



Tropical Storm Harvey

Event Report (Update #11)

REPORT TIME & DATE:	11:00 AM EDT Thursday, August 31, 2017
INCIDENT START DATE:	Friday, August 25, 2017
PRIMARY LOCATION(S):	Gulf Coast (Texas and Louisiana)
REPORT DISTRIBUTION:	Public

EXECUTIVE SUMMARY

Tropical Depression Harvey continues to produce heavy rain across western Louisiana and into the Tennessee Valley region. Significant flooding continues Houston and the Texas Coast continue. Harvey is beginning to move out of the region and is forecast to weaken and produce impacts through Friday.

Electricity Sector Impacts (as of 10:30 AM EDT)

- Louisiana
 - As of 7:30 AM EDT, August 31, the State of Louisiana has 11,969 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 expects the vast majority of remaining customers to have power restored by 11 PM EDT Thursday. In Calcasieu Parish alone, the storm damaged 18 poles and 12 transformers.
- Texas
 - As of 7:30 AM EDT, August 31, the State of Texas has 200,522 customer outages according. This represents 1.7% of customers in the state.

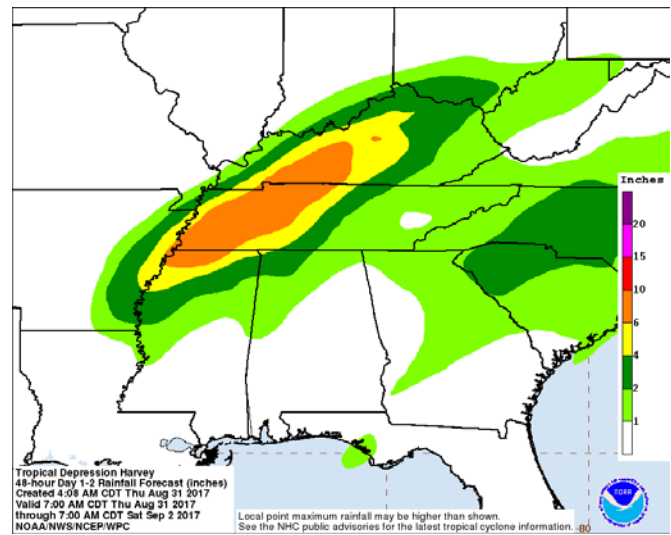
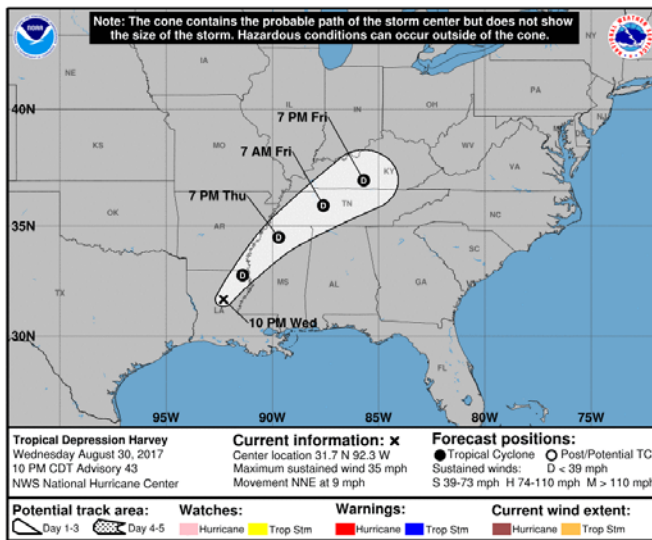
Oil and Natural Gas Sector Impacts (as of 10:30 AM EDT)

- 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 is closely monitoring the petroleum product supply following the impacts from Hurricane Harvey. Currently gasoline stocks in the Southeast are at or above the historic 5-year range.
- The Department will continue working with Environmental Protection Agency (EPA) and the Department of Transportation (DOT) to ensure the appropriate waivers are providing flexibility in the market to alleviate supply issues in the area.
- Colonial Pipeline (lines 1 and 2 from Lake Charles east) is operating intermittently when refinery and terminal product is available to fill the line.
- The Strategic Petroleum Reserve is operating and the Department has approved one exchange request from the SPR at this time. Delivery commenced yesterday evening.

INCIDENT OVERVIEW

As of 5:00 AM EDT, Harvey was 15 miles south of Monroe, Louisiana moving north-northeast at 10 MPH, with maximum sustained winds of 30 MPH (tropical depression). The storm is expected to move north-northeastward later this morning into Northwestern Mississippi, and the western Tennessee Valley Region on Friday.

Harvey is expected to produce additional rainfall accumulations of 3 to 5 inches from eastern Arkansas, northern Mississippi, northeastward across western to central Tennessee, western central Kentucky and into southern Ohio. Locally higher totals of 6 to 10 inches possible across far northern Mississippi, and the western Tennessee into southwest Kentucky. While the threat of heavy rains has ended in the Houston/Galveston area, significant flooding will continue.



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, line-workers, 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.

ELECTRICITY OUTAGES AS OF 7:30 AM EDT 08/31/2017			
Impacted State	Current Confirmed Customer Outages	Percent of Confirmed State Customers without Power	24-hr Peak Customer Outages
Louisiana	11,969	<1%	22,636
Texas	200,522	1.7%	298,004
Total	212,491	-	*

**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 7:30 AM EDT, August 31, the State of Louisiana has 11,969 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.
 - Southwestern Electric Power Co. (SWEPCO) has 6,078 customer outages. This is a 913% increase from last report.
 - CLECO Power Inc. has 3,734 customer outages. This is a 198% increase from last report.
 - Entergy Louisiana has 1,479 customer outages. This is an 89% decrease from last report.
 - Beauregard Electric Coop (BECi) has 589 customer outages. This is a 36% decrease from last report.
 - Entergy Louisiana expects the vast majority of remaining customers to have power restored by 11 PM EDT Thursday. In Calcasieu Parish alone, the storm damaged 18 poles and 12 transformers.

- Texas
 - As of 7:30 AM EDT, August 31, the State of Texas has 200,522 customer outages according. This represents 1.7% of customers in the state.
 - AEP Texas has 87,035 customer outages. This is an 18% decrease from last report.
 - Entergy Texas has 53,900 customer outages. This is a 30% decrease from last report.
 - CenterPoint Energy has 51,352 customer outages. This is a 36% decrease from last report.
 - Texas New Mexico Power has 4,127 customer outages. This is an 18.6% decrease from last report.
 - AEP Texas currently has over 4,600 resources from around the country working in the Coastal Bend area to restore power to customers.
 - AEP Texas has released preliminary Estimated Restoration Times (ETR) for 10 communities, including Rockport and Port Aransas. Those ETRs range from 11 PM EDT Thursday to 11 PM EDT Friday, September 8. ETRs are still being determined for other communities and will be released at a later time.



- AEP Texas estimates at least 2,100 distribution poles down and 500 transmission structures were damaged or completely knocked down by the storm. Crews had reenergized 208 distribution circuits by Wednesday afternoon, and approximately 111 circuits remain off line.
- CenterPoint Energy has received aid from over 800 mutual assistance resources from Westar Energy, Duke Energy, KCP&L, Alabama Power, and others.
- 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.
- Entergy Texas are unable to restore 4,300 customers due to high water. Damage will be assessed in those areas as flood waters recede.
- 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.
- Texas-New Mexico Power continue to estimate most of its customers will be restored by 7 PM EDT Sunday, September 3. Areas in Dickinson, Friendswood, and western Brazoria County cannot be restored due to flood waters.
- 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).

U.S. Gulf of Mexico Oil & Gas Production Status <i>as of 12:30 PM EDT 08/30/2017</i>			
Production	Pre-Event	Shut-In (08/29)	Shut-In (08/30)
Crude Oil (b/d)	1,750,000	319,523	323,760
Natural Gas (MMcf/d)	3,220	615.09	611.09
Infrastructure	Pre-Event Count	Evacuated (08/29)	Evacuated (08/30)
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 07:00 AM EDT, August 31, 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.
- On August 30, Louisiana Offshore Oil Port (LOOP) facilities, and pipeline receipts and deliveries at the Clovelly Hub were operating normally. Vessel operations were also continuing as sea conditions allow.
- As of August 29, 25 oil carrying vessels are waiting off Texas ports of Corpus Christi, Freeport, Texas City, Houston and Galveston, off Sabine Pass and Lake Charles, LA. There were 22 vessels backed up on August 28.

Status of Texas and Louisiana Gulf Coast Ports <i>as of 8:00 AM EDT 08/31/2017</i>		
Port	Status	Date Stamp
Sector Corpus Christi		
Brownsville	Open.	08/26/17
Corpus Christi	Port Condition Zulu (Modified). Closed. Port has opened inner harbor to barge movements. Port is assessing damage. Working to restore normal operations by 9/4.	08/30/17
Sector Houston and Galveston		
Freeport	Port Condition Recovery. Open with restrictions.	08/30/17
Galveston	Port Condition Recovery. Open with restrictions.	08/30/17



Houston	Port Condition Recovery. Open with restrictions. Upper Houston Ship Channel from Morgan’s Point inbound to the Turning Basin remains closed for vessel traffic until weather conditions improve.	08/30/17
Texas City	Port Condition Recovery. Open with restrictions.	08/30/17
Sector Port Arthur and Lake Charles		
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
Sector Morgan City		
Houma	Houma navigational channel and Bayou Grand Caillou Floodgates closed. Closure will restrict access to Houma.	08/29/17
Berwick	Open with restrictions. Temporary emergency vehicle controls in effect.	08/30/17
Morgan City	Open with restrictions. Temporary emergency vehicle controls in effect.	08/30/17

Source: U.S. Coast Guard

PIPELINES

- DOE is closely monitoring the petroleum product supply following the impacts from Hurricane Harvey. Currently gasoline stocks in the Southeast are at or above the historic 5-year range.
- The Department will continue working with Environmental Protection Agency (EPA) and the Department of Transportation (DOT) to ensure the appropriate waivers are providing flexibility in the market to alleviate supply issues in the area.
- Colonial Pipeline (lines 1 and 2 from Lake Charles east) is operating intermittently when refinery and terminal product is available to fill the line.
- Colonial is providing regular updates via its website at: <https://harvey.colonialresponse.com/>

RAIL

- Rail is critical for the delivery of ethanol to petroleum product terminals for gasoline blending and for the movement of refinery byproducts, including propane, butanes, and sulfur out of refineries. The following rail lines have reported disruptions:
 - On August 25, Kansas City Southern Railway declared force majeure and an embargo on shipments through Laredo and Brownsville-Matamoros going to Houston and Corpus Christi. On August 28, KC Southern declared force majeure and an embargo on the remainder of its network in Texas affected by Harvey.
 - As of August 30, Union Pacific said sections of its track were out of service in 18 of its 28 Houston-area subdivisions, and it was sending traffic along alternate routes through Longview and Dallas. UP was using helicopters and drones to inspect track and facilities



in the affected areas. Its workers were reorganizing major rail yards at Settegast, near downtown Houston, and Englewood, including assessing infrastructure, getting trains reassembled and cars back in the yard. Parts of UP’s Englewood Yard were flooded as of late August 29.

- BNSF said on August 29 that normal train flows in the area were unlikely to resume for “an extended period.”
- CSX Corp. said on August 30 that it was closely watching weather conditions in Louisiana and the southwestern portion of its operating network.

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 (13 states) waiver for requirements of low-RVP conventional gasoline and reformulated gasoline (RFG).

State Fuel Waivers as of 8:00 AM EDT 08/31/2017					
State	Waiver	Issued By	Effective Dates		Status
			Start	End	
Multi-state waiver	<p>RVP 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: Maryland, Florida, Georgia, North Carolina, South Carolina, Virginia, Tennessee, Alabama, Louisiana, Mississippi, Texas, and the District of Columbia.</p> <p>RFG 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>RFG 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>7.8 psi RVP 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

- Five states (Texas, Louisiana, Kentucky, Alabama, and Georgia) have declared state emergencies due to Harvey. These declarations automatically waive select Federal Motor Carrier Safety Regulations (FMCSRs), including hours-of-service (HOS) regulations, for motor carriers hauling resources to aid in restoration efforts. The declarations exempt FMCSR 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. In addition, the Federal Motor Carrier Safety Administration (FMCSA) declared that issued a Regional Emergency Declaration exempting FMCSRs in the States of Texas and Louisiana.
- The table below summarizes emergency declarations and HOS waivers issued by states.

State Emergency Declarations and HOS Waivers as of 8:00 AM EDT 08/31/2017				
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
Alabama	State of Emergency/HOS waiver issued for petroleum products and petroleum-related	08/30/17	09/29/17	Active



	supplies, goods, and services in and through the State.			
Georgia	State of Emergency/HOS waiver issued for petroleum products through the State.	08/30/17	09/20/17	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 8/31/2017)</i>				
	Bayou Choctaw Site	West Hackberry Site	Big Hill Site	Bryan Mound Site
Commercial Power Availability	Available	Available	Available	Available
Drawdown Capability	Drawdown Ready	Drawdown Ready	Drawdown Ready	Drawdown Ready

- In response to the impacts from Hurricane Harvey, the U.S. Secretary of Energy has authorized the Strategic Petroleum Reserve (SPR) to negotiate and execute an emergency exchange agreement with the Phillips 66 Lake Charles Refinery. This decision will authorize 200,000 barrels of sweet crude oil and 300,000 barrels of sour crude oil to be drawn down from SPR’s West Hackberry site and delivered via pipeline to the Phillips 66 refinery.
- The Department will continue to provide assistance as deemed necessary, and will continue to review incoming requests for SPR crude oil. Should the Secretary decide to approve additional requests for an emergency exchange of crude oil from the SPR, the public will be notified.

