



Tropical Storm Harvey

Event Report (Update #7)

REPORT TIME & DATE:	8:30 AM EDT Wednesday, August 30, 2017
INCIDENT START DATE:	Friday, August 25, 2017
PRIMARY LOCATION(S):	Gulf Coast (Texas and Louisiana)
REPORT DISTRIBUTION:	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 but will continue to produce weather impacts through Friday.

Electricity Sector Impacts (as of 7:30 AM EDT)

- Texas: 287,125 customers 7:30 AM power outages (2.4% of total customers)
 - AEP Texas is the most significantly impacted utility
 - 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 Saturday
 - CenterPoint Energy is taking steps to prevent long term damage to some of its electric infrastructure in flooded areas, resulting in some potential planned outages and is operating three staging sites around Houston to mobilize restoration crews. They have 170 additional mutual assistance crews aiding restoration efforts.
 - 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: 11,781 customer power outages (<1% of total customers)

Oil and Natural Gas Sector Impacts (as of 7:30 AM EDT)

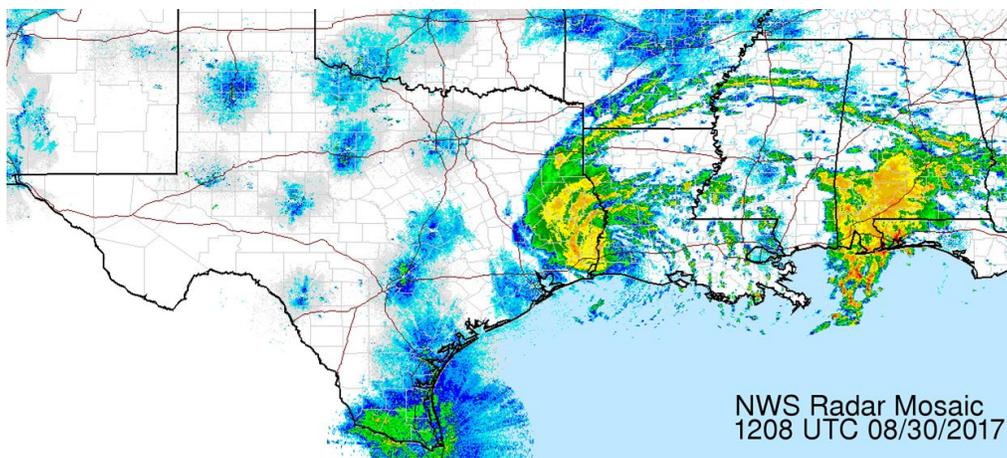
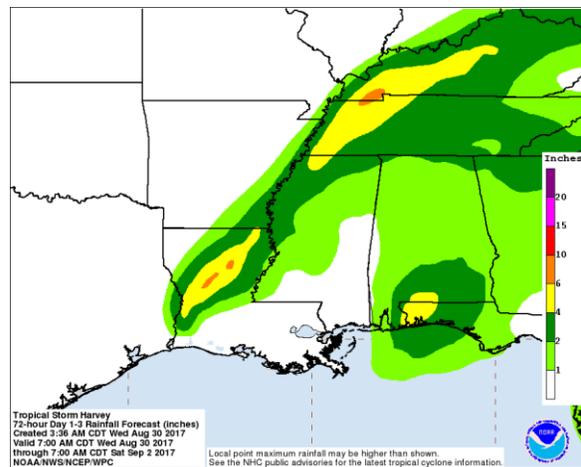
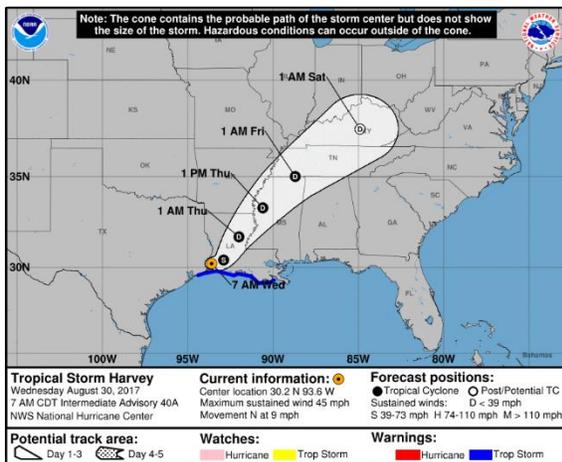
- Six refineries in the Corpus Christi area, seven in the Houston/Galveston area, and two in the Beaumont/Port Arthur area are shut down. Five refineries in Gulf Coast region are operating at reduced rates
- DOE remains in close contact with oil and gas operators, industry representatives, and the Energy Information Administration to assess potential impacts at a regional and national level

INCIDENT OVERVIEW

As of 8:00 AM EDT, Harvey was 25 miles west-northwest of Lake Charles, Louisiana moving north at 9 MPH, with maximum sustained winds of 45 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 will move across the Lower Mississippi Valley and Tennessee Valley through Thursday.

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 High Island, 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 19 states are responding. The Electric Reliability Council of Texas (ERCOT) grid continues to be in stable condition. However, several transmission lines remain out of service, including two major 345-kV transmission lines serving the Gulf Coast area. As of mid-day Monday, a little more than 6,700 MW of generation capacity was off-line for reasons related to the storm.

ELECTRICITY OUTAGES AS OF 7:30 AM EDT 08/30/2017			
Impacted State	Current Confirmed Customer Outages	Percent of Confirmed State Customers without Power	24-hr Peak Customer Outages
Louisiana	11,781	<1%	11,857
Texas	287,125	2.4%	295,132
Total	298,906	-	*

**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 30, the State of Louisiana has 11,781 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 5,805 customer outages.
 - Beauregard Electric Coop (BECi) has 2,726 customer outages.
 - CLECO Power Inc. has 2,140 customer outages.
 - Southwestern Electric Power Co. (SWEPCO) has 1,053 customer outages.
 - 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 7:30 AM EDT, August 30, the State of Texas has 287,125 customer outages. This represents 2.4% of customers in the state.
 - AEP Texas has 105,916 customer outages. This is an 18.4% decrease from last report.
 - CenterPoint Energy has 98,674 customer outages. This is a 5% decrease from last report.
 - Entergy Texas has 71,022 customer outages. This is a 182% increase from last report.
 - Texas New Mexico Power has 7,485 customer outages. This is a 14% 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.
 - CenterPoint Energy is operating three staging sites around Houston to mobilize restoration crews. They have 170 additional mutual assistance crews aiding.
 - Texas-New Mexico Power restoration efforts were severely impaired due to impassable roads on Tuesday. The ability for crews to restore will be reassessed early Wednesday morning.
 - 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.
 - 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.
 - The Governor of Texas released a proclamation authorizing utilities to make temporary connections at the distribution and transmission level.



OIL & GAS SECTOR

OFFSHORE PRODUCTION

- As of 12:30 PM EDT, August 29, 319,523b/d (18.26%) of the oil production and 615.09 MMcf/d (19.1%) 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 08/29/2017</i>			
Production	Pre-Event	Shut-In (08/28)	Shut-In (08/29)
Crude Oil (b/d)	1,750,000	331,370	319,523
Natural Gas (MMcf/d)	3,220	583.39	615.09
Infrastructure	Pre-Event Count	Evacuated (08/28)	Evacuated (08/29)
Manned Platforms	737	98	102
Rigs	31	5	5

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 08:00 AM EDT, August 30, all six refineries in the Corpus Christi area, seven refineries in the Houston/Galveston area, and two refineries in the Beaumont/Port Arthur area were shut down or in the process of shutting down, according to public reports. These refineries have a combined refining capacity of 3,871,449 b/d, equal to 39.9% of total Gulf Coast (PADD 3) refining capacity and 20.9% of total U.S. refining capacity. In addition, five refineries in the Gulf Coast region were operating at reduced rates. The refineries operating at reduced rates have a total capacity of 1,509,276 b/d, equal to 15.6% of total Gulf Coast (PADD 3) refining capacity and 8.2% 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.
- As of August 28, 22 oil tankers carrying approximately 15.3 million barrels of imported crude oil near Texas ports are unable to offload due to port closures.
- 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.

Status of Texas and Louisiana Gulf Coast Ports as of 8:00 AM EDT 08/30/2017		
Port	Status	Date Stamp
Sector Corpus Christi		
Brownsville	Open.	08/26/17
Corpus Christi	Port Condition Zulu. Closed. Port is assessing damage. Working to restore normal operations by 9/4.	08/28/17
Sector Houston and Galveston		
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
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 (Bubba Dove) and Bayou Grand Caillou Floodgates closed due to Harvey. Closure will restrict access to Houma.	08/29/17

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 our crews have been able to safely access.



WAIVERS

- The table below lists fuel-related waivers issued by the U.S. Environmental Protection Agency (U.S. EPA) and State agencies.

State Fuel Waivers as of 8:00 AM EDT 08/30/2017					
State	Waiver	Issued By	Effective Dates		Status
			Start	End	
TX	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.	U.S. EPA	08/25/17	09/15/17	Active
TX	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.	U.S. EPA	08/25/17	09/15/17	Active
TX	TxLED requirement waived in 29 counties that require TxLED and are also under the Governor's Disaster Declaration. Waiver expanded to the entire 110-county area required to use TxLED 8/26.	U.S. EPA	08/25/17	09/15/17	Active
TX	ULSD requirement waived in Texas. Allows use of dyed non-road diesel fuel meeting 15 ppm standard.	U.S. EPA	08/28/17	09/15/17	Active
TX	Highway diesel fuel red dye requirements waived in Texas. Allows sale, distribution, and use of red dyed non-road locomotive and marine (NRLM) diesel in the State of Texas for use in highway diesel vehicles. Diesel must meet 15 ppm standard.	U.S. EPA	08/29/17	09/15/17	Active
LA	7.8 psi RVP standard waived for gasoline sold in designated parishes where low-RVP gasoline is required. Allows sale of gasoline up to 9.0 psi RVP.	U.S. EPA	08/28/17	09/15/17	Active
LA	Ethanol volume requirement waived. Allows gasoline with less than 9% ethanol to qualify for the EPA's "special provisions for alcohol blends" requirement.	U.S. EPA	08/28/17	09/15/17	Active
SC	Allows the co-mingling of RFG with conventional fuel.	SC Dept. of Agriculture	08/28/17	09/15/17	Active
SC	9.0 psi RVP standard waived for gasoline sold in South Carolina. The Department will allow up to 11.5 psi RVP fuel.	SC Dept. of Agriculture	08/28/17	09/15/17	Active



AL	Vapor balance waiver issued for Alabama. Department will use enforcement discretion for delivery of gasoline to Stage 1 gasoline dispensing facilities from certain bulk gasoline plants without utilizing outgoing vapor balance.	AL Dept. of Environ. Mgmt.	08/29/17	09/15/17	Active
GA	7.8 psi RVP standard waived for gasoline sold in affected counties where low-RVP gasoline is required. Allows sale of gasoline up to 9.0 psi RVP.	U.S. EPA	08/29/17	09/15/17	Active
GA	Ethanol volume requirement waived. Allows gasoline with less than 9% ethanol to qualify for the EPA’s “special provisions for alcohol blends” requirement.	U.S. EPA	08/29/17	09/15/17	Active

Source: U.S. Environmental Protection Agency; State agencies

- 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 8:00 AM 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
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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
Commercial Power Availability	Available	Available	Available	Available
Drawdown Capability	Drawdown Ready	Drawdown Ready	Drawdown Ready	Drawdown Ready

