



# Tropical Storm Harvey

## Event Report (Update #10)

<b>REPORT TIME &amp; DATE:</b>	4:00 PM EDT   Wednesday, August 30, 2017
<b>INCIDENT START DATE:</b>	Friday, August 25, 2017
<b>PRIMARY LOCATION(S):</b>	Gulf Coast (Texas and Louisiana)
<b>REPORT DISTRIBUTION:</b>	Public

### EXECUTIVE SUMMARY

Tropical Storm Harvey continues to produce heavy rain across eastern Texas and western Louisiana, which has led to significant flooding. Harvey is beginning to move out of the region and is forecast to weaken; however, it will continue to produce weather impacts through Friday.

### Electricity Sector Impacts (as of 2:30 PM EDT)

- Texas: 275,584 customers 2:30 PM power outages (2.4% of total customers)
  - AEP estimates 95% of outages in Corpus Christi area will be restored by late Wednesday and expects 95% of outages restored for most other areas by late Saturday
  - Currently CenterPoint reports 96% customers have power. CenterPoint is taking steps to prevent long term damage to some of its electric infrastructure in flooded areas, resulting in some potential planned outages.
  - Restoration in severely damaged or flooded areas will be delayed and utilities are reminding customers that before electricity can be restored to homes or business impacted by flooding, customers need to have electrical equipment inspected.
- Louisiana: 16,517 customer power outages (<1% of total customers)

### Oil and Natural Gas Sector Impacts (as of 2:30 PM EDT)

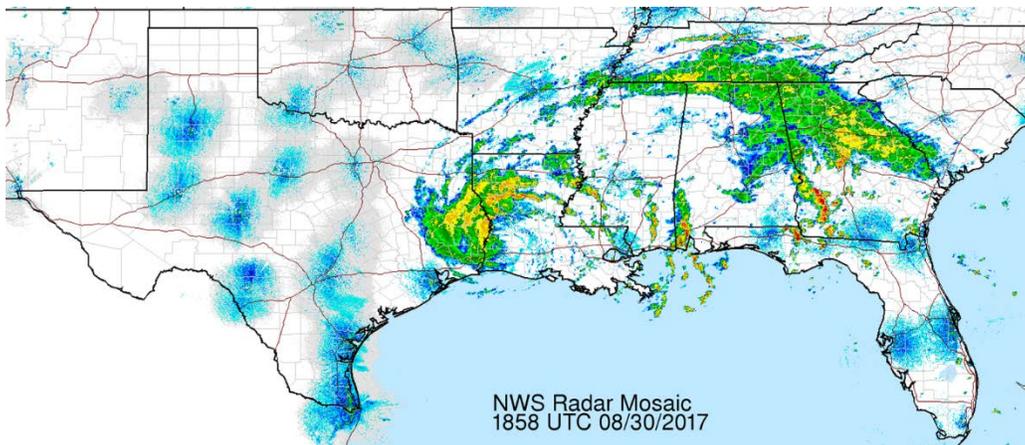
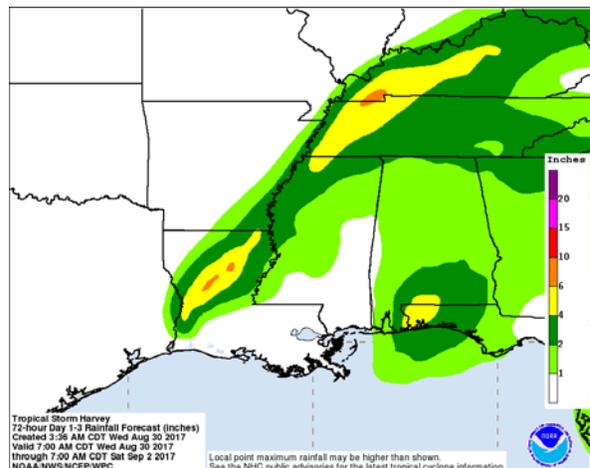
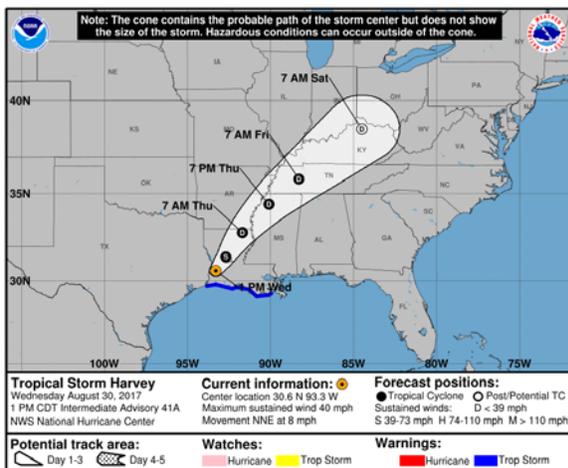
- Currently 10 refineries in the Gulf Coast region are shut down. Six refineries have begun the process of assessing damage and restarting, which may take several days. Two refineries in the Gulf Coast region are operating at reduced rates. There are no reports of refineries unable to restart due to lack of commercial power.
- DOE remains in close contact with oil and gas operators, industry representatives, and the Energy Information Administration to assess potential impacts at a regional and national level due to distributions to refineries caused by Hurricane Harvey. DOE is coordinating with Federal and State partners to ensure the appropriate steps are taken to mitigate any issues.

**INCIDENT OVERVIEW**

As of 2:00 PM EDT, Harvey was 35 miles north-northwest of Lake Charles, Louisiana moving north-northeast at 8 MPH, with maximum sustained winds of 35 MPH (tropical storm). Tropical-storm-force winds extend outward up to 80 miles. The storm is expected to move north-northeastward later this morning, and then a northeastward motion at a faster forward speed is expected through Thursday night. On the forecast track, the center of Harvey should move through southwestern and central Louisiana today and tonight, then move through northeastern Louisiana and northwestern Mississippi Thursday and Thursday night.

Harvey is expected to produce additional rainfall accumulations of 3 to 6 inches from southwestern Louisiana and the adjacent border of eastern Texas northeastward into western Kentucky through Friday with isolated amounts up to 10 inches. While the threat of heavy rains has ended in the Houston/Galveston area, significant flooding will continue. Elsewhere, the outer bands of Harvey are expected to produce additional rainfall amounts of 3 to 6 inches over portions of the central and eastern Gulf States and 2 to 4 inches farther north into parts of the Tennessee Valley through Friday.

A tropical storm warning is currently in effect from east of Sabine Pass, Texas to Grand Isle, Louisiana and flood and flash flood warnings have been issued throughout the region.



**ELECTRICITY SECTOR**

**OVERVIEW**

Impacted utilities, including Entergy, AEP Texas, and CenterPoint Energy are expecting power outages to last several days. Restoration efforts cannot begin until weather conditions are safe for workers. Sustained wind conditions must be below 34 miles per hour before bucket trucks can be deployed. - High rainfall total and flooding could extend restoration times in many affected areas. Before equipment in flooded areas can be reenergized, waters will need to recede and equipment at substations will need to dry out and be inspected for damage. There are no unmet needs by any electric utility at this time. The Edison Electric Institute (EEI) is reporting that nearly 10,000 resources are being dedicated to the response effort. This includes crews, lineworkers, and support personnel from impacted companies and the industry's mutual assistance network. Mutual assistance crews from at least 20 states are responding. The Electric Reliability Council of Texas (ERCOT) grid continues to be in stable condition. However, 85 transmission lines remain out of service, including two major 345-kV transmission lines serving the Gulf Coast area. As of 2:00 PM EDT, about 7,600 MW of generation capacity was off-line for reasons related to the storm.

ELECTRICITY OUTAGES AS OF 2:30 PM EDT 08/30/2017			
Impacted State	Current Confirmed Customer Outages	Percent of Confirmed State Customers without Power	24-hr Peak Customer Outages
Louisiana	16,517	<1%	19,350
Texas	275,584	2.3%	298,004
<b>Total</b>	<b>292,101</b>	-	*

*\*There is no sum of the Peak Customer Outage column because peaks for individual utilities occur at different times; a total would not reflect peak outages.*

- Louisiana
  - As of 2:30 PM EDT, August 30, the State of Louisiana has 16,517 customer outages. An increase in outages are expected to be seen as the storm starts making impacts. This represents <1% of customers in the state.
    - Entergy Louisiana has 13,314 customer outages. This is a 129% increase from last report.
    - CLECO Power Inc. has 1,252 customer outages. This is a 41.5% decrease from last report.
    - Beauregard Electric Coop (BECi) has 924 customer outages. This is a 66% decrease from last report.
    - Southwestern Electric Power Co. (SWEPCO) has 600 customer outages. This is a 43% decrease from last report.
  - Entergy Louisiana has addressed potential flooding situations by relocating equipment in low-lying areas and installing flood protection measures where applicable.
  - Entergy New Orleans is monitoring the storm’s progression and feeder bands.



- CLECO Power Inc. crews, along with contractor crews, are currently on stand-by and prepared to restore service. CLECO is monitoring the storm.
- Texas
  - As of 2:30 PM EDT, August 30, the State of Texas has 275,584 customer outages. This represents 2.3% of customers in the state.
    - AEP Texas has 106,384 customer outages. This is a 0.4% increase from last report.
    - CenterPoint Energy has 80,578 customer outages. This is an 18.4% decrease from last report.
    - Entergy Texas has 77,034 customer outages. This is an 8.4% increase from last report.
    - Texas New Mexico Power has 5,073 customer outages. This is a 32% decrease from last report.
  - AEP Texas estimates that at least 2,100 utility poles and 55 transmission structures were damaged or knocked down by the storm. Crews had energized 190 circuits by Tuesday afternoon, and approximately 118 circuits remained off line.
  - AEP Texas is still projecting that by 11 PM EDT Wednesday, August 30 crews will have restored power to 95% of the customers within the City of Corpus Christi and the Sinton area. Restoration for the majority of all other areas impacted by the storm is expected to reach the 95% by 11 PM EDT Saturday, September 2. Restoration dates and times are still to be determined for Matagorda County, Rockport, Port Aransas, Fulton, Woodsboro, Port Lavaca, Lamar and Bayside. The damage in these communities is the most severe and will require the most amount of repairs.
  - AEP Texas has requested an additional 1,000 personnel in addition to the 3,600 already committed to the restoration of power in the Coastal Bend. Crews from Kentucky, Illinois, Missouri, and other states are working to restore power.
  - Oncor Electric Delivery has sent nearly two dozen crews and more than 70 trucks Tuesday morning to assist AEP Texas's restoration efforts.
  - 96% of CenterPoint Energy customers have power.
  - CenterPoint Energy is taking service in certain areas offline in order to prevent long term damage to some of its electric infrastructure, resulting in planned outages.
  - CenterPoint Energy is operating three staging sites around Houston to mobilize restoration crews. They have 170 additional mutual assistance crews aiding from other parts of Texas, Louisiana, Florida, Kansas, Alabama, and Tennessee.
  - Entergy Texas has reported their Lewis Creek Dam remains stable and secure due to recent hardening efforts and increased inspections of the facility. Reservoir levels remain within the normal range of control.
  - Entergy Texas expects the majority of its Texas customers to be restored by Saturday evening.
  - Entergy Texas personnel cannot access some of their electrical facilities that provide service due to debris and flooding. Within their service territory, they are reporting flooding in the cities of Beaumont, Dayton, Winnie, The Woodlands, Navasota, and Cleveland, which may result in slower restoration.



- Texas-New Mexico Power restoration efforts are once again fully operational after not being able to fully respond due to severe weather.
- Texas-New Mexico Power estimates most of its customers will be restored by 7 PM EDT Sunday, September 3.
- Texas-New Mexico Power does NOT have plans to shut off power to the City of Dickinson or other portions of its service territory despite public speculation.
- The Governor of Texas released a proclamation authorizing utilities to make temporary connections at the distribution and transmission level and use private property and public easements to restore power and reconstruct the electric grid.

**OIL & GAS SECTOR**

**OFFSHORE PRODUCTION**

- As of 12:30 PM EDT, August 30, 323,760 b/d (18.5%) of the oil production and 611.09 MMcf/d (19.0%) of the natural gas production in the federally administered areas of the U.S. Gulf of Mexico are shut-in, according to estimates by the Bureau of Safety and Environmental Enforcement (BSEE).

<b>U.S. Gulf of Mexico Oil &amp; Gas Production Status</b> <i>as of 12:30 PM EDT 08/30/2017</i>			
<b>Production</b>	<b>Pre-Event</b>	<b>Shut-In (08/29)</b>	<b>Shut-In (08/30)</b>
Crude Oil (b/d)	1,750,000	319,523	323,760
Natural Gas (MMcf/d)	3,220	615.09	611.09
<b>Infrastructure</b>	<b>Pre-Event Count</b>	<b>Evacuated (08/29)</b>	<b>Evacuated (08/30)</b>
Manned Platforms	737	102	102
Rigs	31	5	5

Source: BSEE

**ONSHORE PRODUCTION**

- On August 26, the Texas Railroad Commission estimated that approximately 300,000 to 500,000 b/d of crude production had been shut-in in the Eagle Ford region from a pre-storm production estimate of 870,000 b/d. In addition, approximately 3.0 Bcf/d of natural gas production had been shut-in from a pre-storm production estimate of about 6.0 Bcf/d. The Commission had expected most idled production to come back online in the next few days.

**PETROLEUM REFINERIES**

- As of 03:00 PM EDT, August 30, 10 refineries in the Gulf Coast region were shut down, according to public reports. These refineries have a combined refining capacity of 3,075,229 b/d, equal to 31.7% of total Gulf Coast (PADD 3) refining capacity and 16.6% of total U.S. refining capacity.



- Six refineries had begun the process of restarting, which may take a several days or weeks depending whether they have been damaged. These refineries have a combined capacity of 1,269,720 b/d, equal to 13.1% of total Gulf Coast (PADD 3) refining capacity and 4.2% of total U.S. refining capacity.
- Two refineries in the Gulf Coast region were operating at reduced rates. The refineries have a combined capacity of 688,776 b/d, equal to 7.1% of total Gulf Coast (PADD 3) refining capacity and 3.7% of total U.S. refining capacity.

**PORTS**

- The U.S. Coast Guard has set the following conditions for ports and waterways in the U.S. Gulf Coast region as a result of Harvey.
- In addition, Louisiana Offshore Oil Port (LOOP) facilities are currently reporting normal operations. LOOP is executing its Inclement Weather Plan and will update Shippers accordingly.

<b>Status of Texas and Louisiana Gulf Coast Ports as of 3:00 PM EDT 08/30/2017</b>		
<b>Port</b>	<b>Status</b>	<b>Date Stamp</b>
<b>Sector Corpus Christi</b>		
Brownsville	Open.	08/26/17
Corpus Christi	Port Condition Zulu (Modified). Closed. Port is assessing damage and reopening portions of inner harbor.	08/28/17
<b>Sector Houston and Galveston</b>		
Freeport	Port Condition Zulu. Closed.	08/28/17
Galveston	Port Condition Zulu. Closed.	08/28/17
Houston	Port Condition Zulu. Closed.	08/28/17
Texas City	Port Condition Zulu. Closed.	08/28/17
<b>Sector Port Arthur and Lake Charles</b>		
Beaumont	Port Condition Zulu. Closed.	08/28/17
Lake Charles	Port Condition Zulu. Closed.	08/28/17
Nederland	Port Condition Zulu. Closed.	08/28/17
Orange	Port Condition Zulu. Closed.	08/28/17
Port Arthur	Port Condition Zulu. Closed.	08/28/17
Port Neches	Port Condition Zulu. Closed.	08/28/17
Sabine Pass	Port Condition Zulu. Closed.	08/28/17
<b>Sector Morgan City</b>		
Houma	Houma navigational channel (Bubba Dove) and Bayou Grand Caillou Floodgates closed due to Harvey. Closure will restrict access to Houma.	08/29/17
Berwick	Open with restrictions. Temporary emergency vehicle controls in effect.	08/30/17

Source: U.S. Coast Guard



**NATURAL GAS UTILITIES**

- On August 29, CenterPoint Energy reports that it is working to assess damage to natural gas service areas in Southeast Texas and Louisiana, including the Houston metropolitan area. The company has responded to leak calls in areas of the city that crews have been able to access.
- On August 27, the City of Rockport’s Natural Gas Department was checking its system for leaks and plugging them up if necessary.

**WAIVERS**

- The table below lists fuel-related waivers issued by the U.S. Environmental Protection Agency (U.S. EPA) and State agencies.
- On August 30, U.S. EPA issued a multi-state waiver for requirements of low-RVP conventional gasoline and reformulated gasoline (RFG).

State Fuel Waivers as of 2:00 PM EDT 08/30/2017					
State	Waiver	Issued By	Effective Dates		Status
			Start	End	
Multi-state waiver	<p><b>RVP</b> standard waived for gasoline sold in affected counties where low-RVP gasoline is required (9.0 RVP or lower). Allows sale of gasoline up to 11.5 psi RVP in the following states: Alabama, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Texas, Virginia, and the District of Columbia.</p> <p><b>RFG</b> standard is also waived in the designated states and D.C. Also waived are provisions prohibiting the blending of RFG blendstock with conventional gasolines or blendstocks.</p>	U.S. EPA	08/30/17	09/15/17	Active
TX	<p><b>RFG</b> requirement waived in Houston-Galveston-Brazoria areas. Waiver expanded to four-county Dallas-Fort Worth RFG area 8/26. Allows the sale or distribution of conventional gasoline.</p>	U.S. EPA	08/25/17	09/15/17	Active
TX	<p><b>7.8 psi RVP</b> standard waived for gasoline sold in 20 counties where low-RVP gasoline is required and are also under the Governor’s Disaster Declaration. Waiver expanded to 98 counties required to use low-RVP fuel 8/26. Allows sale of gasoline up to 9.0 psi RVP.</p>	U.S. EPA	08/25/17	09/15/17	Active

Sources: [U.S. Department of Transportation](#); Governor Office Websites



- In response to Harvey, the Federal Motor Carrier Safety Administration (FMCSA) declared that an emergency exists that warrants issuance of a Regional Emergency Declaration in the States of Texas and Louisiana and an exemption from certain Federal Motor Carrier Safety Regulations (FMCSRs), including hours-of-service (HOS) regulations, to addresses possible emergency conditions creating a need for immediate transportation of supplies, equipment and persons into and from those States.
- Texas and Louisiana have declared state emergencies due to Harvey. These declarations automatically waive select FMCSRs, including hours-of-service (HOS) regulations, for motor carriers hauling resources to aid in restoration efforts. The declarations exempt FCMSR in every state along the motor carrier’s route as long as the final destination is with the declared disaster areas in Texas or Louisiana.

State Emergency Declarations and HOS Waivers <i>as of 2:00 PM EDT 08/30/2017</i>				
State	Details	Effective Dates		Status
		Start	End	
Regional (Texas & Louisiana)	Regional Emergency Declaration and FMCSR waiver issued by FMCSA.	08/25/17	10/26/17	Active
Texas	State of Disaster declared for Aransas, Austin, Bee, Calhoun, Chambers, Colorado, Brazoria, DeWitt, Fayette, Fort Bend, Galveston, Goliad, Gonzales, Harris, Jackson, Jefferson, Jim Wells, Karnes, Kleberg, Lavaca, Liberty, Live Oak, Matagorda, Nueces, Refugio, San Patricio, Victoria, Waller, Wharton, and Wilson counties.	08/23/17	TBD	Active
Louisiana	State of Emergency declared.	08/23/17	TBD	Active
Kentucky	HOS waiver issued for transporters of food, water, medicine, fuel and other commodities within the affected areas to aid in emergency response of affected areas. All economic requirements normally associated with interstate motor transportation for all vehicles providing relief supplies to affected areas.	08/28/17	09/27/17	Active

Sources: [U.S. Department of Transportation](#); Governor Office Websites



**DOE Strategic Petroleum Reserve Status (from the Office of Fossil Energy)**

DOE Strategic Petroleum Reserve Site Status <i>(as of 8/30/2017)</i>				
	Bayou Choctaw Site	West Hackberry Site	Big Hill Site	Bryan Mound Site
<b>Commercial Power Availability</b>	Available	Available	Available	Available
<b>Drawdown Capability</b>	Drawdown Ready	Drawdown Ready	Drawdown Ready	Drawdown Ready

