

OFFICE OF ELECTRICITY DELIVERY AND ENERGY RELIABILITY (OE)
U.S. DEPARTMENT OF ENERGY
Gulf Coast Hurricanes¹ Situation Report #4
September 27, 2005 (3:00 PM EDT)

HIGHLIGHTS

- Currently, 1,588,461 customers are without electric power in Texas, Louisiana, Arkansas, and Mississippi. This includes new customer outages due to Hurricane Rita as well as outages remaining from Hurricane Katrina.
- DOE is part of a "Tiger Team" that has been established in Texas to address electricity problems, particularly in the eastern part of the State. DOE is sending additional electric energy experts to the Austin Joint Federal Office to support this effort.
- DOE ESF-12 in Texas has leveraged FEMA influence in an attempt to ensure diesel fuel supplies to an Alabama manufacturer of pressure treated utility poles to support restoration in Texas.
- DOE ESF-12 staff report that the Trinity River Water plant has restored 4 out of the 5 pumping stations at the facility. The plant supplies water to Houston and the Houston refineries.
- Shell Oil Company and Motiva Enterprises LLC are reporting that over 60 percent of Shell-branded stations in the Houston area now have gasoline.
- ExxonMobil reports that 48 stations opened yesterday in Houston and along key routes.
- According to Kinder Morgan, the company's liquids terminals on the Houston Ship Channel have resumed operations. Power was restored to the Pasadena and Galena Park terminals Saturday night, at which time the company reenergized the facilities. Outbound pipeline deliveries began Sunday afternoon and the facilities are now available for normal operations.
- El Paso, which operates 77 platforms in the Gulf of Mexico, reports that all of its platforms in the Eastern Gulf are now manned and have power restored. Production should resume soon.
- DOE staff have been at the National Response Coordination Center (NRCC) at FEMA HQ, the Interagency Incident Management Team at HQ and the State Emergency Operation Center (EOC) in Louisiana for several weeks. Three staff are in Austin, TX, and additional staff are on the way.

OIL AND GAS INFORMATION

- MMS reports today that as a result of damage from Hurricane Katrina and precautionary actions in advance of Hurricane Rita, shut-in oil production in the Gulf is currently at 1,512,937 barrels of oil per day. The shut-in oil production is equivalent to 100 percent of the normal daily oil production in the Gulf, which is currently approximately 1.5 million

barrels of oil per day. Shut-in gas production is at 7.856 billion cubic feet per day. This shut-in gas production is equivalent to 78.56 percent of the normal daily gas production in the Gulf, which is currently approximately 10 billion cubic feet per day. These evacuations are equivalent to 83.39 percent of 819 manned platforms and 64.93 percent of 134 rigs currently operating in the Gulf.

▪ **Gulf of Mexico (GOM) Shut-in Oil and Gas**

Date	Percent of GOM Oil Shut-in	Percent of GOM Gas Shut-in
August 30	95.20	87.99
August 31	91.45	83.46
September 1	90.43	78.66
September 2	88.53	72.48
September 3	78.98	57.80
September 4	No data reported	No data reported
September 5	69.57	54.13
September 6	58.02	41.06
September 7	57.37	40.36
September 8	60.12	40.20
September 9	59.88	38.29
September 10	59.84	38.21
September 11	No data reported	No data reported
September 12	57.38	37.84
September 13	56.45	37.20
September 14	56.25	35.18
September 15	56.14	34.11
September 16	56.06	33.84
September 19	55.84	33.75
September 20	58.49	34.82
September 21	73.16	47.13
September 22	91.93	65.95
September 23	99.13	72.04
September 24	100	74.88
September 25	100	80.47
September 26	100	78.43
September 27	100	78.56

- The following tables highlight the current shut downs by major energy facilities in the path of Hurricane Rita:

OIL OPERATIONS IN THE PATH OF HURRICANE RITA

9/27/05

Refineries

Company	Location	Capacity (B/D)	Status
PORT ARTHUR/ LAKE CHARLES			
Citgo	Lake Charles, LA	324,300	Shut down; minor damaged reported- no restart due to power loss
ConocoPhillips	West Lake, LA	239,400	Shut down – wind damage and no power

Company	Location	Capacity (B/D)	Status
Calcasieu	Lake Charles, LA	30,000	Shut down – assessment being made
ExxonMobil	Beaumont, TX	348,500	Shut down – assessment being made, no power
Shell (Motiva)	Port Arthur, TX	285,000	Shut down; minor damage to cooling tower and power lines
Total	Port Arthur, TX	233,500	Shut down
Valero (Premcor)	Port Arthur, TX	255,000	Shut down; "significant damage" to two cooling towers and a flare stack. 2 weeks – 1 month to repair & restart refinery.
Total		1,715,700	Shutdown - 1,715,700
HOUSTON/TEXAS CITY			
Shell Deer Park	Deer Park, TX	333,700	Attempting to restart
Lydonell Citgo	Houston, TX	270,200	Restarting
Astra Oil (Crown Central)	Pasadena, TX	100,000	Restarting
Valero	Houston, TX	83,000	Restarting
ExxonMobil	Baytown, TX	557,000	Restarting; delivering gasoline from terminals
BP	Texas City, TX	437,000	Shut down – evaluation of start up continues
Valero	Texas City, TX	209,950	Attempting to restart
Marathon	Texas City, TX	72,000	Restarting
ConocoPhillips	Sweeny, TX	229,000	Restarting – full rate by Thursday
Total		2,291,850	Shut down - 980,650
CORPUS CHRISTI			
Flint Hills Resources	Corpus Christi, TX	288,126	OK
Citgo	Corpus Christi, TX	156,000	OK
Valero	Corpus Christi, TX	142,000	OK
Trigeant (asphalt)	Corpus Christi, TX	30,000	OK
Valero	Three Rivers, TX	90,000	OK
Total		706,126	
OTHER			
Valero	Lima, OH	158,400	Full rate
Valero	Memphis, TN	180,000	Full rate
Total		338,400	
TOTAL OF ALL AREAS (does not include Midwest refineries)		4,713,676	Total Shutdown – 2,696,350
Four refineries (3 in LA and 1 in MS) from Hurricane Katrina remain shut down – 879,000 barrels per day		879,000	Total including Katrina – 3,575,350

Sources: Confirmed by company or on company web site. Various trade press sources.

Several pipelines shut down their systems as a result of Hurricane Rita. The primary reason for the service disruption was the evacuation of personnel and lack of product to transport as refineries in the Texas and Louisiana Gulf Coast area closed. Oil pipeline operators are in the process of getting personnel back to facilities to assess the situation. Once on site, personnel will perform safety inspections to determine if any physical damage has occurred. If no damage is detected, the primary requirement to resume normal operations will be reliable access to the electric grid and access to product to transport.

Pipelines/Ports

Company	Locations	Status
CRUDE PIPELINES		
Seaway Crude Pipeline	4 lines from Texas Gulf to Cushing, OK	Operating
Capline	St. James, LA, to Patoka, IL	Operating at 80 percent of capacity
Sun Pipeline	Nederland, TX, terminal	Shutdown; performing assessment
PRODUCT PIPELINES		
Dixie (propane)	Mt. Belvieu, TX, to NC/GA	Operating
Cypress (ethane)	Mont Belvieu, TX, to Lake Charles, LA	104-mile pipeline was temporarily shut down and is ready to resume operations once supply is available and the customer is back online.
Explorer	LA to OH	Placed in limited service yesterday from the company's Pasadena and Houston, TX, facilities, which provide two-thirds of the company's normal volumes. The company's origin facilities at Lake Charles, La., and at Port Arthur, TX, are not yet ready to resume operations.
Colonial	Houston, TX	The pipeline system is operating at 55 percent of its normal, mainline operational capacity from Houston. Colonial plans to increase its capacity to 72 percent by the end of today. Colonial anticipates full operating capacity later this week.
Longhorn	Houston west to NM/AZ Galena Park terminal (Houston)	Partially shut down – update not available Shut down -- update not available
Centennial System	Beaumont, TX, to Creal Springs, IL.	Shut down – no commercial power, assessment continues
Magellan Pipeline	TX/OK	Operational, portions closed- update not available

Company	Locations	Status
Plantation	Baton Rouge, LA to Washington, DC	Operating
TEPPCO	Beaumont, TX to NY	Operating at 45 percent capacity
PORTS		
Louisiana Offshore Oil Port (LOOP)	LA	Operating at 100 percent
Port of Houston	Houston, TX	Open – daylight hours only – 40 ft draft
Port of Freeport	Freeport, TX	Open – no restrictions.
Port Arthur	Port Arthur, TX	Closed
Port of Corpus Christi	Corpus Christi, TX	Open
Mississippi River		Reopened – see note below

Sources: Confirmed by company, company web site, or trade associations. Various trade press source

- The U.S. Coast Guard reports that the Calcasieu, Neches and Sabine Rivers are open to tug and barge traffic, daylight transit only, with the exception of the Calcasieu River to Cameron.
- The Captain of the Port of New Orleans re-opened the Inner Harbor Navigation Canal (IHNC) on the Gulf Intra Coastal Waterway (GICW) yesterday. The Lower Mississippi River above mile marker 0.0 has also been re-opened. One area is still marked as a safety zone on the Lower Mississippi and all deep draft vessels transiting within this safety zone are restricted to daylight hour only transits. The entire Port Allen Route, Baptiste Collette, and Red River are opened. The GICW is opened from mile marker 20 eastward and from mile marker 65 (west of Houma) to mile marker 115 (just west of North Bend). The Atchafalaya River is opened from mile marker 115 south to the mouth of the river. The following waterways remain closed: the GICW from mile marker 20 west of Harvey Locks to mile marker 65 and mile marker 115 to mile marker 177. The Atchafalaya River remains closed from mile marker 115 north.
- According to Duke Energy Field Services (DEFS), their Spindletop storage facility, Port Arthur, and Brookeland natural gas processing plants, and the CIPCO pipeline sustained minor damage and will be able to return to operating mode in the near future (date not provided). DEFS is unable to assess its Beaumont natural gas facility at this time. Natural gas facilities that remain shut-in for lack of supplies include Fullerton, Artesia, Pecos Diamond, Minden, George Gray and Mobile Bay, as well as the Black Lake pipeline.
- Duke Energy Gas Transmission reports that shut-in facilities are coming back on line. In addition, the following compressor stations were reported to be back on line by the end yesterday: Charco, Thomaston, Blessing, Mt. Belvieu, and Opelousas. Both Egan and Moss Bluff storage facilities were also reported operational as of yesterday.
- Since most Gulf Coast gas production and natural gas processing is shutdown in preparation of Hurricane Rita, most natural gas pipelines in the affected areas are running with losses of supply going into their systems. See updates below.

On-Shore and Off-Shore Pipelines with Reported Supply Issues	Status
ANR	20 percent of capacity with reduced supply
Chevron	Western LA facilities shut-in
Columbia Gulf Transmission	Loss of supply
Comstock Offshore	Shut-in since Sept 20
Duke Energy Field Services including CIPCO, Seabreeze and Black Lake	CIPCO has minor damage and Black Lake remains shut-in due to lack of supplies; note that most of company's natural gas assets are in Oklahoma and West TX and are not adversely affected.
Duke Energy Gas Transmission	The Texas Eastern pipeline is in balance and holding pressure. Most compressor stations and storage facilities affected by Rita are back on-line. The Gulfstream natural gas system is operational.
Enbridge Inc.'s Offshore System, which includes Garden Banks, Manta Ray, Nautilus, Stingray, and MS Canyon	No nominations until further notice
Gulf South – Lake Charles	Loss of supply
Kinder Morgan	Force Majeure continues on Border, Texas, North Texas, and Tejas pipelines; Natural Gas Pipeline Company of America operating although one compressor station out.
Sabine	Loss of supply
Southern Union's (Panhandle Energy) Trunkline and Sea Robin	Trunkline's Terrebonne System is accepting nominations for gas on starting today Sept 27. Some receipt and delivery points are not available. Trunkline LNG, in Lake Charles, LA, remains shut down Sea Robin is not accepting nominations
Tennessee Gas	20 percent of capacity with reduced supply
Transcontinental Gas	Loss of supply in LA
Williams – station # 44 Johnson Bayou	Unable to get to facility
Florida Gas Transmission	Some compressor stations down- no impact on operations

(Sources: Company web sites, and DOT, September 27)

ELECTRICITY INFORMATION

STATE OUTAGE DATA

Utility	Customers w/o Power	% Customers w/o Power
Arkansas	2,976	N/A
Louisiana	1,037,888	26%
Mississippi	2,127	N/A
Texas	545,470	5.4%

- Louisiana data is reported by the Louisiana Public Service Commission as of 9/27 1:00 AM and their percentage outage numbers are used in calculating the percentage of total outage.

- Arkansas and Mississippi outages are for Entergy customers only as of 9/26 8:00 PM.

- Texas data is from the TX Utility Commission 9/27 5:45 AM. Percent customers w/o power are based on EIA estimate of 10.1 million electricity customers in Texas.

STATE REPORTS

Texas

- In Texas there are currently 545,470 customers without power, according to the Texas PUC. This is down from a high of 1,122,892.

Texas Outage Data by Utilities with Significant Outages

UTILITY	OUTAGES
CenterPoint	118,150
Entergy Gulf States	267,661
TXU	50,000
Sam Houston Coop	53,800
Mid-South Synergy	25,165
Deep East Texas Electric Coop, Inc	20,000
SWEPCO	6,650
Upshur Rural Electric Coop	1,844
Cherokee County Electric Coop Association	1,500
TOTAL FOR STATE	545,470

Texas Outage Data by Counties with Significant Outages

COUNTY	OUTAGES
Brazoria	18,925
Chambers	6,259
Fort Bend	5,345
Galveston	22,109
Gregg	3,252
Grimes	6,804
Hardin	18,159
Harris	115,155
Jefferson	107,711
Liberty	21,103
Madison	2,012
Montgomery	64,084
Orange	36,461
Panola	2,400
Polk	1,057
Trinity	1,219
Tyler	6,656
Walker	13,487

- Entergy's bulk transmission in east Texas has had severe damage including 500-kV lines with damaged structures. Restoration of electricity to essential services will be made after transmission system repairs are made.
- Entergy's transmission system has extensive damage. At 8:00 PM 9/26/05, it reported at least 288 lines and 283 substations out of service. Both wooden and steel structures are damaged and key transmission lines are out of service that will affect service restoration efforts until they are returned to service.
- Entergy has over 10,000 crewmen working to restore service and additional support is being provided by other Texas utilities. Entergy has established 11 staging areas in the affected regions and has started daily conference calls with mayors in the affected areas.
- Very high temperatures (108 degrees Fahrenheit) in the Beaumont area over the next few days have raised health concerns.
- Entergy expects to be able to restore power to customers who can accept power in Arkansas, Mississippi, North Louisiana and the Baton Rouge area by Wednesday, Sept. 28.

- Entergy reports that East/West Transmission limitations have resulted in some rolling customer outages as a result of heat and high load conditions in the western areas of the service territory. The rolling outages last about 60 minutes and have affected approximately 142,000 homes and businesses in Montgomery, Walker, Grimes and Liberty counties.
- CenterPoint Energy is making steady progress and expects to restore service to all customers affected by Hurricane Rita by the end of day Friday, September 30, 2005. CenterPoint Energy currently has 118,150 customers without power (as of 8:00pm 9/26). Outages are still concentrated in the heavily wooded areas of Harris, Chambers, Liberty and Montgomery counties and also in Galveston.
- SWEPCO estimates that restoration may take up to seven days to complete. This is a preliminary estimate and is subject to revision. Approximately 1,200 local and outside personnel are supporting the restoration including crews from Texas, Ohio, Virginia, West Virginia, Indiana, Michigan, Kentucky and Oklahoma.

Louisiana

- In Louisiana, 1,037,888 customers remain without power, as reported by the Louisiana Public Service Commission (LAPSC) (1:00 AM, 9/27/05 latest report).

Louisiana Outage Data by Utilities with Significant Outages (1:00 AM 9/27/05)

UTILITY	OUTAGES	% customers w/o power
Entergy Gulf	103,628	29%
Entergy Louisiana	601,183	21%
Entergy New Orleans	170,898	83%
CLECO	68,338	26%
Beauregard	36,757	99%
SLEMCO	17,486	20%
Jefferson Davis	10,458	100%
Wash-St. Tammany	3,518	8%
SLECA	4,023	21%
SWEPCO	26,600	16%
Valley	13,280	33%
Concordia	7,940	65%
Clairborne	1,730	N/A
Total for state shown includes companies with low number of outages not include in Table	1,037,888	26%

- Entergy has assembled a workforce of 7,000 to support restoration following Hurricane Rita. Crews from outside the region have begun traveling toward the region.

Mississippi

- **Entergy reports 2,127 customer outages in Mississippi.** In addition, Mississippi Power reports that 19,443 customers have been unable to accept service following Hurricane Katrina due to significant repair or reconstruction costs.

Florida

- **The Florida Reliability Coordinating Council (FRCC) State Capacity Emergency Coordinator is continuing its Generating Capacity "Advisory" for today, Tuesday, September 27, 2005. The continuation of this Advisory is due to the continued uncertainty of restoration of natural gas production facilities in the Gulf of Mexico as a result of Hurricane Rita. There is still continued uncertainty as to when normal production levels will resume.**

¹ Situation Report series for Hurricanes Katrina and Rita have been combined into the Gulf Coast Hurricanes Situation Report series.