
		Volunteer Organizations	S
ESF 7	Resources Support	Governor’s Office of Homeland Security and Emergency Preparedness	P
		Louisiana National Guard	P
		Department of Agriculture & Forestry	S
		Department of Culture, Recreation and Tourism	S
		Department of Economic Development	S
		Department of Environmental Quality	S
		Governor – Division of Administration	S
		Louisiana State University System	S
		Department of Health and Hospitals	S

		Department of Labor	S
		Department of Natural Resources	S
		Louisiana Board of Regents	S
		Department of Social Services	S
		Louisiana State Police	S
		Department of Transportation & Development	S
		Department of the Treasury	S
		Volunteer Organizations	S
ESF 8	Public Health & Medical Services	Department of Health & Hospitals	P
		Louisiana National Guard	S
		Department of Agriculture and Forestry	S
		Department of Corrections	S
		Department of Environmental Quality	S
		Louisiana State University System	S
		Louisiana Board of Regents	S
		State Fire Marshal	S
		Department of Transportation & Development	S
		Department of Veterans Affairs	S
		Volunteer Organizations	S
ESF 9	Search & Rescue	Department of Wildlife and Fisheries	P
		Louisiana National Guard	S
		Department of Agriculture and Forestry	S
		Department of Corrections	S
		Department of Culture, Recreation, & Tourism	S
		State Fire Marshal	S
		Louisiana State Police	S
		Department of Transportation and Development	S

		Louisiana State University Fire and Emergency Training Institute	S
		Volunteer Organizations	S
ESF 10	Oil Spill, Hazardous Materials and Radiological	Governor – Oil Spill Coordinators Office	P
		Louisiana State Police	P
		Department of Environmental Quality	P
		Governor's Office of Homeland Security and Emergency Preparedness	S
		Louisiana National Guard	S
		Department of Agriculture and Forestry	S
		State Fire Marshal	S
		Louisiana State University System	S
		Department of Health and Hospitals	S
		Department of Natural Resources	S
		Department of Transportation and Development	S
		Department of Wildlife and Fisheries	S
		Volunteer Organizations	S
ESF 11	Agriculture	Department of Agriculture & Forestry	P
		Louisiana National Guard	S
		Department of Corrections	S
		Department of Environmental Quality	S
		Department of Health and Hospitals	S
		Louisiana Board of Regents	S
		Louisiana State University System	S
		Department of Transportation and Development	S
		Department of Wildlife and Fisheries	S
		Volunteer Organizations	S

ESF 12	Energy and Utilities	Department of Natural Resources/Intrastate Natural Gas	P
		Louisiana Public Service Commission/Power	P
		Louisiana Department of Health and Hospitals	
		(Water/Wastewater Utilities)	S
		Louisiana Department of Environmental Quality	
		(Wastewater Utilities)	S
		Volunteer Organizations	S
		Louisiana National Guard	S
ESF 13	Public Safety and Security	Louisiana State Police	P
		Department of Justice	P
		Louisiana National Guard	S
		Department of Agriculture and Forestry	S
		Department of Corrections	S
		Department of Culture, Recreation and Tourism	S
		Department of Revenue - Office of Alcohol and Tobacco Control	S
		Department of Transportation and Development	S
		Department of Wildlife and Fisheries	S
		Louisiana Youth Services	S
		ESF 14	Community Recovery, Mitigation and Economic Stabilization
Department of Economic Development	P		
Louisiana National Guard	S		
Department of Agriculture and Forestry	S		
Department of Culture, Recreation and Tourism	S		
Department of Education	S		

		Department of Environmental Quality	S
		Governor – Division of Administration	S
		Governor – Office of Financial Institutions	S
		Louisiana State University System	S
		Department of Health and Hospitals	S
		Department of Insurance	S
		Department of Justice	S
		Department of Labor	S
		Department of Natural Resources	S
		Louisiana Public Service Commission	S
		Louisiana Board of Regents	S
		Department of Revenue	S
		Department of Social Services	S
		Secretary of State	S
		Louisiana State Police	S
		Department of Transportation and Development	S
		Department of the Treasury	S
		Volunteer Organizations	S
ESF 15	Emergency Public Information	Governor's Office of Homeland Security and Emergency Preparedness	P
		Louisiana National Guard	S
		Senate and House Legislative Liaisons	S
		Department of Agriculture and Forestry	S
		Department of Corrections	S
		Department of Culture, Recreation & Tourism	S
		Department of Economic Development	S
		Department of Education	S
		Department of Environmental Quality	S

		State Fire Marshal	S
		Governor – Division of Administration	S
		Governor – Office of Disability Affairs	S
		Governor – Office of Elderly Affairs	S
		Governor – Office of Financial Institutions	S
		Governor – Office of Indian Affairs	S
		Governor – Oil Spill Coordinators Office	S
		Louisiana State University System	S
		Department of Health and Hospitals	S
		Department of Justice	S
		Department of Insurance	S
		Department of Labor	S
		Department of Natural Resources	S
		Louisiana Public Service Commission	S
		Louisiana Board of Regents	S
		Department of Revenue	S
		Department of Social Services	S
		Secretary of State	S
		Louisiana State Police	S
		Department of Transportation and Development	S
		Department of the Treasury	S
		Department of Wildlife and Fisheries	S
		Volunteer Organizations	S
ESF 16	Military Support to Civilian Affairs	Louisiana National Guard	P

SECTION 5: The head of each department, office, agency, and organization identified in Section 4 of this Order shall designate both an emergency coordinator and an alternate coordinator to act on the department's behalf during an emergency situation, and furnish the director with their names and all phone numbers. The head shall also designate a Continuity of Operations Plan (COOP) coordinator who will prepare and maintain plans, procedures, arrangements, and agreements to ensure that the organization will continue to carry out its mission in an emergency or disaster.

SECTION 6: The head of each department assigned a primary ESF responsibility in Section 4 shall submit implementing procedures to the director that set forth the department's procedures for carrying out its assigned emergency support functions. The head of each department shall submit annual updates of their implementing procedures to the director.

SECTION 7: The head of each department assigned emergency support responsibilities in Section 4 of this Order shall assist its primary department in the preparation of their procedures and/or any other documents necessary to support the Plan.

SECTION 8: The head of each department assigned a primary and/or a support responsibility in Section 4 of this Order will:

- A. Staff the State Emergency Operations Center with personnel during training exercises and emergencies as requested by the director;
- B. Maintain and operate a 24-hour response capability in the department headquarters, or in the department's designated Emergency Operations Center, when the Plan is implemented;
- C. Participate in exercises of the Plan when scheduled by the director;
- D. Participate in, and conduct, training essential to implementation of the department's assigned emergency service;
- E. Conduct an annual internal review to update the details of their department's implementing procedures and advise the director of needed modifications of their implementing procedures; and
- F. Maintain logs, records, and reporting systems required by all state and federal laws, rules, and regulations.

SECTION 9: All departments, commissions, boards, agencies and officers of the state, or any political subdivision thereof, are authorized and directed to cooperate in the implementation of this Order.

SECTION 10: This Order is effective upon signature and shall remain in effect until amended, modified, terminated, or rescinded by the governor, or terminated by operation of law.

IN WITNESS WHEREOF, I have set my hand officially and caused to be affixed the Great Seal of Louisiana, at the Capitol, in the city of Baton Rouge, on this 22nd day of August, 2008.

Bobby Jindal
Governor

ATTEST BY
THE GOVERNOR
Jay Dardenne
Secretary of State

EXECUTIVE ORDER
BJ 08-94
Emergency Operations Plan

Amendment to Executive Order No. BJ 08-32

WHEREAS, the state of Louisiana must be prepared to respond in a coordinated, effective and efficient manner to all the emergencies and disasters to which it is subjected;

WHEREAS, it is the policy of the state of Louisiana for all homeland security and emergency preparedness functions to follow the principles outlined in the National Incident Management System, or its successor, and La. R.S. 29:722(C); and

WHEREAS, the state of Louisiana will best achieve effective coordinated emergency planning by updating the state ' s current emergency operations order through the amendment of Executive Order No. BJ 08-32, issued on August 22, 2008, and by the Governor ' s Office of Homeland Security and Emergency Preparedness updating its emergency operations plan to expand the support agencies assigned to ESF-6 Function;

NOW THEREFORE, I, BOBBY JINDAL, Governor of the state of Louisiana, by virtue of the authority vested by the Constitution and the laws of the state of Louisiana, do hereby order and direct as follows:

SECTION 1: The ESF 6 function is amended as follows:

ESF 6	Mass Care, Housing and Human Services	Department of Social Services	P
		Department of Corrections	P
		Governor's Office of Homeland Security and Emergency Preparedness	S
		Louisiana Family Recovery Corps	S
		Louisiana Housing Finance Agency	S
		Louisiana National Guard	S
		Department of Agriculture and Forestry	S
		Department of Culture, Recreation and Tourism	S
		Department of Education	S
		State Fire Marshal	S
		Governor – Office of Disability Affairs	S
		Governor – Office of Elderly Affairs	S

Department of Health and Hospitals	S
Louisiana State University System	S
Department of Insurance	S
Department of Labor	S
Department of Natural Resources	S
Louisiana Board of Regents	S
Department of Veterans Affairs	S
Department of Revenue	S
Volunteer Organizations	S
Department of Economic Development	S
Department of Environmental Quality	S
Department of Justice (Attorney General)	S
Department of Treasury (State Treasurer)	S
Department of Wildlife and Fisheries	S
Public Service Commission	S
Department of State (Secretary of State)	S
Department of Civil Service	S
Department of Transportation and Development	S

SECTION 2: All departments, commissions, boards, agencies and officers of the state, or any political subdivision thereof, are authorized and directed to cooperate in the implementation of this Order.

SECTION 3: This Order is effective upon signature and shall remain in effect until amended, modified, terminated, or rescinded by the governor, or terminated by operation of law.

IN WITNESS WHEREOF, I have set my hand officially and caused to be affixed the Great Seal of Louisiana, at the Capitol, in the city of Baton Rouge, on this 9th day of September, 2008.

Bobby Jindal
Governor

ATTEST BY
THE GOVERNOR
Jay Dardenne
Secretary of State

Appendix F: Office of Information Technology Policy

Office of Information Technology Policy

Enterprise Information Security Policy

Policy:

Responsibility and authority for information management shall be established and maintained by each State Agency. The Agency's Chief Executive Officer / Secretary or equivalent is designated as the owner of that Agency's information and as such must practice due care and due diligence to ensure the confidentiality, integrity and availability of that information. Although this responsibility is often delegated to lower level management, this individual is also responsible for ensuring that all aspects of the organization's planning, development, classification and operation comply with applicable enterprise policies and standards.

Scope:

All entities under the authority of the Office of Information Technology, pursuant to the provisions of R.S. 39:15.1, et seq., must comply with this policy, which includes all departments, boards, and commissions within the executive branch and higher education institutions. Examples of State Agencies are DPS, WLF, DOA, LSU-S, Grambling, ULL, Cosmetology Board, etc.

Responsibilities:

Each State Agency is responsible for the following:

- Classification of computer data (refer to IT Bulletin 08-02 Data Classification Guideline)
- Confidentiality, integrity and availability of computer data
- Access controls that are appropriate for the level of data classification
- Developing, maintaining and regular testing of a disaster recovery/business continuation plan
- Employee awareness training relative to information security
- Assigning responsibilities to implement this policy

Related Policies, Standards, Guidelines:

IT Bulletin 08-02 Data Classification Guideline

Owner:

OIT Security

Effective Date:

July 27, 2009

Appendix G: Louisiana Public Service Commission Organization Chart



Appendix H: Louisiana Fuel Team Playbook

Louisiana Fuel Team Playbook

I. PURPOSE

The purpose of this document is to establish and provide operational concepts, organizational arrangements, roles, and technology requirements for optimizing public fuel availability for coastal evacuees and recovery efforts in the event of an emergency situation along Louisiana’s Coast and to minimize the potential or realized disruptions to the public fuel supply. Fuel for emergency response is managed under a separate response function.¹

This document, developed with an all-hazards approach, shall supplement the State of Louisiana’s Emergency Operations Plan in order to ensure that the state of Louisiana is prepared for and ready to be responsive in a coordinated, effective, and efficient manner towards disruptions to the public fuel supply. The Louisiana Department of Natural Resources (LDNR) serves as the lead state agency to oversee this function.

II. EXPLANATION OF TERMS

A. ACRONYMS

ATG	Automatic Tank Gauge
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
GIS	Geographic Information Systems
GOHSEP	Governor’s Office of Homeland Security and Emergency Preparedness
ITGA	Information Technology and Geographical Analyst
LA BEOC	Louisiana Business Emergency Operations Center

LDAF	Louisiana Department of Agriculture & Forestry
LDEQ	Louisiana Department of Environmental Quality
LDNR	Louisiana Department of Natural Resources
LMOGA	Louisiana Mid-Continent Oil and Gas Association
LOMSCA	Louisiana Oil Marketers & Convenience Store Association
LMTA	Louisiana Motor Transport Association, Inc.
PSA	Public Service Announcement
RVP	Reid Vapor Pressure
SME	Subject Matter Expert
SOC	State Operations Center

¹ The Louisiana Department of Agriculture & Forestry (LDAF) serves as the lead state agency for coordination and optimization of the emergency fuel supply.

B. DEFINITIONS AND GENERAL BACKGROUND

Hurricane Information

a. Hurricane season in the [Atlantic](#) begins June 1st and ends November 30th.

b. Categories of Storms

Tropical Depression—A tropical cyclone with maximum sustained winds of 38 mph (33 knots) or less.

Tropical Storm— A tropical cyclone with maximum sustained winds of 39 to 73 mph (34 to 63 knots).

Hurricane—A tropical cyclone with maximum sustained winds of 74 mph (64 knots) or higher.

Major Hurricane—A tropical cyclone with maximum sustained winds of 111 mph (96 knots) or higher, corresponding to a Category 3, 4 or 5 on the Saffir-Simpson Hurricane Wind Scale (See Table 1).

Table 1. Saffir-Simpson Hurricane Wind Scale		
Category	Sustained Winds	Types of Damage Due to Hurricane Winds
1	74-95 mph 64-82 kt 119-153 km/h	Very dangerous winds will produce some damage: Well-constructed frame homes could have damage to roof, shingles, vinyl siding and gutters. Large branches of trees will snap and shallowly rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days.
2	96-110 mph 83-95 kt 154-177 km/h	Extremely dangerous winds will cause extensive damage: Well-constructed frame homes could sustain major roof and siding damage. Many shallowly rooted trees will be snapped or uprooted and block numerous roads. Near-total power loss is expected with outages that could last from several days to weeks.
3 (major)	111-129 mph 96-112 kt 178-208 km/h	Devastating damage will occur: Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.
4 (major)	130-156 mph 113-136 kt 209-251 km/h	Catastrophic damage will occur: Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.
5 (major)	157 mph or higher 137 kt or higher 252 km/h or higher	Catastrophic damage will occur: A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months.

On-boarding: The process of orientating, training and setting expectations of new team members.

ITGA Team – GIS managers, designated IT-GIS Technical Specialists, designated software engineers

Louisiana Fuel Team: A group of public and private sector fuel volunteers representing various aspects of the fuel industry.

Threshold Capacity: The total fuel capacity limit that determines facilities to be included in this project

III. **CONCEPT OF OPERATIONS**

A. GENERAL

1. Louisiana Fuel Team

- a. The Louisiana Fuel Team was developed to assist the State of Louisiana prepare and respond to the threat of hurricanes, and as such members of the Louisiana Fuel Team shall assist as needed for Ongoing Hurricane Planning and Preparation and Hurricane Event planning, preparation, and execution.
- b. The Louisiana Fuel Team may be activated by the Fuel Team Coordinator in preparation and/or response to any scenario that may cause disruption to the public fuel supply.
- c. Fuel Coordination Team - Each year, the Louisiana Fuel Team will assemble an industry Fuel Coordination Team. The Fuel Coordination Team is comprised of volunteer representatives from the public sector, private sector, and trade organizations who coordinate the various industry efforts towards maintaining a reliable fuel supply throughout the State of Louisiana. The Fuel Coordination Team shall:
 - 1) Actively participate in Louisiana Fuel Team preparatory and response efforts as determined by the Fuel Team Coordinator.
 - 2) Provide contributing documentation and updates to procedures and protocols to the Louisiana Fuel Team Playbook at least one time annually.

2. Louisiana Fuel Team Playbook

- a. The Louisiana Fuel Team Playbook compiles industry assets and expertise with the State's communication and command capabilities to gain greater efficiency and expedite evacuations and recovery.
- b. The Louisiana Fuel Team Playbook shall:
 - 1) Assist the State of Louisiana in its efforts to ensure a reliable fuel supply to stations along emergency evacuation routes during times of emergency;
 - 2) Assist the State of Louisiana in its efforts to minimizing disruptions to the public fuel supply.
 - 3) Assist the State in assuring expeditious recovery of the fuel network post-emergency.

B. PROCESS DETAILS

The key elements of the Louisiana Fuel Team Playbook are contained within a comprehensive set of documents referenced below.

Key Elements

- 1) Ongoing Planning and Preparation (Section V)
- 2) Activation Event Operations Plan (Section VI)

IV. **LOUISIANA FUEL TEAM**

The Louisiana Fuel Team is comprised of members from multiple governmental agencies and representatives from the private sector and trade organizations.

Fuel Team Coordinator is the designated leader of the Louisiana Fuel Team. This role shall be filled by the Assistant Secretary of the LDNR or another appointed designee.

Public sector Fuel Team members shall include members of the LDNR staff, including but not limited to: designated IT personnel, designated GIS personnel, and other personnel designated by the Fuel Team Coordinator. In addition, partnering agency representatives may be designated as members of the Louisiana Fuel Team.

Private sector Fuel Team members include industry representatives from the refiner and supplier sector, supply and terminal sector, retail sector, and tank truck carrier sector. The Louisiana Fuel Team shall also include those parties who have been contracted by LDNR to assist in implementing the Louisiana Fuel Team Playbook.

The Louisiana Fuel Team shall meet at least one (1) time annually to discuss strategies, needs, and improvements for the Louisiana Fuel Team Playbook.

V. **ONGOING PLANNING AND PREPARATION**

LDNR Fuel Team Members and Duties:

Fuel Team Coordinator - LDNR Assistant Secretary or other designated appointee

- Responsible for overall implementation of the Fuel Team activities
- Designates members of the Project Management and Information Technology and Geographical Analyst (ITGA) Teams
- Works closely with private and public sector members to develop and successfully implement Fuel Team activities
- Coordinates with law enforcement and GOHSEP to gather and disseminate time critical information to the Fuel Team and ensure fuel team issues are addressed

Project Manager - LDNR Deputy Assistant Secretary or other designated appointee

- Second in command to the Fuel Team Coordinator

- Coordinates and assigns tasks to Operations Group
- Coordinates and assigns tasks to ITGA Team
- Serves as a liaison between public and private sector for the Fuel Team Coordinator

Operations Group – LDNR personnel designated by the Fuel Team Coordinator and Project Manager

- Prepares and manages contracts and technology advances to supply fuel availability information
 - Automated dialing service
 - Automated internet real-time data retrieval
 - Traffic density studies
- Prepares, verifies, and maintains comprehensive fuel station database
 - Online facility survey
 - Emergency contact information
 - Fuel supply information
 - Automatic Tank Gauge (ATG) availability
 - Real-time remote monitoring capability
 - Generator availability information
 - Geographical location
 - Semiannual reports from LDEQ and LDAF
- Quality Control checkpoint for comprehensive database
 - Online facility survey
 - Geographical location
 - Semiannual reports from LDEQ and LDAF
- Revises and updates playbook
- Coordinates Fuel Team meetings (both internal and public)
- Coordinates implementation of training regimen with the ITGA Team members
 - LDNR Fuel Team members
 - EOC representatives
 - Other applicable personnel
- Act as a liaison between public and private sector for the Fuel Team Coordinator
- Coordinates pre-season system testing
- Miscellaneous duties assigned by the Fuel Team Coordinator or the Project Manager

Information Technology and Geographical Analyst (ITGA) Team – GIS managers, designated IT-GIS Technical Specialists, designated software engineers

- Prepare and maintain fuel station comprehensive database
 - Online facility survey
 - Semiannual reports from LDEQ and LDAF

- Prepare and maintain online facility survey
 - Emergency contact information
 - Fuel supply information
 - Automatic Tank Gauge (ATG) availability
 - Real-time remote monitoring capability
 - Generator availability information
 - Additional information requested by the Fuel Team Coordinator or authorized personnel
- Prepare and update Fuel Team Tools
 - Develop and maintain an interactive Google API map of the comprehensive database
 - Incorporate new and updated GIS/station information for street view
 - Incorporate new and updated station information to reflect station status
 - Provide security as deemed necessary for station information
 - Automated/online information
 - Station owner/representative
 - Parish EOC
 - Public Input
 - Develop and maintain instructions the following users
 - Public input website – SEE APPENDIX E
 - Parish EOC – SEE APPENDIX F
 - Station owner/representative – SEE APPENDIX G
 - Incorporate changes requested by the Fuel Team Coordinator or designated personnel
- Develop and maintain a Louisiana Fuel Corridor Map
 - Incorporate all facilities in the fuel station database
 - Apply geographical limits
 - Stations located South of the US HWY190 corridor
 - Stations north of the US HWY190 corridor, but located within a specified radius of a major or minor state approved evacuation route
 - Apply threshold capacity limits
 - Determine minimum total station capacity for stations included in analysis within modified coastal zone
 - Determine minimum total station capacity for stations included in analysis within Louisiana state lines, but outside modified coastal zone
 - Incorporate state identified critical service facilities
 - Incorporate any other issue designated by the Fuel Team Coordinator or designated personnel
- Develop and implement training regimen and periodic training sessions
 - LDNR Fuel Team members
 - EOC representatives

- Other applicable personnel
- Miscellaneous duties assigned by the Fuel Team Coordinator or the Project Manager

Partnering agency representatives and private sector representatives:

It is the responsibility of these personnel to develop and maintain a standard operating procedure for potential disaster scenarios. These plans shall be incorporated into the Louisiana Fuel Team Playbook; however, they shall be developed and maintained by designated personnel.

Louisiana Department of Environmental Quality (LDEQ)

- Prepare RVP waiver requests on behalf of the State. Ensures that this protocol is reviewed and updated by June 1 of each year. See APPENDIX A
- Provide semi-annual reports of registered underground storage tank facilities throughout the state to supplement fueling station database.

Louisiana Mid-Continent Oil and Gas Association (LMOGA)

- Coordinate refinery assets. Maintains a current list of refinery contacts that is used to facilitate discussions with EPA on waiver requests. SEE APPENDIX B

Louisiana Motor Transport Association, Inc. (LMTA)

- Coordinate the necessary transportation exemptions; coordinates the processes to get assets when and where needed; provides additional transportation assets; and handles credentialing for transporters entering critical infrastructure. SEE APPENDIX C

Louisiana Oil Marketers & Convenience Store Association (LOMSCA)

- Coordinate with marketers, retailers and distributors to assist the fuel team in data gathering and dissemination of information and provide feedback to fuel team.

Louisiana Department of Natural Resources (LDNR) Public Communications

- Develop press releases to the public prior to, during, and after an emergency situation.
- Coordinate with GOHSEP communication efforts. SEE APPENDIX D

Louisiana Department of Agriculture and Forestry (LDAF)

- Provide semi-annual reports for fueling stations throughout the state to supplement fueling station database.

VI. ACTIVATION EVENT OPERATIONS PLANNING

Due to the unpredictable timing and direction of hurricanes this plan may be initiated at different times. The triggers for the initiation of the plan include:

- Predicted category 3+ hurricane in the Gulf of Mexico.
- Predicted landfall within 100 miles of the Louisiana coastline.
- H-120 hours before landfall.
- At the request of a representative from the Governor’s Office, GOHSEP, and/or Fuel Team Coordinator.

The Louisiana Fuel Team shall be activated when one or more of the triggers for the initiation of the plan have been met. Members of the Louisiana Fuel Team shall be notified about activation and will be provided the activation status (See Table 2).

Table 2. Activation Statuses	
Activation Status	Roles and Responsibilities
Standby	<p><i>Conduct a preliminary assessment of constituents to determine baseline information</i></p> <p><i>Report issues or problems to the Fuel Team Coordinator as soon as possible</i></p> <p><i>Maintain visibility on constituents throughout the event</i></p> <p><i>Participate in and provide feedback to the Louisiana Fuel Team during conference calls, through email and/or telephone requests, etc.</i></p> <p><i>Report to the EOC or LA BEOC as needed</i></p> <p><i>Follow procedures and protocols outlined in this document</i></p>
Active	<p><i>Maintain visibility on constituents throughout the event</i></p> <p><i>Report issues or problems to the Fuel Team Coordinator as soon as possible</i></p> <p><i>Participate in and provide feedback to the Louisiana Fuel Team during conference calls, through email and/or telephone requests, etc.</i></p>

	<p><i>Report to the EOC or LA BEOC as needed</i></p> <p><i>Follow procedures and protocols outlined in this document</i></p>
Stand down	<p><i>Provide feedback on improvements to processes</i></p> <p><i>Update Playbook as needed</i></p>

In order to meet the needs of coastal parishes, parishes may be monitored for fuel supply as necessary at the request of GOHSEP, the Fuel Team Coordinator, or an authorized designee. Parishes shall be monitored based upon the monitoring schedule outlined in Table 3.

Table 3. Parish Monitoring Schedule	
Mandatory Monitoring Parish(es)	<ul style="list-style-type: none"> • directly in the path of the hurricane/tropical storm • directly impacted by the hurricane/tropical storm • included in official mandatory evacuation • directly impacted by tropical storm force winds • areas outside of the levee protection system that may be vulnerable to Category 1 and 2 storms • included in a declared state of emergency • indicated by GOHSEP or the Fuel Team Coordinator or an authorized designee
Recommended Monitoring Parish(es)	<ul style="list-style-type: none"> • Indirectly in the path of the hurricane/tropical storm • Impacted by the hurricane/tropical storm • Indirectly impacted by tropical storm force winds • Included in an official recommended evacuation • Located near a Mandatory Monitoring Parish • Contain designated critical services fuel providers • Contain major/minor evacuation route(s) • Contain shelter areas for evacuees • indicated by GOHSEP or the Fuel Team Coordinator or an authorized designee
Suggested Monitoring Parish(es)	<ul style="list-style-type: none"> • Located near a Recommended Monitoring Parish • Throughout the state that contain major/minor evacuation route(s) • Throughout the state that contain designated critical services fuel providers • Throughout the state that serve as shelter areas for evacuees • Indirectly in the path of the hurricane/tropical storm

- Indirectly impacted by the hurricane/tropical storm
- Indirectly impacted by tropical storm force winds
- Indicated by GOHSEP or the Fuel Team Coordinator or an authorized designee

H-120 to 48 Hours to landfall

LDNR Fuel Team Members and Duties:

Fuel Team Coordinator and/or Project Manager

- Notify Fuel Team members that the Fuel Team has been activated and provide activation status.
- Conduct conference calls to obtain baseline and status updates from Fuel Team members. The initial conference call for each event shall be conducted as soon as practicable once the Fuel Team has been activated and/or activation status has been upgraded.
- Facilitate communication with LOMSCA, LMTA, LMOGA, public sector representatives, and additional personnel to identify problems and develop solutions.
- Verify emergency contact and back-up information.
- Obtain passwords to access systems/online systems, if available.
- Notify designated public and private sector personnel on standby to report to the EOC or LA BEOC, as directed by GOHSEP.
- Coordinate with law enforcement, GOHSEP, and other resources (as needed) to gather and disseminate time-critical information to the Fuel Team and ensure fuel team issues are addressed
- Coordinate with designated personnel to organize needs for Fuel Waivers, Supply and Terminals, Transporters, and Communications. Enact individual emergency plans.
- Coordinate with federal and state agencies to focus on waiver needs and identify areas that may need aid.
- Coordinate with contractors and provide instructions to complete the mission. Provide routine updates as the scenario changes.
- Once evacuation has been initiated, identify fuel needs and coordinate with LOMSCA, LMTA, LMOGA and refiners to meet evacuation needs and pre-event maintenance.

Operations Group

- Provide daily status updates to the Fuel Team Coordinator or his designee
- Print a hard copy and save a portable back-up electronic copy of the most recent
 - online facility survey
 - recent map of all stations, evacuation analysis and check all systems
 - facility online survey results

- Provide as needed on-boarding training for personnel to the websites
- Miscellaneous duties assigned by the Fuel Team Coordinator or the Project Manager

Information Technology and Geographical Analyst (ITGA) Team

- Save a portable back-up electronic copy of the most recent
 - online facility survey
 - recent map of all stations, evacuation analysis and check all systems
 - online survey results
- Ensure that all websites are functioning properly.
- Perform a refresher training session for Fuel Team personnel, EOC representatives, and other applicable personnel
- Ensure that the most up-to-date versions of instructions for online facility station input on the survey website are available to the necessary personnel.
- Miscellaneous duties assigned by the Fuel Team Coordinator or the Project Manager

Partnering agency representatives and private sector representatives:

Louisiana Department of Environmental Quality (LDEQ)

- Prepare RVP waiver requests on behalf of the State.
- See APPENDIX A

Louisiana Mid-Continent Oil and Gas Association (LMOGA)

- Coordinate refinery assets.
- Update current contact list for refineries used to facilitate discussions with EPA on waiver requests.
- SEE APPENDIX B

Louisiana Motor Transport Association, Inc. (LMTA)

- Prepare potential transportation exemptions
- Update contact information to access additional transportation assets
- Review and update credentialing procedures for transporters entering critical infrastructure.
- SEE APPENDIX C

Louisiana Oil Marketers & Convenience Store Association (LOMSCA)

- Coordinate with marketers, retailers and distributors for possible emergency activation scenario.

- Gather data and disseminate information to marketers and distributors and provide feedback to fuel team.

Louisiana Department of Natural Resources (LDNR) Public Communications

- Prepare and release press releases and updates to the public as requested according to emergency plan.
- Coordinate with GOHSEP communication efforts.
- SEE APPENDIX D

Contractors

- Fuel supply monitoring may be initiated in parishes throughout the state
 - Fuel supply monitoring may include as many or as few parishes as deemed necessary at that point in time. Parishes may be added or removed based on the storm scenario. GOHSEP, the Fuel Team Coordinator, or an authorized designee may add or remove and upgrade or downgrade parishes in the plan at any time.
 - Polling frequency may increase or decrease based on the threat and possible impacts as directed by GOHSEP, the Fuel Team Coordinator, or an authorized designee.
 - Survey questions based upon the individual scenario as directed by GOHSEP, the Fuel Team Coordinator, or an authorized designee.
 - Monitoring will occur through real-time data gathering and/or via phone survey.
 - Initially, the system will be used to verify fuel supplies
 - Monitoring will occur via:
 - real-time data gathering
 - automated phone survey
 - station representative reporting
 - Parish EOC reporting
 - Public input
 - Other
- Fuel Demand Model may be initiated for the state
 - Fuel Demand Model shall be completed with the most up-to-date storm track, predicted path, evacuation orders, contraflow information, etc.
 - Fuel Demand Model shall be run to calculate predicted volumes for traffic flow, fuel demand, and fuel availability for a five (5) day interval.
 - Fuel Demand Model results shall be uploaded as three (3) separate .csv files to <http://sonris-www.dnr.state.la.us/gis/fst/map/>
 - The initial Fuel Demand Model results shall be uploaded within ten (10) hours of meeting one or more initiation plan trigger. Updated Fuel Demand

Model results shall be provided a minimum of one (1) time per day for the duration of the event.

H-48 to 24 Hours to landfall

LDNR Fuel Team Members and Duties:

Fuel Team Coordinator and/or Project Manager

- Maintain regular communication with Fuel Team members to provide updates, obtain status reports, identify problems, and develop solutions.
- Notify designated public and private sector personnel on standby to report to the EOC or LA BEOC, as directed by GOHSEP.
- Conduct conference calls to obtain baseline and status updates from Fuel Team members. The initial conference call for each event shall be conducted as soon as practicable once the Fuel Team has been activated and/or activation status has been upgraded.
- Facilitate communication with LOMSCA, LMTA, LMOGA, public sector representatives, and additional personnel to identify problems and develop solutions.
- Verify emergency contact and back-up information.
- Obtain passwords to access systems/online systems, if available.
- Coordinate with law enforcement, GOHSEP, and other resources (as needed) to gather and disseminate time-critical information to the Fuel Team and ensure fuel team issues are addressed
- Coordinate with designated personnel to organize needs for Fuel Waivers, Supply and Terminals, Transporters, and Communications. Enact individual emergency plans.
- Coordinate with federal and state agencies to focus on waiver needs and identify areas that may need aid.
- Coordinate with contractors and provide instructions to complete the mission. Provide routine updates as the scenario changes.
- Continue to use the results from monitoring to identify fuel needs and coordinate with Louisiana Fuel Team members to meet evacuation needs and pre-event maintenance.

Operations Group

- Provide daily status updates to the Fuel Team Coordinator or his designee
- Print a hard copy, save a portable back-up electronic copy, and provide hard copies to the EOC contact of the most recent
 - online facility survey
 - most recent map of all stations, evacuation analysis and check all systems
 - online survey results
 - online facility surveys et al that have been completed up to this point.
- Provide as needed on-boarding training for personnel to the websites

- Analyze results from status updates, fuel modeling, and any additional information to assist in critical decision-making.
- Miscellaneous duties assigned by the Fuel Team Coordinator or the Project Manager

Information Technology and Geographical Analyst (ITGA) Team

- Save a portable back-up electronic copy of the most recent
 - online facility survey
 - map of all stations, evacuation analysis and check all systems
 - online survey results
- Ensure that all websites are functioning properly.
- Provide as needed updates to instructions for usage of the websites by various personnel
- Provide as needed on-boarding training for personnel to use the websites
- Act as an IT liaison for EOC. Provide continual updates to websites and route information. Provide deliverables as requested.
- Ensure that the most up-to-date version of instructions is available to personnel.
- Miscellaneous duties assigned by the Fuel Team Coordinator or the Project Manager

Partnering agency representatives and private sector representatives:

Louisiana Department of Environmental Quality (LDEQ)

- Prepare RVP waiver requests on behalf of the State.
- See APPENDIX A

Louisiana Mid-Continent Oil and Gas Association (LMOGA)

- Coordinate refinery assets.
- Update current contact list for refineries used to facilitate discussions with EPA on waiver requests.
- SEE APPENDIX B

Louisiana Motor Transport Association, Inc. (LMTA)

- Prepare potential transportation exemptions
- Update contact information to access additional transportation assets
- Continue to coordinate assets to provide necessary services when and where needed
- Facilitate credentialing needs for transporters entering critical infrastructure.

- SEE APPENDIX C

Louisiana Oil Marketers & Convenience Store Association (LOMSCA)

- Coordinate with marketers, retailers and distributors for emergency activation scenario
- Gather data and disseminate information to marketers, retailers and distributors and provide feedback to fuel team.

Louisiana Department of Natural Resources (LDNR) Public Communications

- Continue to prepare and release press releases and updates to the public as requested according to emergency plan.
- Coordinates with GOHSEP communication efforts.
- SEE APPENDIX D

Contractors

- Fuel supply monitoring may continue in parishes throughout the state
 - Fuel supply monitoring may include as many or as few parishes as deemed necessary at that point in time. Parishes may be added or removed based on the storm scenario. GOHSEP, the Fuel Team Coordinator, or an authorized designee may add or remove and upgrade or downgrade parishes in the plan at any time.
 - Polling frequency may increase or decrease based on the threat and possible impacts as directed by GOHSEP, the Fuel Team Coordinator, or an authorized designee.
 - Survey questions based upon the individual scenario as directed by GOHSEP, the Fuel Team Coordinator, or an authorized designee.
 - Monitoring will occur via:
 - real-time data gathering
 - automated phone survey
 - station representative reporting
 - Parish EOC reporting
 - Public input
 - Other
 - Monitoring will occur through real-time data gathering and/or via phone survey.
- Fuel Demand Model may continue for the state
 - Fuel Demand Model shall be completed with the most up-to-date storm track, predicted path, evacuation orders, contraflow information, etc.
 - Fuel Demand Model shall be run to calculate predicted volumes for traffic flow, fuel demand, and fuel availability for a five (5) day interval.

- Fuel Demand Model results shall be uploaded as three (3) separate .csv files to <http://sonris-www.dnr.state.la.us/gis/fst/map/>
- The initial Fuel Demand Model results shall be uploaded within ten (10) hours of meeting one or more initiation plan trigger. Updated Fuel Demand Model results shall be provided a minimum of one (1) time per day for the duration of the event.

H-24 to +24 Hours

LDNR Fuel Team Members and Duties:

Fuel Team Coordinator and/or Project Manager

- Continue to facilitate regular communication with Fuel Team members to provide updates, obtain status reports, identify problems, and develop solutions.
- Notify designated public and private sector personnel to report to the Emergency Operations Center as directed by GOHSEP.
- Coordinate with law enforcement and GOHSEP to gather and disseminate time-critical information to the Fuel Team and ensure fuel team issues are addressed
- Communicate with the Fuel Team members to determine if Fuel Waivers and/or Weight Exemption Waivers should be requested.
- Facilitate communication with federal and state agencies to issue and obtain requests for waivers, provide aid, post-event maintenance, and reconnaissance efforts – as needed.
- Analyze results from status updates, fuel modeling, and any additional information to assist in critical decision-making.

Operations Group

- Provide daily status updates to the Fuel Team Coordinator or his designee
- Print a hard copy, save a portable back-up electronic copy, and provide hard copies to the EOC contact of the most recent
 - online facility survey
 - map of all stations, evacuation analysis and check all systems
 - online survey results
 - online facility surveys et al that have been completed up to this point.
- Provide as needed on-boarding training for personnel to use the websites
- Provide regular (at least one time per 24 hour period) updates to websites. Provide deliverables as requested.
- Analyze results from status updates, fuel modeling, and any additional information to assist in critical decision-making.
- Act as a liaison to meet the needs and requests of the GOHSEP, Fuel Team Coordinator, and Project Manager. Provide continual updates to websites. Provide deliverables as requested.

- Miscellaneous duties assigned by the Fuel Team Coordinator or the Project Manager

Information Technology and Geographical Analyst (ITGA) Team

- Save a portable back-up electronic copy of the most recent
 - online facility survey
 - stations, evacuation analysis and check all systems
 - online survey results
- Maintain that websites are functioning properly, and uploading results from the automated surveys.
- Provide as needed updates to instructions for usage of the websites by various personnel
- Provide as needed on-boarding training for personnel to use the websites
- Provide regular (at least one time per 24 hour period) updates to websites. Provide deliverables as requested.
- Act as a liaison to meet the needs and requests of the GOHSEP, Fuel Team Coordinator, and Project Manager.
- Miscellaneous duties assigned by the Fuel Team Coordinator or the Project Manager

Partnering agency representatives and private sector representatives:

Louisiana Department of Environmental Quality (LDEQ)

- Prepare RVP waiver requests on behalf of the State.
- See APPENDIX A

Louisiana Mid-Continent Oil and Gas Association (LMOGA)

- Coordinate refinery assets.
- Provide updated contact list for refineries used to facilitate discussions with EPA on waiver requests.
- SEE APPENDIX B

Louisiana Motor Transport Association, Inc. (LMTA)

- Prepare and submit transportation exemption requests
- Continue to coordinate assets to provide necessary services when and where needed
- Provide access to additional transportation assets
- Facilitate credentialing procedures for transporters entering critical infrastructure.

- SEE APPENDIX C

Louisiana Oil Marketers & Convenience Store Association (LOMSCA)

- Coordinate with marketers, retailers and distributors to identify needs.
- Gather data and disseminate information to marketers, retailers and distributors and provide feedback to fuel team.

Louisiana Department of Natural Resources (LDNR) Public Communications

- Continue to prepare release press releases and updates to the public as requested according to emergency plan.
- Coordinate with GOSEP communication efforts.
- SEE APPENDIX D

Contractors

- Fuel supply monitoring may continue in parishes throughout the state
 - Fuel supply monitoring may include as many or as few parishes as deemed necessary at that point in time. Parishes may be added or removed based on the storm scenario. GOHSEP, the Fuel Team Coordinator, or an authorized designee may add or remove and upgrade or downgrade parishes in the plan at any time.
 - Polling frequency may increase or decrease based on the threat and impacts as directed by GOHSEP, the Fuel Team Coordinator, or an authorized designee.
 - Survey questions based upon the individual scenario as directed by GOHSEP, the Fuel Team Coordinator, or an authorized designee.
 - Monitoring will occur via:
 - real-time data gathering
 - automated phone survey
 - station representative reporting
 - Parish EOC reporting
 - Public input
 - Other
- Fuel Demand Model may continue for the state
 - Fuel Demand Model shall be completed with the most up-to-date storm track, predicted path, evacuation orders, contraflow information, etc.
 - Fuel Demand Model shall be run to calculate predicted volumes for traffic flow, fuel demand, and fuel availability for a five (5) day interval.
 - Fuel Demand Model results shall be uploaded as three (3) separate .csv files to <http://sonris-www.dnr.state.la.us/gis/fst/map/>

- The initial Fuel Demand Model results shall be uploaded within ten (10) hours of meeting one or more initiation plan trigger. Updated Fuel Demand Model results shall be provided a minimum of one (1) time per day for the duration of the event.

+24 Hours

LDNR Fuel Team Members and Duties:

Fuel Team Coordinator and/or Project Manager

- Continue to facilitate regular communication with Fuel Team members to provide updates, obtain status reports, identify problems, and develop solutions.
- Notify designated public and private sector personnel to report to the Emergency Operations Center as directed by GOHSEP.
- Coordinate with law enforcement and GOHSEP to gather and disseminate time-critical information to the Fuel Team and ensure fuel team issues are addressed
- Communicate with the Fuel Team members to determine if Fuel Waivers and/or Weight Exemption Waivers should be requested.
- Facilitate communication with federal and state agencies to issue and obtain requests for waivers, provide aid, post-event maintenance, and reconnaissance efforts – as needed.
- Analyze results from status updates, fuel modeling, and any additional information to assist in critical decision-making.

Operations Group

- Designated personnel report to EOC as needed.
- Analyze results from status updates, fuel modeling, and any additional information to assist in critical decision-making
- Act as a liaison to meet the needs and requests of the GOHSEP, Fuel Team Coordinator, and Project Manager.
- Provide as needed on-boarding training for personnel to use the websites
- Provide regular (at least one time per 24 hour period) updates to websites. Provide deliverables as requested.
- Miscellaneous duties assigned by the Fuel Team Coordinator or the Project Manager

Information Technology and Geographical Analyst (ITGA) Team

- Provide maintenance and technical support for Fuel Team websites
- Provide updates to instructions for usage of the websites by various personnel, as needed
- Provide on-boarding training for personnel to use the websites, as needed

- Provide regular (at least one time per 24 hour period) updates to websites. Provide deliverables as requested.
- Act as a liaison to meet the needs and requests of the GOHSEP, Fuel Team Coordinator, and Project Manager.
- Miscellaneous duties assigned by the Fuel Team Coordinator or the Project Manager

Partnering agency representatives and private sector representatives:

Louisiana Department of Environmental Quality (LDEQ)

- Prepare RVP waiver requests on behalf of the State.
- See APPENDIX A

Louisiana Mid-Continent Oil and Gas Association (LMOGA)

- Coordinate refinery assets
- Provide updated contact list for refineries used to facilitate discussions with EPA on waiver requests.
- SEE APPENDIX B

Louisiana Motor Transport Association, Inc. (LMTA)

- Prepare and submit transportation exemption requests
- Continue to coordinate assets to provide necessary services when and where needed
- Provide access to additional transportation assets
- Facilitate credentialing procedures for transporters entering critical infrastructure.
- SEE APPENDIX C

Louisiana Oil Marketers & Convenience Store Association (LOMSCA)

- Coordinate with marketers, retailers and distributors to identify needs
- Gather data and disseminate information to marketers, retailers and distributors and provide feedback to fuel team.

Louisiana Department of Natural Resources (LDNR) Public Communications

- Continue to prepare release press releases and updates to the public as requested according to emergency plan.
- SEE APPENDIX D

Contractors

- Fuel supply monitoring may continue in parishes throughout the state
 - Fuel supply monitoring may include as many or as few parishes as deemed necessary at that point in time. Parishes may be added or removed based on the storm scenario. GOHSEP, the Fuel Team Coordinator, or an authorized designee may add or remove and upgrade or downgrade parishes in the plan at any time.
 - Polling frequency may increase or decrease based on impacts as directed by GOHSEP, the Fuel Team Coordinator, or an authorized designee.
 - Survey questions based upon the individual scenario as directed by GOHSEP, the Fuel Team Coordinator, or an authorized designee.
 - Monitoring will occur via
 - real-time data gathering
 - automated phone survey
 - station representative reporting
 - Parish EOC reporting
 - Public input
 - Other
- Fuel Demand Model may continue for the state
 - Fuel Demand Model shall be completed with the most up-to-date storm track, predicted path, evacuation orders, contraflow information, etc.
 - Fuel Demand Model shall be run to calculate predicted volumes for traffic flow, fuel demand, and fuel availability for a five (5) day interval.
 - Fuel Demand Model results shall be uploaded as three (3) separate .csv files to <http://sonris-www.dnr.state.la.us/gis/fst/map/>
 - The initial Fuel Demand Model results shall be uploaded within ten (10) hours of meeting one or more initiation plan trigger. Updated Fuel Demand Model results shall be provided a minimum of one (1) time per day for the duration of the event.

VII. POST EVENT

- Fuel Team members shall be notified that the activation status has been downgraded to Stand Down at the discretion of the Fuel Team Coordinator or his designee.
- Fuel Team members, contractors; industry and refinery representatives; parish, state, and federal representatives; and other key personnel shall evaluate system efficiency and effectiveness and provide feedback on plan implementation.
- Revise and update playbook as necessary based on feedback.

APPENDIX A. Protocol for Managing Emergency Fuel Waivers

Purpose

This protocol addresses the sequencing and the processes necessary for the State to request and potentially receive emergency fuel waivers from the Environmental Protection Agency (EPA) during declared states of emergency.

Responsibilities

Department of Agriculture (LDAF) – Must grant waivers to state requirements for Reid Vapor Pressure (RVP).

Department of Environmental Quality (DEQ) – Develops RVP waiver requests on behalf of the State and submits them to EPA for consideration. Ensures that this protocol is reviewed and updated by June 1 of each year.

Louisiana Mid-Continent Oil and Gas Association (LMOGA) – Maintains a current list of refinery contacts that is used to facilitate discussions with EPA on waiver requests.

Louisiana Department of Natural Resources (DNR) – Responsible for coordination of overall fuel effort.

Refineries, Pipelines and Distributors - Present information relative to a distribution issue that is affecting fuel availability.

State Contacts

Office	Name	Job Title	Phone	Email
LDAF	Benjy Rayburn	Assistant Commissioner, Agro-Consumer Services	225-922-1341 Desk 225-324-5404 Cell	benjy_r@daf.state.la.us
	John Walther	ESF 11 Coordinator	225-922-2150 Desk 985-438-6111 Cell	john_w@daf.state.la.us
	Todd Thompson	Director of Weights and	225-925-3780 Desk	todd_t@daf.state.la.us

		Measures	225-505-0585 Cell	
	Marvin Montgomery	General Counsel	225-922-1250 Desk	marvin_m@ldaf.state.la.us
LDEQ	Cheryl Nolan	Assistant Secretary	225-219-3711 Desk	cheryl.nolan@la.gov
	Tim Knight	Administrator – DEQ Assessment	225-219-3717 Desk 225-200-7796 Cell	tim.knight@la.gov
	Paul D. Miller, PE	DEQ Special Assistant to the Secretary	225-219-3841 Desk	Paul.miller@la.gov
LDNR	Stephen Chustz	Assistant Secretary – Office of Coastal Resource Management	225-342-6940 Desk 223-938-4700 Cell	Stephen.chustz@la.gov
	Rizwan Ahmed	IT Director	225-342-1446 Desk	rizwanahmed@la.gov

Federal Contacts

Office	Name	Job Title	Phone	Email
US EPA Region 6	Sandra Rennie	AQ Planner	214-665-7367 Desk	Rennie.sandra@epa.gov
	Tom Diggs	Associate Director - Air	214-665-3102 Desk	diggs.thomas@epa.gov
EPA Headquarters – Air			202-564-2260	

Enforcement Division			
EPA Headquarters – Transportation and Regional Programs Division		734-214-4956	
EPA Emergency Operations Center		202-564-3850	

Refinery /Pipeline/Distributor Contacts

Office	Name	Job Title	Phone	Email
Louisiana Mid- Continent Oil and Gas Association	Richard Metcalf		225-387-3205	Metcalf@lmoga.com
LMOGA	Mike Lyons	General Counsel	225-387-3205 Desk	lyons@lmoga.com

Office	Name	Job Title	Job Title	Phone
Louisiana Oil Marketers & Convenience Store Association	Natalie Babin- Isaacks	Executive Director		225-926-8300 Natalie@lomcsa.com

LMOGA will maintain a listing of all other facility level emergency contacts.

Steps for Requesting Gasoline RVP Waivers

- 1) The President or the Governor must have declared an emergency before the process can officially begin.

- 2) DNR staff will provide updated copies of the protocol to team members
- 3) Documentation of an actual or impending shortage should be provided to DEQ
 - a. Refineries to present information relative to a refining capacity shortage
 - b. Pipeline Operators and/or fuel distributors present information relative to a distribution issue that is affecting fuel availability.
- 4) NOTES:
 - a. Waivers cannot be granted in advance in anticipation of a shortage; there must be an actual shortfall of compliant fuel
 - b. Local distribution issues are not grounds for a waiver request
 - c. Hospitals and emergency responders need to fuel early to avoid distribution issues
 - d. Price cannot be the basis for a waiver
 - e. There must be alternative supplies of fuel available for distribution in the affected area
- 5) DEQ develops the waiver request while working in conjunction with EPA (Region 6 and Headquarters) and on behalf of the Governor
 - a. Sample waiver request letter is included in this document
- 6) If EPA needs additional information, they will work with the Department of Energy (DOE) and will contact refineries individually for more information
 - a. There are federal antitrust rules that dictate which parties can engage in discussions
- 7) EPA and DOE jointly determine if the waiver request is justified
- 8) The EPA Administrator or designee will either issue a waiver or a denial
- 9) If a federal waiver is granted, LDAF will issue a waiver of their state requirements.
 - a. State waivers normally are granted through emergency rule.

Components of a Gasoline RVP Waiver Request

Refineries or distributors requesting a waiver to any fuel requirement should provide, to the greatest extent possible and as applicable, the following types of information in their request to LDEQ:

- Documentation of fuel shortages, including information relative to the geographic area of the shortage and the availability of fuel within that area. The area identified as experiencing the shortage should be specified as being either a national, geographic or local area. If this request is confined to a local area, the parish names should be included.
- Documentation from national agencies such as Department of Energy or Department of Commerce that corroborate the shortage concerns.
- A description of how granting the request to market a higher RVP as opposed to lower RVP fuel in Louisiana will alleviate supply issues.
- Identification of the geographic areas where the higher RVP fuel will be marketed and sold.
- A description of how and where the higher RVP fuel will be stored (i.e. types of tanks, specific locations, etc...).

- The anticipated start date of supplying this fuel in the event that a waiver is granted.
- The quantity of higher RVP fuel that is anticipated to be supplied within Louisiana during this period of the waiver request (by market if known or available).
- With regard to fuel refining, storage and handling, a detailed analysis of estimated emissions increases resulting from making the shift from lower to higher RVP fuel

Ethanol Blending Requirements

In certain cases, an EPA waiver may also be needed to address fuel blending requirements. Such a temporary request would seek to extend the 1.0 psi RVP allowance to gasolines containing 1-10% ethanol. Changes to the EPA National Renewable Fuel Standard for 2010 might have additional requirements.

Authorities

There is no limitation on who can request a waiver to fuel requirements. 42 USC 7545(c)(ii) provides the EPA administrator with the authority to “waive” fuel requirements established by 7545(c) [general fuel requirements], (h) [RVP requirements], (i) [sulfur content], (k) [Reformulated gasoline], (m) [oxygenated fuels], and any fuel requirement in a SIP provided the Administrator determines that:

- (I) extreme and unusual fuel or fuel additive supply circumstances exist in a State or region of the Nation which prevent the distribution of an adequate supply of the fuel or fuel additive to consumers;
- (II) such extreme and unusual fuel and fuel additive supply circumstances are the result of a natural disaster, an Act of God, a pipeline or refinery equipment failure, or another event that could not reasonably have been foreseen or prevented and not the lack of prudent planning on the part of the suppliers of the fuel or fuel additive to such State or region; and
- (III) it is in the public interest to grant the waiver (for example, when a waiver is necessary to meet projected temporary shortfalls in the supply of the fuel or fuel additive in a State or region of the Nation which cannot otherwise be compensated for).

Sample Gasoline Waiver Request Letter from LDEQ¹

Mr. Granta A. Nakayama
Assistant Administrator
Office of Enforcement and Compliance Assurance
US Environmental Protection Agency
1200 Pennsylvania Avenue, Northwest
Washington, DC 10460

RE: Request for Fuel Waiver Concerning Gasoline for Louisiana

Dear Mr. Nakayama:

As you already know, a tropical cyclone, "Gustav", is near the Gulf of Mexico and is projected to make landfall at/near the Louisiana coast as a category 3 hurricane. Voluntary and mandatory evacuations are beginning today in South Louisiana parishes. Certain areas, including critical evacuation routes, will experience a shortage of the 7.8 RVP gasoline. Because of difficulties associated with matching the correct RVP fuel with the correct parish, providing an adequate supply of gasoline to support evacuation, rescue, and recovery efforts will present extreme and unusual challenges as suppliers will struggle to provide an adequate quantity of fuel to those areas needing it most. As we have seen previously, in events such as Hurricane Katrina, successful evacuation is a matter of life and death.

On behalf of Governor Bobby Jindal and in consultation with United States Environmental Protection Agency Region 6 (EPA), the State of Louisiana respectfully requests temporary emergency relief from certain federal fuel requirements:

- 1) Waiver of RVP requirements: Louisiana has fuel requirements that differ from parish to parish creating a geographic complexity that presents unique fuel supply challenges during an event where evacuation is required.
 - Gasoline in certain areas of Louisiana, as designated in 40 CFR 80.27 and in the federally approved air quality State Implementation Plan, is required to have a Reid Vapor Pressure (RVP) of 7.8 pounds per square inch (psi) during the ozone season.
 - Other parishes (mostly northern parishes of the State) can have 9.0 psi RVP. It is expected that certain areas will experience a shortage of the 7.8 psi RVP gasoline.

¹THIS IS A SAMPLE LETTER FOR REFERENCE ONLY. DOCUMENTATION OF ACTUAL/IMPENDING FUEL SHORTAGE INFORMATION, CONTACT

NAMES, AND PHONE NUMBERS SHALL BE UPDATED FOR EACH REQUEST FOR FUEL WAIVER

EPA Fuel Waiver Request
August 29, 2008
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- In the evacuation for Gustav, certain areas including critical evacuation routes will experience a shortage of 7.8 RVP gasoline. Because of difficulties associated with matching the correct RVP fuel with the correct parish, Louisiana is requesting a temporary emergency waiver of the 7.8 psi RVP requirements effective immediately that will allow use of 9.0 psi fuel.

Fuel demand in certain portions of the metro New Orleans area is already up 250 percent based upon information we are receiving from some fuel marketers. In the month immediately following Katrina, statewide gasoline sales increased by 16% over August 2005. Voluntary and mandatory evacuations are beginning today in South Louisiana parishes. This will have an impact on the employee base for the refineries supplying fuel to the region. The resulting production decreases or facility shutdowns will impact the availability of fuel in much of the area expected to be impacted by the hurricanes. Again, a waiver of the 7.8 psi RVP requirements will allow use of 9.0 psi fuel, if necessary, to help ensure that an adequate fuel supply is in place.

During the evacuations in the pre-landfall of Katrina in 2005, panic began to set in within the 7.8 psi RVP fuel service area when an adequate supply of the proper fuel was not available. Based on our experience with Katrina, it is likely that most 9.0 psi RVP fuel that would be sold in the lower RVP area will be needed as part of the evacuation/rescue efforts and very little will be used to fuel vehicles that will remain in the area for normal use. Ultimately, we would expect to see minimal or no observable impact on local ozone levels as a result of using the higher RVP fuel in one of these designated areas. Again, approval of this request will allow 9.0 psi fuel to be sold for the duration of the waiver.

2) Waiver for Ethanol Blending Requirements

- Now that industry is blending ethanol into gasoline in many areas of Louisiana to comply with the 2007 Energy Independence and Security Act, we seek flexibility in ethanol blending related provisions. Louisiana is requesting temporary extension of the 1.0 psi RVP allowance to gasolines containing 1-10% ethanol (currently limited to 9%-10% only).

EPA Fuel Waiver Request
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We trust that you will respond favorably to our request to maintain an adequate supply of fuel during the evacuation and aftermath of the storm. Thank you for your consideration and attention in this matter. If you have any questions, please call me at 225 219-3950 or your staff may contact Michael Vince at 225 219-3482.

Sincerely,

Harold Leggett, Ph.D.
Secretary

c: Governor Bobby Jindal
Mayor Richard E. Greene, US EPA Region 6
Guy Donaldson, US EPA Region 6

Attachment A.1 - Gasoline Fuel Requirements

Summer Grade Fuel for High Ozone season: May 1 to September 15

7.8psi (for ozone non-attainment and maintenance parishes)

9.0psi (for ozone attainment parishes)

- For all regulated parties except retailers and wholesale purchaser-consumers, maximum standards generally take effect May 1.
- Standards for June 1 to September 15 are maximum standards for all regulated parties including retailers and wholesale purchaser-consumers, unless state has an extended summer season as part of the federally-approved SIP.
- Gasoline alcohol blends meeting requirements of 40 CFR 80.27(d) have 1.0 psi waiver of applicable RVP standard unless:
 - 1) the State has adopted and enforces a SIP-approved RVP standard which does not provide for the 1.0 psi;
 - 2) the State has received EPA approval to opt-out of the 1.0 psi waiver provision per Section 1501(c) of the Energy Policy Act of 2005 [Clean Air Act 211(h)(5), as amended]; or
 - 3) the State uses reformulated gasoline (RFG), which has a more stringent VOC performance standard. Additional information about RFG can be found at www.epa.gov/otaq/rfg.htm

EPA regulates summer grade fuel requirements. Requests for waivers from summer grade fuel requirements should be submitted to LDEQ. When warranted, LDEQ will prepare and submit waiver requests to the EPA. EPA Headquarters staff work with Department of Energy staff to evaluate and make determinations on these requests. They will communicate directly with refiners and other related parties to ensure that they have completely evaluated these requests before they make a decision. LDAF must also grant a waiver to state fuel requirements once EPA has issued their waiver.

Winter Grade Fuel:

Sold from September 16 to October 31	11.5psi	(All parishes)
Sold from November 1 to March 31	13.5psi	(All parishes)
Sold from April 1 to April 30	11.5psi	(All parishes)

The Louisiana Department of Agriculture (LDAF) regulates winter grade fuel Reid Vapor Pressure (RVP) requirements, therefore winter grade fuel waiver requests should be submitted to LDAF. LDEQ will work both EPA and LDAF in reviewing requests and granting fuel waivers.

Attachment A.2 – Understanding Diesel Fuel Requirements¹

U.S. Environmental Protection Agency (EPA) standards require a major reduction in the sulfur content of diesel fuels and emission levels from diesel engines and vehicles. To meet the EPA standards, the petroleum industry must produce Ultra Low Sulfur Diesel (ULSD) fuel, a cleaner-burning diesel fuel containing a maximum of 15 parts-per-million (ppm) sulfur to replace most Low Sulfur Diesel (LSD) fuel, which contains a maximum of 500 ppm sulfur.

By December 1, 2010, all highway and non road diesel fuel offered for sale must be ULSD fuel. Between 2006 and 2010, both ULSD fuel and Low Sulfur Diesel fuel will be available. Some retail outlets will sell ULSD fuel, others Low Sulfur Diesel fuel and some will sell both. By December 1, 2014, all locomotive and marine diesel fuel offered for sale must be ULSD.

ULSD fuel will burn cleaner in both existing diesel engines and in the new diesel engines and vehicles that will be equipped with advanced emissions control systems beginning with the 2007 model year. Because of this advanced technology, diesel-powered vehicles produced in the 2007 model year and later must use ULSD only.

ULSD requirements for non-road use (e.g., locomotives, boats and construction and farm vehicles) will be phased in on a slightly delayed timetable, except in California.

Both the IRS and the EPA use a red dye to designate different qualities of fuel. The IRS uses the red dye to identify diesel normally sold for uses exempt from excise tax, such as to farmers for farming or to local governments for buses. The EPA uses a red dye to designate high-sulfur, off-road diesel.

Not all diesel fuels have the same destination. Home heating oil is designated to be pumped into above-ground storage tanks and used as a source of heat. Diesel fuel for automobiles contains less sulfur than home heating oil, and is designed strictly for use in diesel engines. Automotive diesel fuel is also subject to taxes not levied on home heating oil. In order to tell the two fuels apart, a special red dye is added to home heating oil to create red diesel.

Red diesel fuel is only slightly different chemically from regular automotive diesel fuel, but there can be a significant difference in cost. The cheaper red diesel fuel could conceivably work in place of the more expensive automotive diesel fuel but that would defeat the purpose of the fuel tax. In order to ensure that home heating oil, which is minimally taxed and is not used as diesel vehicle or nonroad fuel, revenue agents require home heating oil to receive a special red dye, which contains the marker solvent yellow 124.

¹ NOTE: There is a reasonable expectation that diesel fuel requirement waivers will not be required under emergency evacuation or recovery events due to recent changes in fuel formulation and the methodology for applying red dye at the distribution racks. Information in this Appendix is included for historical reference only. In the event that a waiver to these requirements may become necessary, the procedures for gasoline waivers are appropriate.

APPENDIX B. Hurricane Fuel Logistics Advisory

From the *Louisiana Mid-Continent Oil and Gas Association (LMOGA)*

Background

With declaration of the beginning of official hurricane season on June 1, 2012, LMOGA would like to remind all petroleum refiners, marketers, distributors, trucking companies and other petrochemical interests of the steps that can be taken now to facilitate fuel logistics in the event of a storm in Louisiana or surrounding states. For your consideration, LMOGA suggests that early preparations and efforts to apply these practices, well in advance of any storm landfall, could make a significant difference in the effectiveness of fuel logistics should a storm disrupt supplies.

Early Preparation Steps

Based on input from LMOGA membership and difficulties that industry experienced in the aftermath of previous hurricanes, some useful early preparation steps would include:

- Determining what locations your firm desires to load fuel, including potential back-up locations
- Ensuring that a contract and associated financial credit guarantees have been established to pick up fuel loads at the selected locations
- Transmitting cumulative contractual volumes, and real-time status, to drivers, dispatchers, and supervisors to ensure clear fuel loading expectations (to remain within pre-arranged contract and credit limits)
- Understanding and complying with driver training that may be required for selected terminals and loading racks (before the storm)
- Utilizing trucks with appropriate safety equipment and loading configurations that meet selected terminal or loading rack requirements
- Informing any back-up drivers, or other personnel who may be involved in the post storm response, of all of the above

As you know, statistics from the National Hurricane Center indicate mid-August through mid-September have the highest historical frequency of hurricanes for the Gulf Coast. There is still sufficient time to plan for and apply the recommended practices for fuel logistics. To assist with applying these practices, LMOGA recommends that contact be made at the numbers provided below, to facilitate pre-storm planning.

Petroleum Industry Contacts:

Conoco/Phillips Lake Charles Refinery

Refinery Rack/ Terminal Contact: Matt Stevenson - (matt.j.stevenson@conocophillips.com)
Office: 337 882 1521 ext 10/ Cell: 509 714 5385

Calcasieu Refining Company

Contract volume and credit issues: Dennis Lawson (Mgr. of Oil Movements and Marketing) 337-480-6604 or Jody Plauche (Credit Analyst) 337-480-6622

Refinery Rack/ Terminal Contact: Guy Vick (OMS Supervisor) 337-480-6602

24 hour contact number: 337-478-2130

Motiva Enterprises/ Convent

Contract volume or credit issues: Joe Olmo (Commercial Fuels) Office: 713-241-5679/ Cell: 281-389-8828 or Don Hill (Retail Fuels) Office: 713-230-4308/ Cell: 360-433-8084

Refinery Rack/ Terminal Contact: Cliff Peloquin (Lead Terminal Operator) Office:225-562-7651/
Cell: 504-473-4060 (24/7)

Ralph Morse (Terminal Operator) Office: 225-562-7652/ Cell: 504-231-6780 (24/7)

George Orlando (Complex Superintendent) Office: 504-728-8581/ Cell: 504-416-4690
(24/7)

Jun Dufresne (Complex Manager) Office: 504-728-7892/ Cell: 504-415-3553 (24/7)

Convent Refinery Shift Superintendent/ Production Team Supervisor Cell: 225-562-6244

Refinery or Terminal Truck Requirements:

Drivers are to be trained by drivers that are currently carded and trained to load at the Convent Terminal. All trailers must be equipped with the intele-trol identification chip in order to receive permissive to load. All trailer must have proper testing and up to date documentation for VIKP. All trailers must be inspected by the Terminal Operators prior to being entered into TMS in order to load.

Refinery Rack/ Terminal Driver Training Requirements:

All drivers must watch a LSR video training film prior to the start of training. All drivers must then make 5 training loads with a carded driver, then be watched by a Terminal Operator on the 6th load in order to be carded and released to load on his/her own. All drivers must ad here to the Motiva PPE policy as outlined in the Driver loading procedures, which are issued to all drivers when the LSR video is reviewed. PPE consist of long sleeves and pants, safety shoes, (No Tennis Shoes), Hardhat and safety glasses with side shields, and all cell phones and radio's must be turned off before entering the terminal.

Calumet Shreveport Fuels LLC

Contract Volume or credit issues: Dennis Marple 713-419-9098 dmarple@shawus.com

Refinery Rack or Terminal Contact: Donna Emfinger 318-632-4198
donnae@calumetspecialty.com

Marathon Petroleum Company LLC

Contract volume or allocation (existing customers): Primary – www.mpconestop.com (password protected) Alternate – Jen Golub (Wholesale Marketing Territory Manager) Cell:813-205-5174

Credit issues: Primary – John Locker (Credit Manager) Office: 678-474-1226 Alternate – Jen Golub (Wholesale Marketing Territory Manager) Cell:813-205-5174

Refinery Rack or Terminal Contact: Primary - Garyville Terminal Manager – Office: 985-535-2018 Fax:985-535-2017 Alternate – 1-877-627-5463 (MAPLINE) Ask to be connected to the Garyville Terminal Manager

Placid Refining Company LLC

All issues contact: Suzanne Lewis (Marketing Department) 225-346-7450

For further information, please contact LMOGA at 225-387-3205.

APPENDIX C. Fuel Transportation in Emergency Events

Cathy Gautreaux – Executive Director LMTA

Goal: Transportation exemptions will be needed to ensure availability of fuel for an orderly and efficient evacuation and following the aftermath of a hurricane so the public will be able to acquire essential services; to establish a formal process to get assets when and where needed; to provide additional transportation assets and; pursue options for statewide credentialing for transporters entering critical infrastructure.

D1. Vehicle Size & Weight Exemptions. In order to transport the greatest amount of supplies quickly and efficiently, the state and federal government issue limited truck exemptions for commercial motor vehicles responding to a disaster.

State. To compliment the Gubernatorial Declaration of an Emergency (Attachment 1), the Governor's Office routinely issues an Emergency Order granting certain size, weight, permit, fuel and registration exemptions for trucks involved in the relief effort (Attachment 2 and 3). The increased weight limits allow fuel trucks to transport greater amounts of fuel per trip and thereby reduce the overall number of truckloads necessary to satisfy the demand for the fuel. NOTE: There is legislation pending that will allow the Louisiana Department of Transportation & Development to issue the size and weight emergency exemptions.

Federal. When the President issues a Declaration of Emergency, the Emergency Order automatically triggers the temporary suspension of certain Federal safety regulations, including Hours of Service, for motor carriers and drivers engaged in specific aspects of the emergency relief effort. [49 CFR 390.23] The Federal Motor Carrier Safety Administration (FMSCA) can also declare that a regional emergency exists in portions of the Southern Region in the highway transportation of certain petroleum products and ingredients. Motor carriers and drivers transporting gasoline, diesel fuel, jet fuel, propane, natural gas/CNG, and ethanol to address emergency needs arising from a disaster (such as fuel supply shortages) would be exempt from 49 CFR Parts 390-399 for 14 days. No other products are covered by this special exemption (Attachment 4).

Foreign Carrier Certification. In order to satisfy the needs of the public in response to a disaster, it is often necessary to utilize motor carriers that are domiciled in other states to assist in the delivery of fuel in the state. Since these motor carriers do not usually do business with oil refineries in Louisiana, we need to develop a process to expedite the certification of foreign carriers and the issuance of credentials to their drivers that will enable them to load fuel at the racks. The refineries can also provide personnel stationed at the rack to assist in the loading of fuel.

Fuel Rack/Transporter Coordination. In order to expedite the delivery of fuel we must eliminate unnecessary trips to the fuel rack that result in no fuel being loaded into a truck. It is therefore critical to establish a process to 1) notify motor carriers and customers of refinery status changes, 2) confirm the allocation status of specific suppliers and 3) to notify the transporter of the allocation status prior to arrival at the fuel rack. It is also important to establish a process for immediate notification of road closures and highway detours directly to motor carriers and/or the DNR Fuel Coordination Team

Credentials/Re-entry. As a result of our experience in hurricane Katrina, the state implemented a plan that established uniform criteria to allow re-entry of essential personnel and

critical infrastructure owners, operators, subcontractors and other personnel into a disaster area. Several local jurisdictions in the New Orleans area have created their own re-entry credentialing program.

We need to verify a credentialing process that will allow fuel transporters to deliver fuel in disaster areas so that there would be no confusion and/or delay at the various points of entry. Expediting access for commercial motor vehicles transporting fuel to the disaster area without compromising safety is the primary objective. There is also a need to determine the credentials needed for support personnel.

Curfews. In the immediate aftermath of the disaster, it is imperative that fuel transporters be allowed to load and unload fuel after government-imposed curfews are in effect to avoid interaction with emotionally charged crowds and to protect the truck drivers and equipment. In some instances, it may be necessary for local officials to provide law enforcement escorts for fuel trucks.

NOTE: A Fuel Workshop to include members of private industry and public agencies is planned to discuss and resolve fuel chain issues. The date of this workshop has not yet been set. A FINAL draft of this document will be provided after the workshop.

Attachment C.1

State of Louisiana

EXECUTIVE DEPARTMENT

PROCLAMATION NO. 51 BJ 2008

STATE OF EMERGENCY - HURRICANE GUSTAV

- WHEREAS, the Louisiana Homeland Security and Emergency Assistance and Disaster Act, R.S. 29:721, *et seq.*, confers upon the Governor of the state of Louisiana emergency powers to deal with emergencies and disasters, including those caused by fire, flood, earthquake or other natural or man-made causes, in order to ensure that preparations of this state will be adequate to deal with such emergencies or disasters and to preserve the lives and property of the people of the state of Louisiana;
- WHEREAS, when the Governor determines that a disaster or emergency has occurred, or the threat thereof is imminent, R.S. 29:724(B)(1) empowers him to declare a state of emergency by executive order or proclamation, or both;
- WHEREAS, Hurricane Gustav is expected to impact the coastal parishes of Louisiana with hurricane strength winds, wave surges, high tides, torrential rain and tornado activity. The storm is expected to make landfall on the Louisiana coast on or about September 1, 2008, with the expectation that hurricane force winds will reach the Louisiana coast prior to landfall;
- WHEREAS, the forecast from the National Weather Service indicates that the coastal parishes of Louisiana will be subjected to hurricane conditions to such a degree that life and property will be placed in jeopardy;
- WHEREAS, the coastal parishes of Louisiana are expected to issue parish declarations of emergency; and
- WHEREAS, a declaration of emergency is necessary to allow state agencies to thoroughly prepare for any eventuality and to allow federal agencies and federal resources to be deployed if necessary;
- NOW THEREFORE I, BOBBY JINDAL, Governor of the state of Louisiana, by virtue of the authority vested by the Constitution and laws of the state of Louisiana, do hereby order and direct as follows:
- SECTION 1: Pursuant to the Louisiana Homeland Security and Emergency Assistance and Disaster Act, R.S. 29:721, *et seq.*, a state of emergency is declared to exist in the state of Louisiana as a result of forecasted hurricane activity which has created emergency conditions that threaten the lives and property of the citizens of the state.
- SECTION 2: The Director of the Governor's Office of Homeland Security and Emergency Preparedness is hereby authorized to undertake any activity authorized by law which he deems necessary and appropriate in response to this declaration;
- SECTION 3: The state of emergency extends from August 27, 2008 through September 26, 2008, unless terminated sooner.



IN WITNESS WHEREOF, I have set my hand officially and caused to be affixed the Great Seal of Louisiana, at the Capitol, in the city of Baton Rouge, on this 27th day of August, 2008.

S/ Bobby Jindal
GOVERNOR OF LOUISIANA

ATTEST BY
THE GOVERNOR

S/ Jay Dardenne
SECRETARY OF STATE

State of Louisiana



EXECUTIVE DEPARTMENT

EXECUTIVE ORDER NO. BJ 2008-78

DOTD GUIDELINES FOR VEHICLES, TRUCKS AND LOADS

- WHEREAS, the Louisiana Homeland Security and Emergency Assistance and Disaster Act, R.S. 29:721, *et seq.*, confers upon the governor of the state of Louisiana emergency powers to deal with emergencies and disasters, including those caused by fire, flood, earthquake or other natural or man-made causes, to ensure that preparations of this state will be adequate to deal with such emergencies or disasters, and to preserve the lives and property of the citizens of the state of Louisiana;
- WHEREAS, pursuant to Proclamation No. 51 BJ 2008, a state of emergency was declared and is currently in effect and as a result has requested the assistance of other states;
- WHEREAS, the safety and welfare of the inhabitants of the affected areas of Louisiana and surrounding states, require that the movements of operators of commercial motor carriers traveling on the public highways of the state of Louisiana for the purpose of emergency preparedness and disaster relief efforts be expedited;
- NOW THEREFORE, I, BOBBY JINDAL, Governor of the state of Louisiana, by virtue of the authority vested by the Constitution and the laws of the state of Louisiana, do hereby order and direct as follows:
- SECTION 1: The following size and weight for vehicles on roadways maintained by the state of Louisiana shall not exceed the following limitations:
- A. Maximum gross vehicle weight for vehicles equipped with five (5) or more weight-bearing axles with outer bridge spans of not less than forty (40) feet, but less than fifty-one (51) feet, shall not exceed ninety thousand (90,000) pounds. No single axle vehicle shall exceed twenty thousand (20,000) pounds in weight. No group of two (2) axles vehicles shall exceed forty thousand (40,000) pounds in weight. No group of three (3) axles vehicles shall exceed forty-eight thousand (48,000) pounds in weight except with a permit issued by the Louisiana Department of Transportation and Development (hereafter "Department");
 - B. Maximum gross vehicle weight for vehicles equipped with five (5) or more weight-bearing axles with outer bridge spans of not less than fifty-one (51) feet shall not exceed ninety-five thousand (95,000) pounds. No single axle vehicle shall exceed twenty thousand (20,000) pounds in weight. No group of two (2) axles vehicles shall exceed forty thousand (40,000) pounds in weight. No group of three (3) axles vehicles shall exceed forty-eight thousand (48,000) pounds in weight, except with a permit issued by the Department;
 - C. Maximum gross vehicle weight for vehicles equipped with four (4) weight-bearing axles with outer bridge spans of not less than forty-three (43) feet shall not exceed eighty thousand (80,000) pounds. No single axle vehicle shall exceed twenty thousand (20,000) pounds in weight. No group of two (2) axles vehicles shall exceed forty thousand (40,000) pounds in weight. No group of three (3) axles vehicles shall exceed forty-eight thousand (48,000) pounds in weight, except with a permit issued by the Department.

- D. Maximum dimensions shall not exceed fourteen (14) feet wide, fourteen (14) feet high, and ninety-five (95) feet long on Interstate highways and fourteen (14) feet wide, thirteen (13) feet six (6) inches high, and ninety-five (95) feet long on non-Interstate highways. Carriers, owners, and/or drivers of any vehicle being operated under this Order are responsible for verifying in advance that the actual dimensions and weight of the vehicle/load are acceptable for all routes being traveled. This includes, but is not limited to, areas deemed by Federal, state, or local officials as inaccessible due to damages caused by Hurricane Katrina, overhead structures and/or construction areas; and
- E. Any vehicle greater than eight (8) feet six (6) inches wide and less than or equal to fourteen (14) feet wide may travel during daylight hours only, beginning thirty (30) minutes before sunrise and ending thirty (30) minutes after sunset.

SECTION 2: The commercial vehicle regulatory requirements regarding the purchase of trip permits for registration and fuel for commercial motor carriers engaged in disaster relief efforts in the state of Louisiana shall be waived. This permit waiver also applies to such vehicles/loads with weights and dimensions not exceeding those described in Section 1(A) through (D) above. However, such permits must be obtained from the Louisiana Department and Transportation and Development for vehicles exceeding those weights.

SECTION 3: Nothing in this Order shall be construed to allow any vehicle to exceed weight limits posted for bridges and like structures, or relieve any vehicle or carrier, owner or driver of any vehicle from compliance with any restrictions other than those specified, or from any statute, rule, order, or other legal requirement not specifically waived herein.

SECTION 4: Nothing in this Order shall be construed or interpreted as being applicable to travel on non-state maintained highways, or as being applicable to construction and building projects that are not in support of Hurricane Katrina recovery and repair efforts.

SECTION 5: This Order is effective upon signature and shall apply unless amended, modified, terminated, or rescinded by the governor, or terminated by operation of law.



IN WITNESS WHEREOF, I have set my hand officially and caused to be affixed the Great Seal of Louisiana, at the Capitol, in the city of Baton Rouge, on this 29th day of August, 2008.

/S/ Bobby Jindal
GOVERNOR OF LOUISIANA

ATTEST BY
THE GOVERNOR

/S/ Jay Dardenne
SECRETARY OF STATE

Attachment C.3

EXECUTIVE ORDER NO. BJ 2008- _____

DOTD GUIDELINES FOR VEHICLES, TRUCKS & LOADS

AMENDS BJ 2008-78

WHEREAS, the Louisiana Homeland Security and Emergency Assistance and Disaster Act, R.S. 29:721, et seq., confers upon the governor of the state of Louisiana emergency powers to deal with emergencies and disasters, including those caused by fire, flood, earthquake or other natural or man-made causes, to ensure that preparations of this state will be adequate to deal with such emergencies or disasters, and to preserve the lives and property of the citizens of the state of Louisiana;

WHEREAS, pursuant to Proclamation No. 51 BJ 2008, a state of emergency was declared and is currently in effect and as a result Louisiana has requested the assistance of other states;

WHEREAS, the safety and welfare of the inhabitants of the affected areas of Louisiana and surrounding states require that the movements of operators of commercial motor carriers traveling on the public highways of the state of Louisiana for the purpose of emergency preparedness and disaster relief efforts be expedited;

NOW THEREFORE, I, BOBBY JINDAL, Governor of the state of Louisiana, by virtue of the authority vested by the Constitution and the laws of the state of Louisiana, do hereby order and direct as follows:

SECTION 1: The following sizes and weights for vehicles on roadways maintained by the state of Louisiana shall not exceed the following limitations:

A. For vehicles transporting green goods debris (trees and limbs, etc.), white goods debris (appliances, etc.), and construction goods debris (fence materials, roof repair debris, etc.), the maximum gross vehicle weight for vehicles equipped with five (5) or more weight-bearing axles with outer bridge spans of not less than forty (40) feet, but less than fifty-one (51) feet, shall not exceed ninety thousand (90,000) pounds. No single axle carrying such loads shall exceed twenty thousand (20,000) pounds. No group of two (2) axles carrying such loads shall exceed forty thousand (40,000) pounds. No group of three (3) axles carrying such loads shall exceed forty-eight thousand (48,000) pounds, except with a permit issued by the Louisiana Department of Transportation and Development (hereinafter "Department");

B. For vehicles transporting green goods debris (trees and limbs, etc.), white goods debris (appliances, etc.) and construction goods debris (fence materials, roof repair debris, etc.), the maximum gross vehicle weight for vehicles equipped with five (5) or more weight-bearing axles with outer bridge spans of not less than fifty-one (51) feet shall not exceed ninety-five thousand (95,000) pounds. No single axle carrying such loads shall exceed twenty thousand

(20,000) pounds. No group of two (2) axles carrying such loads shall exceed forty thousand (40,000) pounds. No group of three (3) axles carrying such loads shall exceed forty-eight thousand (48,000) pounds, except with a permit issued by the Department.

C. For vehicles transporting green goods debris (trees and limbs, etc.), white goods debris (appliances etc.), and construction goods debris (fence materials, roof repair debris, etc.), the maximum gross vehicle weight for vehicles equipped with four (4) weight-bearing axles with outer bridge spans of not less than forty-three (43) feet shall not exceed eighty thousand (80,000) pounds. No single axle carrying such loads shall exceed twenty thousand (20,000) pounds. No group of two (2) axles carrying such loads shall exceed forty thousand (40,000) pounds. No group of three (3) axles carrying such loads shall exceed forty-eight thousand (48,000) pounds, except with a permit issued by the Department.

D. For vehicles transporting green goods debris (trees and limbs, etc.), white goods debris (appliances etc.), and construction goods debris (fence materials, roof repair debris, etc.), the maximum dimensions shall not exceed fourteen (14) feet wide, fourteen (14) feet high, and ninety-five (95) feet long on Interstate highways and fourteen (14) feet wide, thirteen feet and 6 inches (13', 6") high, and ninety-five (95) feet long on non-Interstate highways.

E. Carriers, owners and/or drivers of any vehicle being operated under this Order are responsible for verifying in advance that the actual dimensions and weights of the vehicles and loads are acceptable for all routes being traveled. This includes, but is not limited to, areas deemed by Federal, state or local officials as inaccessible due to damages caused by Hurricanes Gustav and/or Ike, overhead structures and/or construction areas; and

F. Any manufactured home owned by FEMA or any vehicle which is considered a hurricane disaster relief load and which measures more than eight feet six inches (8' 6") wide and less than fourteen (14) feet wide may travel during daylight hours only, beginning at sunrise and ending at sunset. All such vehicles must travel with the required signs and flags indicating that they are oversize loads. All such vehicles which measure over twelve (12) feet wide must travel with a certified escort.

SECTION 2. The commercial vehicle regulatory requirements regarding the purchase of trip permits for registration and fuel for commercial motor carriers engaged in disaster relief efforts in the state of Louisiana shall be waived. This permit waiver also applies to such vehicles/loads with the types of loads and the weights and dimensions not exceeding those described in Section 1(A) through (D) above. However such permits must be obtained from the Department for vehicles exceeding those weights.

SECTION 3. Nothing in this Order shall be construed to allow any vehicle to exceed weight limits posted for bridges and similar structures, or relieve any vehicle or carrier, owner or driver of any vehicle from compliance with any restrictions other than those specified, or from any statute, rule, order or other legal requirement not specifically waived herein.

SECTION 4. Nothing in this Order shall be construed or interpreted as being applicable to travel on non-state maintained highways, or as being applicable to construction and building projects that are not in support of Hurricanes Gustav and/or Ike recovery and repair efforts.

SECTION 5. This Order specifically supersedes Executive Order No. BJ 2008-78. This Order is effective upon signature and shall apply unless amended, modified, terminated or rescinded by the governor, or terminated by operation of law until November 07, 2008.

IN WITNESS WHEREOF, I have set my hand
officially and caused to be affixed the Great Seal
of Louisiana, at the Capitol, in the city of Baton
Rouge, on this _____ day of _____,
2008.

GOVERNOR OF LOUISIANA

ATTEST BY THE
GOVERNOR

SECRETARY OF STATE

Attachment C.4



US Department
Of Transportation
Federal Motor Carrier
Safety Administration

Southern Service Center
1800 Century Blvd., Suite 1700
Atlanta, Georgia 30345

In Reply Refer To: MC-EFE-SV

September 13, 2008

Hurricanes Gustav and Ike have interrupted off-shore oil and gas production in the Gulf of Mexico; shut down or reduced production by many of the refineries and pipelines along the Gulf Coast; and damaged storage facilities and transportation infrastructure throughout the region. The aftermath of the hurricanes affects the whole nation.

In order to prevent significant disruptions to the nation's transportation system, supplies of gasoline, diesel fuel, jet fuel, propane, natural gas/CNG, and ethanol will need to be distributed by commercial motor vehicles in order to meet demand normally supplied by Gulf Coast operations.

DECLARATION OF REGIONAL EMERGENCY 49 CFR §390.23

I am therefore declaring that a regional emergency exists in portions of the Southern Region in the highway transportation of certain petroleum products and ingredients. Motor carriers and drivers transporting gasoline, diesel fuel, jet fuel, propane, natural gas/CNG, and ethanol to address emergency needs arising from the hurricane disaster (such as fuel supply shortages) are exempt from 49 CFR Parts 390-399 from 4:00 p.m. EDT, September 13, 2008 until 11:59 p.m. EDT, September 27, 2008. No other products are covered by the exemption. Motor carriers and drivers transporting these products to and from the affected States within the Southern Region in order to meet emergency needs are also exempt from 49 CFR Parts 390-399 for any portion of the trip that occurs outside the affected States within the Southern Region.

Nothing contained in this declaration shall be construed as an exemption from the controlled substances and alcohol use and testing requirements (49 CFR Part 382), the commercial driver's license requirements (49 CFR Part 383), the financial responsibility (insurance) requirements (49 CFR Part 387), operating authority (49 CFR Part 365), applicable size and weight requirements, or any other portion of the regulations not specifically identified.

Motor carriers or drivers currently subject to an out-of-service order are not eligible for the exemption until the order expires or they have met the conditions for its rescission.

Drivers for motor carriers operating under this declaration must have a copy of it in their possession.

The State(s) affected in the Southern Region include(s) the following: Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Texas.

Signed,

Darrell L. Ruban
Field Administrator

APPENDIX D. FUEL TEAM PUBLIC COMMUNICATIONS PLAN

This plan was drafted in anticipation of future hurricanes, based on the experiences in the state during 2008 in hurricanes Gustav and Ike, as well as building on lessons learned from the storms of prior years.

During the state's efforts to get information out to the public in 2008, public information professionals with the state found several avenues effective in getting information quickly out to the public.

- Releases sent through the Joint Information Center to the media made their way quickly to the public through the media- usually almost as a straight read-through or reprint of what was originally released.
- Information provided to Governor's office for Governor's regular briefings was often picked up and repeated.
- The emergency.louisiana.gov site was an asset that was well-used by the public in their search for needed information preparing for the incoming storm and returning after the storm passed.

The plan for communicating with the public on when and where to fuel up vehicles and equipment for future storms is based on those known successes.

June 1 release

Consideration should be given to sending out a release with the beginning of hurricane season each year, encouraging citizens and businesses to begin planning for potential fuel needs in the event of an approaching hurricane. The release can be sent out through normal media channels, stressing the importance of planning, recommending that homeowners consider a plan for a measured effort to secure fuel ahead of time – such as keeping vehicles at least half full. These efforts shall include informing the public about the public websites to input and obtain station information. The Fuel Team may also recommend that residents purchase fuel in non-peak times, such as the evening hours.

Initial release – H-120

The first pre-storm release should go out at about H-120 (approx. 120 hours or 5 days prior to expected first effects of storm on state). At this time, the Joint Information Center will be assembling and planning for actions such as contraflow is becoming firmer.

First release (example below) will urge residents to responsibly begin fueling vehicles and generators, This release will also inform citizens on where to find information on fuel stations and the status of the station (open ,closed, unknown). (To be coordinated with real-time fuel reporting team). This release will also remind the public about station and fuel availability information that may be obtained from the public website.

Release should also be passed on to the Governor's Office communication team for inclusion in Governor's message when storm briefings begin.

Release will also be posted on emergency.louisiana.gov web site.

H-96 to H-30

The next releases should be more focused on directing citizens on where to look for information on fuel stations and supplies in the time from the initial release to the setting of contraflow at H-30. Recommend updating citizens on stations that are running low or out of fuel at an interval where information has substantially changed since the last information release (possibly more often if can be done efficiently, this may depend on many variables once storm preparations actually begin.) Recommend reminding citizens about station and fuel availability information that may be obtained from the public website. This can be function of DNR representative at JIC or ESF team to pass through to JIC. If contraflow is not to be set, then release can be updated every six hours through JIC and public web site for fuel information.

H-30 to Landfall

Releases should be targeted to radio and TV stations to advise people beginning contraflow evacuation where they can find fuel if needed, as radio and portable television likely to be best way of reaching people on the road. Continue efforts to inform citizens about the availability of information on the internet. If contraflow is not to be set, evacuees will still need the information. Recommend updating stations running out or low on fuel as often as possible, and stations on main routes that have fuel as much as is practicable.

After landfall

Releases tailored to people returning to their home areas should go out with first lifting of evacuation orders. (Example below). This release should direct citizens to state government's web posting of fuel stations that have fuel and power in the most heavily affected areas. Listings, where possible, should also be provided to media to pass on to viewers and listeners, as long as the number of stations on the list is manageable. Encourage public participation in gathering and retrieving information regarding station information on the public website.

Joint Information Center presence

Some thought should also be given to making a change in the staffing of the Joint Information Center. If the proposals for public communications on the fuel issue are adopted, it is recommended that a presence in the JIC (either from DNR if it is designated the lead agency on this issue, or shared between responsible state agencies) be required during JIC operations, as

keeping the public up to date on fuel concerns before and after the storms could, in stretches, rival the need for information on more traditional JIC representative agencies such as DHH, DOTD and DSS. Would help with “push” portion of information flow to have someone familiar with the fuel issue on station.

Attachment D.1 DRAFT PRE-STORM FUELING STATEMENT

JOINT INFORMATION CENTER

News Desk #: (225) 358-5361

FEMA News Desk #: 225.376.5000

FOR IMMEDIATE RELEASE

September XX, 2009

Department of Natural Resources News Update

DNR Secretary advises residents to begin fuel planning

BATON ROUGE -Louisiana Department of Natural Resources Secretary Scott Angelle is advising state residents to begin planning for fuel needs as Hurricane XXX nears the Gulf of Mexico and a possible Gulf Coast landfall.

The precise location and timing of the potential landfall, as well the future intensity of the storm, are uncertain, but Angelle recommends that residents make sure they have enough fuel to either evacuate if the need arises, or keep generators and vehicles running in the event of power outages in homes or gas stations.

"We should prepare in the same responsible manner that we have in recent storms," Angelle said.

Gov. Bobby Jindal and Secretary Angelle have planned ahead in preparation for the storm in working with the oil and gas industry and the federal government to keep adequate fuel supplies coming for state gas stations to operate, as well as securing generators to keep gas stations open in areas without power.

Louisiana residents should be able to calmly and responsibly get the fuel they need in the next few days, and avoid a sudden rush as a potential landfall nears.

For the latest on Hurricane XXXX, you can visit emergency.louisiana.gov or call the state's emergency hotline at 1-866-288-2484 to listen to a recorded message with the most up-to-date information. Links to additional station information can be found at www.emergency.louisiana.gov.

Attachment D.2 DRAFT STATEMENT TO FOLLOW INITIAL RELEASE

JOINT INFORMATION CENTER

News Desk #: (225) 358-5361

FEMA News Desk #: 225.376.5000

FOR IMMEDIATE RELEASE

September XX, 2009

Department of Natural Resources News Update

BATON ROUGE – Gov. Bobby Jindal and Louisiana Department of Natural Resources Secretary Scott Angelle are advising state residents go to www.emergency.louisiana.gov for updates on fuel availability as Hurricane XXX nears landfall.

The site has the most up-to-date information on the fuel status of gas stations areas being evacuated and potentially to be impacted by the oncoming storm.

For the latest on Hurricane XXXX, you can visit emergency.louisiana.gov or call the state's emergency hotline at 1-866-288-2484 to listen to a recorded message with the most up-to-date information.

Attachment D.3 DRAFT RELEASE FOR AFTER-STORM RETURN

JOINT INFORMATION CENTER

News Desk #: (225) 358-5361

FEMA News Desk #: 225.376.5000

FOR IMMEDIATE RELEASE

September XX, 2009

Department of Natural Resources News Update

BATON ROUGE –Gov. Bobby Jindal and Louisiana Department of Natural Resources Secretary Scott Angelle are advising state residents to begin planning for fuel needs as they prepare to return to evacuated areas of the state.

Gov. Jindal and Secretary Angelle have moved quickly after Hurricane XXX in working with the oil and gas industry and the federal government to keep adequate fuel supplies coming for state gas stations to operate, as well as securing generators to keep gas stations open in areas without power.

More gas stations are reopening each day as power is restored to storm-affected areas, and the steps taken by state government have kept fuel flowing into the state. Louisiana residents should be able to calmly and responsibly get the fuel they need in preparing to return home and begin repair and recovery.

For the latest on Hurricane XXXX, you can visit www.emergency.louisiana.gov or call the state's emergency hotline at 1-866-288-2484 to listen to a recorded message with the most up-to-date information.

APPENDIX E. PUBLIC INPUT WEBSITE INFORMATION

ATTACHMENT E.1 Instructions for Use of DNR Google Maps API Web Site for Providing Public Information on Gasoline Stations Selling Fuel

DNR DISCLAIMER: The information on this Web site has been carefully prepared from the best available sources of data. It is intended for general informational purposes only and should not be considered authoritative for navigational, engineering, other site-specific uses, or any other uses. The Louisiana Department of Natural Resources (DNR) does not warrant or guarantee its accuracy, nor does DNR assume any responsibility or liability for any reliance thereon.

General Information: The Louisiana Department of Natural Resources IT GIS Unit is providing IT support for the Louisiana Fuel Supply Team and has created this web site for use by the public for determining which gas stations are selling fuel.

Information on DNR “Active Gas Station” data: The DNR IT GIS Unit combined selected data from the Louisiana Department of Agriculture Weights and Measures “Active Gas Stations” data set with the Louisiana Department of Environmental Quality Underground Storage Tank (UST) data set. Gas station location coordinates have been generated from addresses in a number of ways: geocoding with Yahoo or other Internet geocoding services, GPS coordinates from DEQ UST database, and contacting stations to find their location on maps or aerial photographs and using GIS to generate coordinates.

URL: http://sonris-www.dnr.state.la.us/fuel_stations/mapstations.jsp (Also available from Governor’s Emergency Web Site)

Instructions:

1. Open web site.
2. Center area of interest on monitor using Direction Arrows at top left of map or mouse operated pan tool (hold left mouse button down while moving mouse to move map) or type in a location name (parish, city, street, intersection) into the Google Search box.
3. Zoom in to view stations using mouse wheel or use the Zoom tool at the top left of the map under the Direction Arrows (+ zoom in, - zoom out). Stations selling gasoline or diesel are represented by green gas can icons. Those with no gasoline or diesel are represented by red icons. Stations with an unknown status are represented by black icons. See legend at bottom right of map.

4. Select Fuel Type (Gas or Diesel) at bottom of map. Gas can icons represent gas or diesel.
5. Use Station Locale selection to select All (all stations in area) or Near Evacuation Routes (1/2 mile from official evacuation routes).
6. Use the List Stations button to display a list of all stations in the map view.
7. Selections of Map, Satellite Imagery, or Hybrid (Satellite and Map combined) can be made at top right of map.
8. To get information on stations, click on station and an information window will open. The name, address, phone number, and city of the station are in the information window along with the "selling gas or diesel" information (Y=yes, N=no, U=unknown). Also, in the window, the View button will take you to Street View which shows photographs of the area of the station. A user can rotate the street view to search for the station if it is not readily apparent.
Street View Notes: 1. In rural Louisiana, Street View may not be available. 2. Due to inaccuracies in geocoding (automated process to assign map coordinate to address), some stations may not be visible in the Street View. This is most prevalent in rural Louisiana.

Version 5/30/2012

ATTACHMENT E. 2 Instructions for Use of DNR Google Maps API Web Site for Providing Public Information and Collecting Data on Gasoline Stations Selling Fuel

DNR DISCLAIMER: The information on this Web site has been carefully prepared from the best available sources of data. It is intended for general informational purposes only and should not be considered authoritative for navigational, engineering, other site-specific uses, or any other uses. The Louisiana Department of Natural Resources (DNR) does not warrant or guarantee its accuracy, nor does DNR assume any responsibility or liability for any reliance thereon.

General Information: The Louisiana Department of Natural Resources IT GIS Unit is providing IT support for the Louisiana Fuel Supply Team and has created this web site for use by the public for determining which gas stations in the project area (see below) are open or closed and for entering data on open or closed gas stations.

Information on DNR "Active Gas Station" data: The DNR IT GIS Unit combined selected data from the Louisiana Department of Agriculture Weights and Measures "Active Gas Stations" data set with the Louisiana Department of Environmental Quality Underground Storage Tank (UST) data set. Gas station location coordinates have been generated from addresses in a number of ways: geocoding with Yahoo or other Internet geocoding services, GPS coordinates from DEQ UST database, and contacting stations to find their location on maps or aerial photographs and using GIS to generate coordinates.

URL: http://sonris-www.dnr.state.la.us/fuel_stations/mapstations_public_edit.jsp (Also available from Governor's Emergency Web Site)

Instructions:

1. Open web site.
2. Center area of interest on monitor using Direction Arrows at top left of map or mouse operated pan tool (hold left mouse button down while moving mouse to move map) or type in a location name (parish, city, street, intersection) into the Google Search box.
3. Zoom in to view stations using mouse wheel or use the Zoom tool at the top left of the map under the Direction Arrows (+ zoom in, - zoom out). Stations selling gasoline or diesel are represented by green gas can icons. Those with no gasoline or diesel are represented by red icons. Unknown stations are represented by black icons. See legend at bottom right of map.
4. Select Fuel Type (Gas or Diesel) at bottom of map. Gas can icons will represent gas or diesel.
5. Use Station Locale selection to select All (all stations in area) or Near Evacuation Routes (1/2 mile from official evacuation routes).
6. Selections of Map, Satellite Imagery, or Hybrid (Satellite and Map combined) can be made at top right of map.

7. To get information on stations, click on station and an information window will open. The name, address, phone number, and city of the station is in the information window along with the open/closed and selling gas and/or diesel information. Also, in the window, the View button will take you to Street View which shows photographs of the area of the station. A user can rotate the street view to search for the station if it is not readily apparent.
Street View Notes: 1. In rural Louisiana, Street View may not be available. 2. Due to inaccuracies in geocoding (automated process to assign map coordinate to address), some stations may not be visible in the Street View. This is most prevalent in rural Louisiana.
8. To report station as open/closed selling gas and/or diesel, select a status from the three dropdown boxes. Comments can be added in the large box. Click Submit button to submit the new data. Close the Station Information Window and the status of the station will change on the map.

Version 5/12/2012

APPENDIX F. PARISH EOC WEBSITE INFORMATION

ATTACHMENT F.1 Instructions for Use of DNR SONRIS Interactive Maps Web Site for Export of Gasoline Station Data for Interactive Voice Response Surveys

DNR DISCLAIMER: The information on this Web site has been carefully prepared from the best available sources of data. It is intended for general informational purposes only and should not be considered authoritative for navigational, engineering, other site-specific uses, or any other uses. The Louisiana Department of Natural Resources (DNR) does not warrant or guarantee its accuracy, nor does DNR assume any responsibility or liability for any reliance thereon.

General Information: The Louisiana Department of Natural Resources IT GIS Unit is providing IT support for the Louisiana Fuel Supply Team. This web site is for use by the Fuel Supply Team DNR staff manning the Emergency Operations Center (EOC) during hurricane evacuation and re-entry. These instructions are for a DNR SONRIS Interactive Maps web site with a custom GIS tool for sending lists of gas stations to the Interactive Voice Response (IVR) consultant for getting telephone data input from gas stations from a list of questions supplied by the DNR staff.

Information on DNR "Active Gas Station" data: The DNR IT GIS Unit combined selected data from the Louisiana Department of Agriculture Weights and Measures "Active Gas Stations" data set with the Louisiana Department of Environmental Quality Underground Storage Tank (UST) data set. Gas station location coordinates have been generated from addresses in a number of ways: geocoding with Yahoo or other Internet geocoding services, GPS coordinates from DEQ UST database, and contacting stations to find their location on maps or aerial photographs and using GIS to generate coordinates.

URL: <http://sonris-www.dnr.state.la.us/gis/dps/viewer.htm>

This site has limited access. It requires user name and password to access site and gas station survey user name and password to access IVR function.

Instructions:

1. Open web site. General instructions for the use of DNR's SONRIS Interactive Maps are in the Tutorial accessible by clicking the button at the bottom of the map. The following instructions are for the customized "gas station selection for IVR" function.
2. Click on the Gas Station Tool (yellow gas pump) on the GIS tool bar. The Selection Window will open and the Fuel Station group will expand giving the

options to select ALL or Primary Sites (Stations south of US-190 and stations within half-mile of an evacuation route north of US-190). Gas stations symbols (green for open, red for closed, black for unknown station status) will appear on the map. There are three selections (Parish, Evacuation Routes, Instructions) and four function buttons (Display Stations, Clear Last Selection, Clear All Selections, Export to IVR). Instructions for use of each button will appear if the cursor is held over the radio buttons or square buttons. The Selection Window can be moved so it does not cover an important part of the map.

3. To select project gas stations by parish, select Parish in the Selection window then click on any number of parishes on the map. (Clicking the Parish or the evacuation route on the map will bring up a "Loading Data" popup. Please wait till the popup disappears before clicking another parish or evacuation route). Parishes will be highlighted in yellow.
4. Click the Display Gas Stations button in the Selection Window. The Gas Station Information Window will open showing the summary information (Total Stations, Open, Closed, Unknown, Open-Gas, Open-Diesel, Open-Both, Open-No Fuel, Open-Unknown Fuel) for the selected parish stations based on your drop down selection choice (ALL or Primary Sites) from the evacuation gas stations within the Fuel Station group. To see details of each category, click on the blue number links. Select the parishes by clicking the box next to the parish name for which you want the summary printed. To print the summary, click the Print Summary button. The print format of the report will appear on the web site and the report will be printed. To print the details (list of all stations in order of status), select the parishes by checking the boxes, and click the Print Details button.
5. Click Export to IVR button to open the IVR Questions Window. Check the box next to a question to select that question. Questions should be selected in order of the way in which the DNR staff wants the IVR questions answered. List the questions in the order they should be answered from the most simple to the most complicated to collect as much information as possible before hang ups. The question priority will be listed in the Question Priority column. The next time the IVR Question Window is opened, it will show the last choice of questions sent to the IVR consultant and the date/time for the last IVR output.
6. Click Include All Stations button to get all selected stations in IVR list. Click Exclude Stations with Recent Status Update to exclude stations which have submitted information since the last IVR call out via the Google Maps API Station Web Site.
7. To send the list of stations to be telephoned and the selected questions, click the Submit to IVR button. Note: An e-mail and/or cell phone text message will be sent to the DNR staff on the emailing/text messaging list and IVR consultant staff containing the link to the web site for uploading and downloading the IVR requests and responses and notifying them the data has been sent from the EOC. Once the IVR response data has been sent back to the EOC, another e-mail and/or cell phone text message will be sent to all participants on the email/text messaging list notifying them of the action.
8. The Submit to IVR button will then be disabled until DNR receives and processes the response from the IVR consultants. E-mail will be sent to all staff members

on the e-mailing list. Once the response is received and processed, the Submit to IVR button will be enabled and another IVR data request can be sent.

9. To select project stations within one-half mile of evacuation routes, select Evacuation Routes in the Selection Window. Use the Zoom Tool on the GIS toolbar to zoom into the area of interest.
10. To select evacuation routes, click on a route segment. **DO NOT CLICK ON THE RED SEGMENTS** as these route segments have multiple highway designations and may select evacuation routes not wanted. From this point on, all functions are the same as the parish selection.

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ATTACHMENT F.2 Instructions for Use of DNR Google Maps API Web Site for Collecting Data on Open and Closed Gasoline Stations from the Parish EOCs

DNR DISCLAIMER: The information on this Web site has been carefully prepared from the best available sources of data. It is intended for general informational purposes only and should not be considered authoritative for navigational, engineering, other site-specific uses, or any other uses. The Louisiana Department of Natural Resources (DNR) does not warrant or guarantee its accuracy, nor does DNR assume any responsibility or liability for any reliance thereon.

General Information: The Louisiana Department of Natural Resources IT GIS Unit is providing IT support for the Louisiana Fuel Supply Team and has created this web site for use by the parish Emergency Operations Center staff for entering data on open or closed gasoline stations.

Information on DNR "Active Gas Station" data: The DNR IT GIS Unit combined selected data from the Louisiana Department of Agriculture Weights and Measures "Active Gas Stations" data set with the Louisiana Department of Environmental Quality Underground Storage Tank (UST) data set. Gas station location coordinates have been generated from addresses in a number of ways: geocoding with Yahoo or other Internet geocoding services, GPS coordinates from DEQ UST database, and contacting stations to find their location on maps or aerial photographs and using GIS to generate coordinates.

URL: http://sonris-www.dnr.state.la.us/fuel_stations/mapstations_parish.jsp

This site is for use by parish EOCs only. It requires a user name and password.

Instructions:

1. Open web site.
2. Center area of interest on monitor using Direction Arrows at top left of map or mouse operated pan tool (hold left mouse button down while moving mouse to move map) or type in a location name (parish, city, street, intersection) into the Google Search box.
3. Zoom in to view stations using mouse wheel or use the Zoom tool at the top left of the map under the Direction Arrows (+ zoom in, - zoom out). Open gasoline stations are represented by green gas can icons. Closed stations are represented by red icons. Unknown stations are represented by black icons. See legend at bottom right of map.
4. Selections of Map, Satellite Imagery, or Hybrid (Satellite and Map combined) can be made at top right of map.
5. To get information on stations, click on station and an information window will open. The name, address, phone number, and city of the station are in the

information window along with the open/closed information. Also, in the window, the View button will take you to Street View which shows photographs of the area of the station. A user can rotate the street view to search for the station if it is not readily apparent.

Street View Notes: 1. In rural Louisiana, Street View may not be available. 2. Due to inaccuracies in geocoding (automated process to assign map coordinate to address), some stations may not be visible in the Street View. This is most prevalent in rural Louisiana.

6. To report Open/Closed status of stations, select a parish from drop down list in Only Show Stations In box. The map will zoom to the area of the parish and the gas stations will be viewable. Click List Stations in Parish button to get list of stations in each parish. A list will open having the AI number, Name, Address, City, and Status of the stations. Select Open, Closed, or Unknown status in last column. Close column and refresh site to see changed statuses.

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ATTACHMENT F.3 Instructions for Use of Gas Station Status Reset Web Site

DNR DISCLAIMER: The information on this Web site has been carefully prepared from the best available sources of data. It is intended for general informational purposes only and should not be considered authoritative for navigational, engineering, other site-specific uses, or any other uses. The Louisiana Department of Natural Resources (DNR) does not warrant or guarantee its accuracy, nor does DNR assume any responsibility or liability for any reliance thereon.

General Information: The Louisiana Department of Natural Resources IT GIS Unit is providing IT support for the Louisiana Fuel Supply Team and has created this web site for use by the DNR staff to reset the status of all stations in a parish after evacuation or in case of major hurricane damage to the parish. Statuses can be set to Open, Closed, or Unknown. After evacuation of a parish or major damage, the DNR staff may want to set the status of all stations to unknown until other information is available. Input from the GIS web sites and IVR phone calls will update this status automatically.

Information on DNR “Active Gas Station” data: The DNR IT GIS Unit combined selected data from the Louisiana Department of Agriculture Weights and Measures “Active Gas Stations” data set with the Louisiana Department of Environmental Quality Underground Storage Tank (UST) data set. Gas station location coordinates have been generated from addresses in a number of ways: geocoding with Yahoo or other Internet geocoding services, GPS coordinates from DEQ UST database, and contacting stations to find their location on maps or aerial photographs and using GIS to generate coordinates.

URL: http://sonris-www.dnr.state.la.us/fuel_stations/parish_reset.jsp

This site is for use by DNR EOC staff only.

Instructions:

1. Open the web site.
2. Choose a status from Open, Closed, or Unknown.
3. Check the boxes next to the parishes for which you wish to change the status.
4. Click the Submit button.
5. If necessary, choose another status and follow the same procedure.

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APPENDIX G. STATION OWNER/ REPRESENTATIVE WEBSITE INFORMATION

ATTACHMENT G.1 Instructions for Use of DNR Google Maps API Web Site for Collecting Data from Gasoline Station Owners and Fuel Distributors

DNR DISCLAIMER: The information on this Web site has been carefully prepared from the best available sources of data. It is intended for general informational purposes only and should not be considered authoritative for navigational, engineering, other site-specific uses, or any other uses. The Louisiana Department of Natural Resources (DNR) does not warrant or guarantee its accuracy, nor does DNR assume any responsibility or liability for any reliance thereon.

General Information: The Louisiana Department of Natural Resources IT GIS Unit is providing IT support for the Louisiana Fuel Supply Team and has created this web site for collecting data from gasoline station owners and fuel distributors.

Information on DNR “Active Gas Station” data: The DNR IT GIS Unit combined selected data from the Louisiana Department of Agriculture Weights and Measures “Active Gas Stations” data set with the Louisiana Department of Environmental Quality Underground Storage Tank (UST) data set. Gas station location coordinates have been generated from addresses in a number of ways: geocoding with Yahoo or other Internet geocoding services, GPS coordinates from DEQ UST database, and contacting stations to find their location on maps or aerial photographs and using GIS to generate coordinates.

URL: http://sonris-www.dnr.state.la.us/fuel_stations/mapstations_station.jsp

This site is for use by gas station owners and distributors only. To input data into the DNR system, station owners or distributors must enter their station AI number in the Station Information Window.

Instructions:

1. Open web site.
2. Center area of interest on monitor using Direction Arrows at top left of map or mouse operated pan tool (hold left mouse button down while moving mouse to move map) or type in a location name (parish, city, street, intersection) into the Google Search box.
3. Zoom in to view stations using mouse wheel or use the Zoom tool at the top left of the map under the Direction Arrows (+ zoom in, - zoom out). Stations selling gasoline are represented by green gas can icons. Those with no gasoline are

represented by red icons. Unknown stations are represented by black icons. See legend at bottom right of map.

4. Selections of Map, Satellite Imagery, or Hybrid (Satellite and Map combined) can be made at top right of map.
5. To input information on stations, click on station and an information window will open. The name, address, phone number, and city of the station are in the information window along with a list of questions with answers to select in a drop down format. Also, in the window, the View button will take you to Street View which shows photographs of the area of the station. A user can rotate the street view to search for the station if it is not readily apparent.
Street View Notes: 1. In rural Louisiana, Street View may not be available. 2. Due to inaccuracies in geocoding (automated process to assign map coordinate to address), some stations may not be visible in the Street View. This is most prevalent in rural Louisiana.
6. To change the Selling Fuel Status of stations, select a status in each drop down box. Comments can be added in the large box. Enter the AI number of the station, then click the Submit button to send data to the DNR database.

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