



# Hurricane Harvey

## Event Report (Update #4)

<b>REPORT TIME &amp; DATE:</b>	4:30 PM EDT   Sunday, August 27, 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

Harvey continues to produce heavy rain across the impacted areas, which has led to significant flooding. Harvey will continue to impact the region through middle of the week with an additional 15 – 25 inches of rain expected through Friday. Harvey made landfall around 11:00 PM EDT on Friday, August 25 between Port Aransas and Port O’Connor, Texas as a category 4 hurricane. Harvey was the strongest hurricane to impact Texas since 1961 and the first category 4 storm to make landfall in the United States since Hurricane Charley impacted Florida in 2004.

As of 2:30 PM EDT Sunday, there were 306,058 customer power outages across Texas and no significant power outages in Louisiana. Impacted utilities have issued statements that they are expecting power outages to last several days. Restoration efforts cannot begin until weather conditions are safe. 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. Additionally, before customers can have electricity restored to homes or business impacted by flooding, customers need to have electrical equipment inspected.

As of Saturday 22% of the oil production 25.7% of the natural gas production in Gulf of Mexico are shut-in as a precaution and most refineries were shutdown. Retail gas station outages have been reported in the impacted region; however, overall stocks of gasoline and distillate in the region are at or above the top-end of the 5-year range. DOE is working closely with the Energy Information Administration to further assess potential impacts at both a regional and national level.

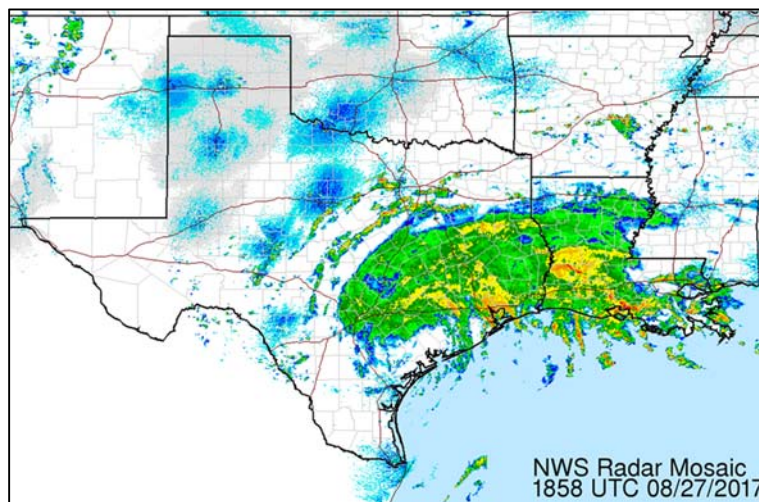
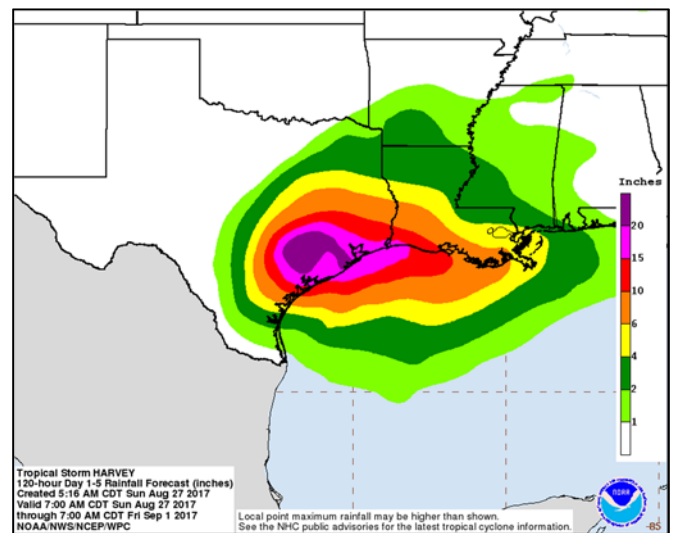
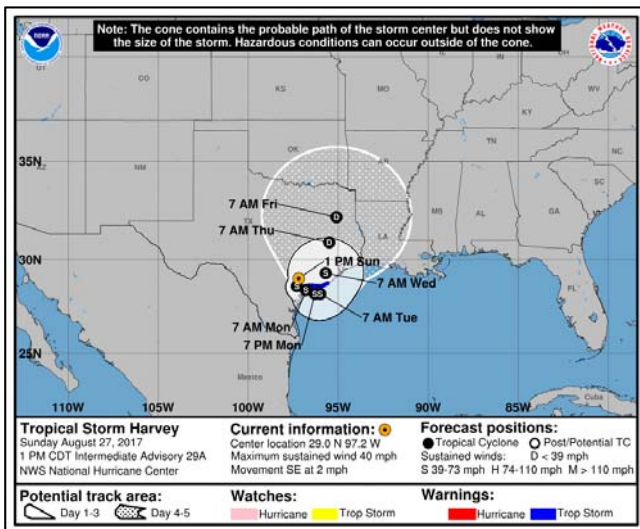
A federal major disaster declaration was approved for Texas on August 25. The U.S. Environmental Protection Agency, in consultation with DOE approved a request made by Texas to waive requirements for reformulated gasoline, Reid vapor pressure, and Texas Low Emission Diesel for select counties in Texas to help alleviate constraints on gasoline for retail stations due to the storm. The Federal Motor Carrier Safety Administration also issued a Regional Emergency Declaration in the States of Texas and Louisiana for an exemption from certain regulations, including hours-of-service, to ensure immediate transportation of supplies, equipment, and persons.

**INCIDENT OVERVIEW**

As of 2:00 PM EDT, Harvey was 25 miles northwest of Victoria, Texas moving southeast at 2 MPH, with maximum sustained winds of 40 MPH (tropical storm). Tropical-storm-force winds extend outward up to 175 miles mainly over water to the east and southeast of the center. A slow southeastward to east-southeastward motion is expected over the next couple of days. On the forecast track, the center will move very near the coast of southeastern Texas on Monday.

Harvey is expected to produce additional rain accumulations of 15 to 25 inches over the middle and upper Texas coast through Friday. Isolated storm totals may reach 50 inches in this area. During the same time period, Harvey is expected to produce total rain accumulations of 5 to 15 inches farther south toward the lower Texas coast, farther west toward the Texas Hill Country, and farther east through southwest and central Louisiana. Storm surge of 1 to 3 feet is still possible throughout the coastal areas under a tropical storm warning.

A tropical storm warnings currently extend from Port O'Connor to Sargent, Texas and flood and flash flood warnings are watches have been issued throughout the region.



**ELECTRICITY SECTOR**

**OVERVIEW**

Impacted utilities, including Entergy, AEP Texas, and CenterPoint Energy have issued statements and 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 Southeastern Electric Exchange and the Midwest Mutual Assistance Group are actively monitoring the need for mutual assistance and crew deployments to respond to power outages in Texas and Louisiana. A federal major disaster declaration was approved on August 25, 2017.

ELECTRICITY OUTAGES AS OF 2:30 PM EDT 08/27/2017			
Impacted State	Current Confirmed Customer Outages	Percent of Confirmed State Customers without Power	24-hr Peak Customer Outages
Louisiana	5,381	<1%	5,381
Texas	306,058	2.6%	306,058
<b>Total</b>	<b>311,439</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 27, the State of Louisiana has 5,381 customer outages. This represents <1% of customers in the state.
    - Entergy Louisiana has 3,159 customer outages
    - Southwestern Electric Power Co (SWEPCO) has 1,774 customer outages.
    - CLECO Power Inc. has 304 customer outages.
    - Beauregard Electric Coop (BECi) has 126 customer outages.
  - Entergy Louisiana is monitoring the storm and will respond as needed.
  - SWEPCO is sending 187 personnel to assist in AEP Texas restoration efforts.
  - Cleco Cooperative crews, along with contractor crews, are currently on stand-by and prepared to restore service, if necessary. Cleco is monitoring the storm.
  - The Governor of Louisiana has declared a state of emergency.
  - The Louisiana Governor’s Office of Homeland Security and Emergency Preparedness (GOHSEP) has deployed two Emergency Management Assistance Compact (EMAC) Advance Team personnel to Texas in response to the storm. Texas made the request for personnel through the EMAC.

- Texas
  - As of 2:30 PM EDT, August 27, the State of Texas has 306,058 customer outages. This represents 3% of customers in the state.
    - AEP Texas has 182,799 customer outages. This is a 0.5% increase from last report.
    - CenterPoint Energy has 69,944 customer outages. This is a 16% increase from last report.
    - Texas New Mexico Power has 16,480 customer outages. This is a 43% increase from last report.
    - Austin Energy has 13,604 customer outages. This is a 5% increase from last report.
  - AEP Texas, via a news release, indicated that approximately 2,000 personnel have either arrived or shortly will arrive at locations to safely wait out the storm and then begin the restoration process. These personnel include distribution and transmission line crews, forestry teams, and support staff. AEP Texas's sister company, SWEPCO, is sending 187 personnel to assist in restoration efforts.
  - Due to impassable roads in the city of Houston, restoration by CenterPoint Energy has been slowed.
  - Texas-New Mexico Power has changed their overall estimate of 100% restoration to Thursday, August 31 at 7:00 PM EDT, a difference of 72 hours from the previous estimate. TNMP crews are being severely impaired by flooding in the I-45 corridor.
  - Guadalupe Valley Electric Cooperative suspended overnight restoration efforts. They have resumed those efforts on Sunday morning.
  - On Saturday night, the Governor of Texas added 20 counties to the state disaster declaration, bringing the total to 50 counties.



## OIL AND GAS SECTOR

## OFFSHORE PRODUCTION

- As of 12:30 PM EDT, August 27, 378,633 b/d (21.64%) of the oil production and 827 MMcf/d (25.68%) 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 08/27/2017</i>			
Production	Pre-Event	Shut-In (08/26)	Shut-In (08/27)
Crude Oil (b/d)	1,750,000	428,568	378,633
Natural Gas (MMcf/d)	3,220	835	827
Infrastructure	Pre-Event Count	Evacuated (08/26)	Evacuated (08/27)
Manned Platforms	737	112	105
Rigs	31	6	6

Source: BSEE

## PETROLEUM REFINERIES

- As of 03:00 PM EDT, August 27, all six refineries in the Corpus Christi area are shut down and two refineries in the Houston/Galveston area have begun the process of shutting down, according to public reports. These refineries have a combined refining capacity of 1,810,920 b/d, equal to 36.0% of total Texas Gulf Coast refining capacity. In addition, one refinery in the H



## 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.

Status of Texas and Louisiana Gulf Coast Ports <i>as of 3:00 PM EDT 08/27/2017</i>		
Port	Status	Date Stamp
<b>Sector Corpus Christi</b>		
Brownsville	Open.	08/26/2017
Corpus Christi	Port Condition Zulu. Closed.	08/25/2017
<b>Sector Houston and Galveston</b>		
Freeport	Port Condition Zulu. Closed.	08/25/2017
Galveston	Port Condition Zulu. Closed.	08/25/2017
Houston	Port Condition Zulu. Closed.	08/25/2017
Texas City	Port Condition Zulu. Closed.	08/25/2017
<b>Sector Port Arthur and Lake Charles</b>		
Beaumont	Port Condition Yankee. Open with restrictions.	08/27/2017
Lake Charles	Port Condition Yankee. Open with restrictions.	08/27/2017
Orange	Port Condition Yankee. Open with restrictions.	08/27/2017
Port Arthur	Port Condition Yankee. Open with restrictions.	08/27/2017
Sabine Pass	Port Condition Yankee. Open with restrictions.	08/27/2017

Source: U.S. Coast Guard

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

## WAIVERS

- The U.S. Environmental Protection Agency (EPA) has approved a request made by the Texas Commission on Environmental Quality (TCEQ) to waive requirements for reformulated gasoline (RFG), Reid vapor pressure (RVP), and Texas Low Emission Diesel (TxLED) that apply in some counties covered by the Governor's Disaster Proclamation. The waiver was issued after consultation with the U.S. Department of Energy to address a fuel supply emergency caused by refinery shutdowns and evacuations associated with Hurricane Harvey.

State Fuel Specification Waivers <i>as of 3:00 PM EDT 08/27/2017</i>				
State	Waived Requirement	Effective Dates		Status
		Start	End	
Texas	<b>RFG</b> requirement waived in Houston-Galveston-Brazoria areas. Allows the sale or distribution of conventional gasoline.	08/26/17	09/15/17	Active
Texas	<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.	08/26/17	09/15/17	Active
Texas	<b>TxLED</b> requirement waived in 29 counties that require TxLED and are also under the Governor’s Disaster Declaration.	08/26/17	09/15/17	Active

Source: U.S. Environmental Protection Agency

- 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 3:00 PM EDT 08/27/2017</i>				
State	Details	Effective Dates		Status
		Start	End	
Regional (Texas & Louisiana)	Regional Emergency Declaration and FMCSR waiver issued by FMCSA.	8/25/17	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.	8/23/17	TBD	Active
Louisiana	State of Emergency declared.	8/23/17	TBD	Active

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