



U.S. Department of Energy
Office of Electricity Delivery & Energy Reliability

Hurricane Isaac Situation Report # 10
September 1, 2012 (3:00 PM EDT)

http://www.oe.netl.doe.gov/emergency_sit_rpt.aspx

Highlights:

- Hurricane Isaac made its first landfall on Tuesday, August 28 at 7:45 pm EDT in Plaquemines Parish, LA. Isaac made a second landfall along the coast of southeast Louisiana, just west of Port Fourchon, at 3:15 am EDT on Wednesday, August 29. Isaac became a Tropical Depression moving north into the Midwest.
- A State of Emergency has been declared for Alabama, Florida, Louisiana, and Mississippi.

Summary

| Electric Outages by State | | | | |
|--|--------------------------|---------------------------------------|--------------------------------------|-------------------------------|
| Impacted State | Current Customer Outages | Percentage of Customers Without Power | Peak Outages Reported in DOE SitReps | Customers Restored Since Peak |
| Arkansas | 3,960 | < 1% | 19,935 | 15,975 |
| Louisiana | 399,903 | 18% | 889,517 | 489,614 |
| Mississippi | 23,085 | 2% | 155,604 | 132,519 |
| TOTAL: | 426,948 | | | |
| Petroleum & Natural Gas | | | | |
| | Amount | % Capacity Out* | | |
| Crude Oil Production Shut-In (b/d) | 1,290,757 | 93.53% | | |
| Natural Gas Production Shut-in (mmcf/d) | 2,936.74 | 65.26% | | |
| Refinery Capacity Shut down (b/d) | 673,000 | NA | | |

Note: States with fewer than 1,000 outages are not included in the table. Due to a large number of service providers, including investor owned utilities and cooperatives, the number of customer outages reported may not be comprehensive.

Sources: Outages obtained from company web sites and DOE communications. Total State customers are based on 2010 EIA Customer Data.

* % capacity out represents percent of production capacity in the Gulf of Mexico.

- As of 2:00 pm EDT September 1, the impacted States report a total of 426,948 customers without power; this is a decrease from the 482,459 customer outages reported in Situation Report #9 at 10:00 am September 1. Restoration estimates and efforts by electric utilities are reported below.
- As of 1:00 pm EDT, September 1, three refineries in the path of Isaac are shut down representing 673,000 barrels per day (B/D) of refining capacity, or 9 percent of total Gulf Coast refining capacity (7,671,585 B/D). Eight additional refineries in the path of the storm are restarting or at reduced rates.
- On August 31, the Department of Energy entered into an agreement to loan oil from the Strategic Petroleum Reserve (SPR). The loan agreement is with Marathon Petroleum Company and is for 1 million barrels of sweet crude. The crude oil will be loaned from the SPR under short-term contractual agreements and returned to the SPR once supply conditions return to normal.

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ESF 12 Actions:

- ESF 12 is staffing the FEMA National Response Coordination Center (NRCC) in Washington, DC, the FEMA Region VI Regional Response Coordination Center (RRCC) in Denton, TX, the Baton Rouge, LA Incident Management Assistance Team (IMAT), and the Mississippi Emergency Operations Center (EOC).

Petroleum & Natural Gas Information:

| Oil & Gas Offshore Production Shut-In Status for Gulf of Mexico <i>as of 12:30 pm EDT 9/1/12</i> | | | |
|---|----------------|----------------------|---------------------|
| Location | Amount Shut In | Pre-Event Production | Percent (%) Shut In |
| Crude Oil (B/D) | 1,290,757 | 1,380,000 | 93.53 |
| Natural Gas (MMCF/D) | 2,936.74 | 4,500 | 65.26 |

Source: Bureau of Safety and Environmental Enforcement (BSEE)

- As of 12:30 pm EDT, September 1, the Bureau of Safety and Environmental Enforcement (BSEE) reports 1,290,757 barrels per day (B/D) of the Gulf of Mexico (GOM) crude oil production is shut-in, equivalent to 93.53 percent of the GOM crude oil production. BSEE reports 2,936.74 million cubic feet per day (MMCF/D) of the GOM natural gas production is shut-in, equivalent to 65.26 percent of the GOM natural gas production. Personnel have been evacuated from a total of 219 production platforms, or 36.75 percent of the 596 manned platforms in the GOM. Personnel have been evacuated from 19 rigs, representing 25 percent of the 76 rigs currently operating in the GOM.

Refineries

- For a list of refineries impacted by Hurricane Isaac, see table below.

| Refineries in the Path of Isaac <i>as of 1:00 pm EDT 9/1/12</i> | | | | | | |
|---|-------------------|--------------------|----------------|----------------|------------------|----------|
| Refinery Impacted | Location | Capacity (B/D) | | | | |
| | | Operating Capacity | Shut Down | Restarting | Reduced Runs | Normal |
| Chevron | Pascagoula, MS | 330,000 | | | X | |
| Shell | Saraland, AL | 80,000 | | | X | |
| Alon | Krotz Springs, LA | 80,000 | | | X | |
| Chalmette Refining | Chalmette, LA | 192,500 | X | | | |
| ExxonMobil | Baton Rouge, LA | 502,500 | | | X | |
| Marathon | Garyville, LA | 490,000 | | | X | |
| Motiva | Convent, LA | 235,000 | | X | | |
| Motiva | Norco, LA | 233,500 | X | | | |
| Phillips 66 | Belle Chasse, LA | 247,000 | X | | | |
| Placid Refining | Port Allen, LA | 57,000 | | X | | |
| Valero | Norco, LA | 205,000 | | X | | |
| TOTAL | | 2,652,500 | 673,000 | 497,000 | 1,482,500 | 0 |

Sources: Confirmed by company or on company web site. Note: Valero's Meraux refinery has been excluded from the table as it was already shutdown due to reasons unrelated to Isaac.



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Ports and Terminals

- At 2:00 am EDT, September 1, the Louisiana Offshore Oil Port (LOOP) resumed vessel offloading operations at the marine terminal. The company resumed deliveries from the Clovelly storage facility on the evening of August 30.
- As of 4:30 pm EDT, August 31, all Shell and Motiva petroleum product terminals have been reopened. The Stolthaven petroleum products terminal, located in Braithwaite, LA, reported Thursday (August 30) that it was shut down due to flooding.
- **As of 1:00 pm EDT, September 1, the U.S. Coast Guard reports in Sector Mobile the ports of Mobile and Panama City are open and Pascagoula is open with restrictions. In Sector New Orleans, Gulf Intercoastal Waterway, New Orleans, Baton Rouge, and ports along the Lower Mississippi River below mile marker 130 are open. Lower Mississippi River ports above mile marker 130 are open with restrictions.** In Sector Morgan City, the Port of Houma is open and Port Fourchon is open with restrictions.

Petroleum Pipelines

- **As of 12:00 pm EDT, September 1,** the Capline and Ho-Ho pipelines are operating, deliveries from the LOOP’s LOCAP pipeline have resumed, but Shell’s Offshore Gulf pipeline network continues to report being shut down.

| Status of Petroleum Pipelines as of 1:00 pm EDT 9/1/12 | | | | | |
|--|--------------------------------------|-------|----------|------------------------|---------------------------------------|
| Type | Name | Start | Terminus | Capacity (barrels/day) | Status |
| Crude | Capline Pipeline | LA | IL | 1,200,000 | Operating |
| Crude | Ho-Ho (Houma-to-Houston) | LA | TX | 325,000 | Operating |
| Crude | LOOP LOCAP | LA | LA | 1,200,000 | Deliveries out of LOCAP have resumed. |
| Crude | Shell Offshore Gulf Pipeline Network | GOM | LA | NA | Shut Down |

Sources: Confirmed by company or on company web site

Natural Gas Pipelines

- **As of 1:00 pm EDT, September 1,** Dauphin Island Gathering System, Destin Pipeline Company, Florida Gas Transmission Company, Garden Banks Gas Pipeline, Manta Ray Offshore Gathering Company, Mississippi Canyon Gas Pipeline, Nautilus Pipeline Company, Southern Natural Gas and Venice Gas Gathering System have declared Force Majeure on their pipeline systems due to production shut-ins in the GOM.
- Several companies have reported shut-ins in parts of their system. These include ANR Pipeline Company, Columbia Gulf Transmission Company, Sea Robin Pipeline Company, Stingray Pipeline Company, and Trunkline Gas Company.



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| Force Majeure / Critical Notice Posting by Natural Gas Pipelines as of 1:00 pm EDT 9/1/12 | | |
|--|-------------------|---|
| Name | Time Stamp | Notice (Status) |
| ANR Pipeline Company | 8/28/2012 | Scheduled maintenance and TS Isaac related capacity curtailment between Eunice and Patterson delivery points. |
| Columbia Gulf Transmission Company | 8/27/2012 | Curtailment at Venice, Acadia and Erath plant delivery points. |
| Dauphin Island Gathering System | 8/27/2012 | Force Majeure |
| Destin Pipeline Company | 8/30/2012 | Assessment and recovery operations have begun; Force Majeure on offshore receipt points remains. |
| Discovery Gas Transmission | 8/31/2012 | With Discovery's Larose Plant returning to service, DGT is accepting nominations for delivery to the plant. |
| Florida Gas Transmission Company | 8/28/2012 | Force Majeure at Napoleonville Storage Rec. |
| Garden Banks Gas Pipeline | 8/29/2012 | Force Majeure |
| Manta Ray Offshore Gathering Company | 8/29/2012 | Force Majeure |
| Mississippi Canyon Gas Pipeline | 8/27/2012 | Force Majeure |
| Natural Gas Pipeline Company (Kinder Morgan NGLP) | 8/30/2012 | Force Majeure on the Amarillo #3 Segment 11 in the Midcontinent zone (through Compressor Station 105) has been lifted. The segment was shut-in on 8/27/2012. |
| Nautilus Pipeline Company | 8/30/2012 | The pipeline has begun accepting nominations for delivery to Acadian Gas Pipeline, ANR, Cypress, Gulf South and Tenn 800 LEG. Force Majeure remains at other portions. |
| Sabine Pipe Line | 9/1/2012 | Sabine has begun accepting nominations for the Sea Robin-Henry Hub Interconnect. |
| Sea Robin Pipeline Company | 8/30/2012 | Operations have resumed except for delivery to the Sea Robin Gas Processing Plant and the Erath Compressor Station. |
| Southern Natural Gas | 8/31/2012 | Force Majeure at numerous delivery points including Toca, Lake Washington, Main Pass, West Delta, Venice-Mississippi Canyon, and many others. The Sea Robin interconnect has been approved to flow. |
| Stingray Pipeline Company | 8/20/2012 | Stingray's facilities at West Cameron 509 platform have resumed operation. Other portions continue to remain shut-in. |
| Tennessee Gas Pipeline Company | 8/31/2012 | Force Majeure at Station 249 has been lifted. |
| Transcontinental Gas Pipe Line Company | 9/1/2012 | The pipeline has resumed operations. |
| Trunkline Gas Company | 8/30/2012 | Offshore system shut-in. Will not accept nominations on Terrebonne offshore system until post-storm inspections of onshore and offshore facilities are complete. |
| Venice Gathering System | 8/27/2012 | Force Majeure |

Sources: Confirmed by company or on company web site.

Natural Gas Processing Plants

- As of 1:30 p.m. EDT September 1, 17 processing plants with capacities greater than 100 million cubic feet per day (MMcf/d) are shut down due to Isaac. However, 14 of these plants are capable of restarting pending resumption of pipeline flows. The shut down plants have a combined capacity of 10.4 billion cubic feet per day (Bcf/d), and the plants capable of restarting account for 7.0 Bcf/d of this capacity. One of the shutdown plants is undamaged and will be capable to restart once power returns. Additionally, there are 4 plants, with a combined capacity of 1.6 Bcf/d, operating at reduced levels. There are 28 gas processing plants (with a combined processing capacity of 13.5 Bcf/d) with capacities exceeding 100 MMcf/d that are located in the Gulf of Mexico coastal area and in the path of Isaac. These 28 plants have a combined processing capacity of 13.5 Bcf/d. **The shut-in capacity**



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of the 3 plants currently incapable of restarting due to Isaac accounts for 21 percent of total capacity which were in Isaac’s path. Most operators anticipate gas flows resuming over the next few days.

| Natural Gas Processing Plant ¹ Status for Affected Area as of 9/1/12 01:30 PM EDT | | | | | | |
|--|----------------------|--|----------|--------------------|-----------------------------|--------|
| Plant Name | Location | Capacity (million cubic feet per day) ² | | | | |
| | | Design System Operation | Shutdown | Capable to Restart | Operating at Reduced Levels | Normal |
| Yscloskey Gas Plant | St. Bernard, LA | 1,850 | X | | | |
| North Terrebonne Plant | Gibson, LA | 1,100 | | X | | |
| Pascagoula Gas Processing Plant | Jackson, MS | 1,100 | | X | | |
| Toca Gas Plant | St. Bernard, LA | 1,100 | | X | | |
| Venice Gas Plant | Plaquemines, LA | 750 | X | | | |
| Sea Robin Gas Plant | Vermillion, LA | 660 | | X | | |
| Neptune Plant | St. Marys, LA | 650 | | | X | |
| Larose Plant | Lafourche, LA | 600 | | X | | |
| Pelican Plant | St. Marys, LA | 600 | | | X | |
| Williams Mobile Bay Processing Plant | Mobile Bay, AL | 600 | | X | | |
| Mobile Bay Processing | Mobile, AL | 300 | | X | | |
| Sabine Pass Plant | Cameron, LA | 300 | | X ³ | | |
| Stingray Gas Plant | Cameron, LA | 300 | | X | | |
| Lowry Gas Plant | Cameron, LA | 240 | | | X | |
| Baton Rouge Gas Plant | West Baton Rouge, LA | 225 | | X | | |
| Plaquemine Plant | Iberville Parish, LA | 225 | X | | | |
| Yellowhammer Gas Plant | Mobile, AL | 200 | | X | | |
| Paterson II Plant | St. Marys, LA | 180 | | X | | |
| Burns Point Plant | St. Marys, LA | 160 | | X | | |
| PSI Kaplan Plant | Vermillion, LA | 125 | | X | | |
| Gibson Plant | Terrebonne, LA | 110 | | | X | |

Source: EIA-757B

Note: There are two plants that are inactive for reasons unrelated to Isaac.

¹ List only includes plants with processing capacity greater than or equal to 100 million cubic feet per day.

² The capacity represents the design capacity of the plants and does not represent the actual gas flow through these plants.

³ Sabine Pass Plant cannot resume operations due to a connecting pipeline undergoing maintenance.

Restoration Information

- As of 8:00 am EDT today (September 1) Entergy stated there are 13 substations out of service due to Isaac and 30 transmission lines damaged. Entergy has 12,000 workers, including outside personnel from 24 States, involved in the restoration effort. Entergy released the following restoration estimates and crew support:
 - In Louisiana, Entergy’s preliminary estimates are to restore 90 percent of all customers who can take power by Thursday (September 6). Entergy expects to provide restoration estimates by parish by Sunday (September 2).



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- In Mississippi, Entergy released the following restoration estimates today (September 1):
 - Customers in Rankin and Madison counties will be restored today.
 - The vast majority of customers in Jackson, Clinton, Vicksburg, Cleveland, Mid-State and Greenville should be restored today with all remaining customers who can take service restored tomorrow.
 - In Natchez, Brookhaven, Gloster and McComb, the vast majority of customers will be restored by tomorrow (September 2) with all remaining customers who can take service restored by Monday (September 3).
- In Arkansas, Entergy estimates it will restore power to all customers who can take service by the end of the day today (September 1). It's workforce in Arkansas includes company crews and an additional 280 linemen from outside the State
- The number of personnel involved in the restoration effort from Entergy Texas is 308: 128 company and contract tool workers, 24 scouts, 55 support personnel, and 101 contract tree trimmers.
- Cleco Power, a Louisiana-based utility, reported today (September 1) it's workforce of 2,400 employees and contractors have completed restoration in Rapides and Avoyelles parishes. Parts of St. Tammany parish still contain flooding which is delaying repairs.
- Magnolia Electric Power Association in Mississippi reported late yesterday (August 31) over 250 workers are out in the field working to restore power.
- Pearl River Valley Electric Power Association, a cooperative in Mississippi, reported last night (August 31) they have virtually completed their Isaac restoration.
- Dixie Electric Power Association, serving customers in Louisiana, reported August 30 they had restored almost all customers and had released contract crews to assist other electric utilities with power restoration.
- Southern Pine Electric Power Association, a cooperative in Mississippi, reported it has cleared its final Hurricane Isaac-related outage Friday night (August 31). The cooperative sent a line crew to assist the Southwest Mississippi Electric Power Association.