



# Post-Tropical Cyclone Harvey

## Event Report (Update #17)

<b>REPORT TIME &amp; DATE:</b>	11:00 AM EDT   Sunday, September 3, 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 @ <a href="https://energy.gov/oe/downloads/hurricane-harvey-situation-reports-august-2017">https://energy.gov/oe/downloads/hurricane-harvey-situation-reports-august-2017</a>

### EXECUTIVE SUMMARY

As of 9:15 PM EDT Saturday, parts of Southeast Texas are under an extended Flood Warning until further notice. According to the National Weather Service, the Neches River (not to be confused with the Nueces River) will slowly fall to a stage near 19.3 feet by Monday morning. Flooding is also occurring along the river in Beaumont and Northwest Orange County. The Flood Warning for the Buffalo Bayou near Piney Point Village in Harris County is also in effect until further notice. The Buffalo Bayou is expected to fall to a stage of 60.5 feet by Sunday evening.

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

- As of 7:30 AM EDT, September 3, Texas has 88,409 customer outages (<1% of total state customers).
  - AEP Texas has 45,168 customer outages. This is a 9.7% decrease from the last report.
  - Entergy Texas has 34,419 customer outages. This is a 36.5% decrease from the last report.
  - CenterPoint Energy has 5,630 customer outages. This is a 34.5% decrease.
- AEP Texas is reporting 98% of the outages caused by Hurricane Harvey have been resolved. The Estimated Times of Restoration (ETRs) for most communities within the AEP service area are 11 PM EDT Friday, September 8, if not sooner.
- Entergy Texas has reported there are currently 252 miles of transmission lines out and 13 flooded substations within their service territory. By end of day Sunday, September 3, Entergy will provide ETRs for the rest of its impacted customers.
- CenterPoint Energy is reporting 99.75% of customers have power. Of those customers still affected, about 6,600 are without lights due to extended flooding and public safety concerns.

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

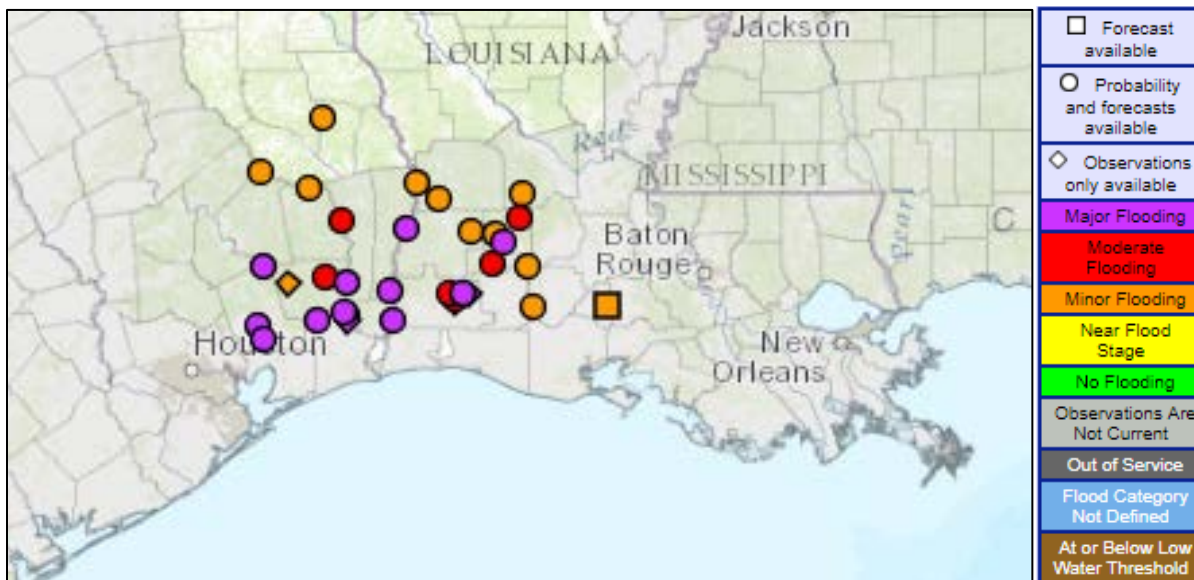
- As of 07:30 AM EDT, September 3, nine refineries in the Gulf Coast region were shut down, according to public reports. No shut refineries have changed their status since the last report. These refineries have a combined refining capacity of 2,357,229 b/d, equal to 24.3% of total Gulf Coast (PADD 3) refining capacity and 12.7% of total U.S. refining capacity.
- Seven refineries had begun the process of restarting after being shut down. This process may take several days or weeks to start producing product, depending whether any damage is found during restart. No refineries were identified as having begun restart operations since the last report. These refineries have a combined capacity of 1,528,720 b/d, equal to 15.8% of total Gulf Coast (PADD 3) refining capacity and 8.3% of total U.S. refining capacity.

- At least four refineries in the Gulf Coast region were operating at reduced rates, according to public reports. No refineries were identified as having begun restart operations since the last report. The refineries operating at reduced rates have a combined total capacity of 1,338,776 b/d, equal to 13.8% of total Gulf Coast (PADD 3) refining capacity and 7.2% of total U.S. refining capacity. (NOTE: Actual crude throughput (production) reductions are lower than the total combined capacity).
- Colonial restoration crews are assessing facilities and the pipeline right of way to ensure conditions are safe for a restart of operations from Houston and Pasadena. Work also continues to resume operations from other Texas injection points, which are expected to occur after Houston/Pasadena. Currently, only Texas operations are down, and the remainder of the Colonial system continues to operate with available supply.
- FEMA has established a “Rumor Control” website: <https://www.fema.gov/hurricane-harvey-rumor-control>

**INCIDENT OVERVIEW**

- As of 9:00 PM EDT Saturday, parts of Southeast Texas are under an extended Flood Warning until further notice. In the region, partly cloudy skies are expected today with highs in the upper 80s and lower 90s. Scattered thunderstorms are expected in the Port Arthur early this week. According to the National Weather Service, the Neches River (not to be confused with the Nueces River) will slowly fall to a stage near 19.3 feet by Monday morning. Flooding is also occurring along the river in Beaumont and Northwest Orange County. The Flood Warning for the Buffalo Bayou near Piney Point Village in Harris County is also in effect until further notice. The Buffalo Bayou is expected to fall to a stage of 60.5 feet by Sunday evening.

**Advanced Hydrologic Predictive Services**



\*The National Weather Service prepares its forecasts and other services in collaboration with agencies like the US Geological Survey, US Bureau of Reclamation, US Army Corps of Engineers, Natural Resource Conservation Service, National Park Service, ALERT Users Group, Bureau of Indian Affairs, and many state and local emergency managers across the country. The most current version of this flood map can be found at <https://water.weather.gov/ahps2/index.php?wfo=shv>.

**ELECTRICITY SECTOR**

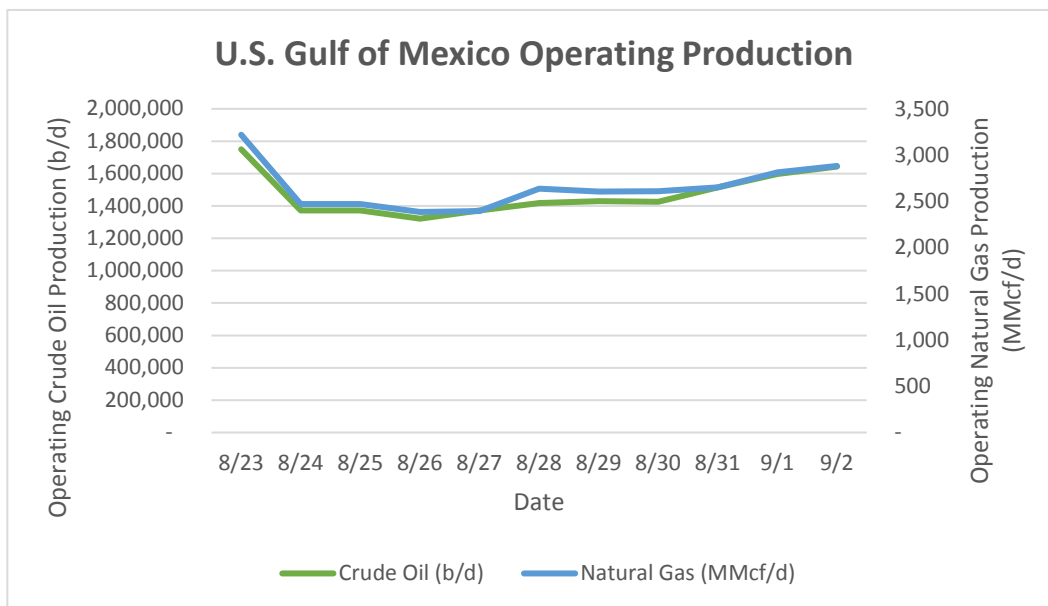
ELECTRICITY OUTAGES AS OF 7:30 AM EDT 09/03/2017			
Impacted State	Current Confirmed Customer Outages	Percent of Confirmed State Customers without Power	24-hr Peak Customer Outages
Texas	88,409	<1%	128,369
Total	88,409	-	*

\*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.

- Texas
  - As of 7:30 AM EDT, September 3, Texas has 88,409 customer outages (<1% of total state customers).
    - AEP Texas has 45,168 customer outages; this is a 9.7% decrease.
    - Entergy Texas has 34,419 customer outages; this is a 36.5% decrease.
    - CenterPoint Energy has 5,630 customer outages; this is a 34.5% decrease.
  - AEP Texas is reporting 98% of the outages caused by Hurricane Harvey have been resolved. The Estimated Times of Restoration (ETRs) for most communities within the AEP service area are 11 PM EDT Friday, September 8, if not sooner.
  - Entergy Texas has reported there are currently 252 miles of transmission lines out and 13 flooded substations within their service territory. By end of day Sunday, September 3, Entergy will provide ETRs for the rest of its impacted customers.
  - CenterPoint Energy is reporting 99.75% of customers have power. Of those still affected, about 6,600 are without lights due to extended flooding and public safety concerns.

**OIL & GAS SECTOR**

**PRODUCTION**



- As of 12:30 PM EDT, September 2, 106,813 b/d (6.1%) of the oil production and 337.2 MMcf/d (10.47%) of the natural gas production in the U.S. Gulf of Mexico are shut-in, according to estimates by the Bureau of Safety and Environmental Enforcement (BSEE).

**PETROLEUM REFINERIES**

- As of 07:30 AM EDT, September 3, nine refineries in the Gulf Coast region were shut down, according to public reports. No shut refineries have changed their status since the last report. These refineries have a combined refining capacity of 2,357,229 b/d, equal to 24.3% of total Gulf Coast (PADD 3) refining capacity and 12.7% of total U.S. refining capacity.
- Seven refineries had begun the process of restarting after being shut down. This process may take several days or weeks to start producing product, depending whether any damage is found during restart. No refineries were identified as having begun restart operations since the last report. These refineries have a combined capacity of 1,528,720 b/d, equal to 15.8% of total Gulf Coast (PADD 3) refining capacity and 8.3% of total U.S. refining capacity.
- At least four refineries in the Gulf Coast region were operating at reduced rates, according to public reports. No refineries were identified as having begun restart operations since the last report. The refineries operating at reduced rates have a combined total capacity of 1,338,776 b/d, equal to 13.8% of total Gulf Coast (PADD 3) refining capacity and 7.2% of total U.S. refining capacity. (NOTE: Actual crude throughput (production) reductions are lower than the total combined 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. Eleven ports are closed or open with restrictions. Crude imports at these ports averaged 2,077,000 b/d from January through May 2017.

Status of Texas and Louisiana Gulf Coast Ports <i>as of 7:30 AM EDT 09/03/2017</i>			
Port	Crude Imports Jan-May 2017 (b/d)	Status	Date Stamp
<b>Sector Corpus Christi</b>			
Brownsville	--	Open.	08/31/17
Corpus Christi	245,000	Port Condition Recovery. Open with restrictions. Allowing vessels up to 43' draft to transit during daytime hours only. Larger vessels allowed one-way transits during daylight hours only. Ship channel also open with restrictions. Working to reopen completely 09/04.	08/31/17
<b>Sector Houston and Galveston</b>			
Freeport	133,000	Open.	09/01/17
Galveston	114,000	Port Condition Recovery. Open with restrictions. Ship channel also open with restrictions. Limited to daylight hours for vessels with < 33' draft. Galveston Bay Entrance Channel, Outer Bar Channel, Bolivar Roads Anchorages, Bolivar Roads Channel, and Galveston Harbor open.	09/01/17



Houston	646,000	Port Condition Recovery. Open with restrictions. Houston Ship Channel above LB18 to Mitchell's Point open.	09/01/17
Texas City	134,000	Port Condition Recovery. Open with restrictions. Texas City Channel, Texas City Turning Basin, and Industrial Canal open.	09/01/17
<b>Sector Port Arthur and Lake Charles</b>			
Beaumont	33,000	Port Condition Recovery. Open with restrictions. 30' draft restriction for all waters of the Sabine-Neches Waterway.	08/31/17
Lake Charles	218,000	Port Condition Recovery. Open with restrictions. 37 feet draft restrictions of the Calcasieu Ship Channel.	08/31/17
Nederland	--	Port Condition Recovery. Open with restrictions. 30' draft restriction for all waters of the Sabine-Neches Waterway.	08/31/17
Orange	--	Port Condition Recovery. Open with restrictions. 30' draft restriction for all waters of the Sabine-Neches Waterway.	08/31/17
Port Arthur	687,000	Port Condition Recovery. Open with restrictions. 30' draft restriction for all waters of the Sabine-Neches Waterway.	08/31/17
Port Neches	--	Port Condition Recovery. Open with restrictions. 30' draft restriction for all waters of the Sabine-Neches Waterway.	08/31/17
Sabine Pass	--	Port Condition Recovery. Open with restrictions. 30' draft restriction for all waters of the Sabine-Neches Waterway.	08/31/17

Source: U.S. Coast Guard

## 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:

<b>Status of Texas and Louisiana Gulf Coast Rail Infrastructure as of 7:30 AM EDT 09/03/2017</b>		
<b>Rail Company</b>	<b>Status</b>	<b>Date Stamp</b>
BNSF	Major disruptions due to washouts. Houston Subdivision has resumed service, as well as greater portion of Galveston Subdivision, along with other smaller Subdivisions. Beaumont remains closed. Train loading and unloading resumed at Pearland Intermodal Facility.	09/01/17
CSX Corp.	Closely watching weather conditions in Louisiana and the southwestern portion of its operating network.	08/30/17
Kansas City Southern Railway	Force majeure and an embargo on network in Texas remains in effect. Assessments have indicated a few areas where maintenance will be required before reopening the line. When transit resumes, delays should be expected on all routes while backlogs are reduced and speed restrictions are imposed given the conditions and repair work.	09/01/17
Union Pacific	Routes through San Antonio opened up allowing for trains to be run both north and south between San Antonio and Hearne, TX. Reorganizing major rail yards at Settegast, and	09/02/17

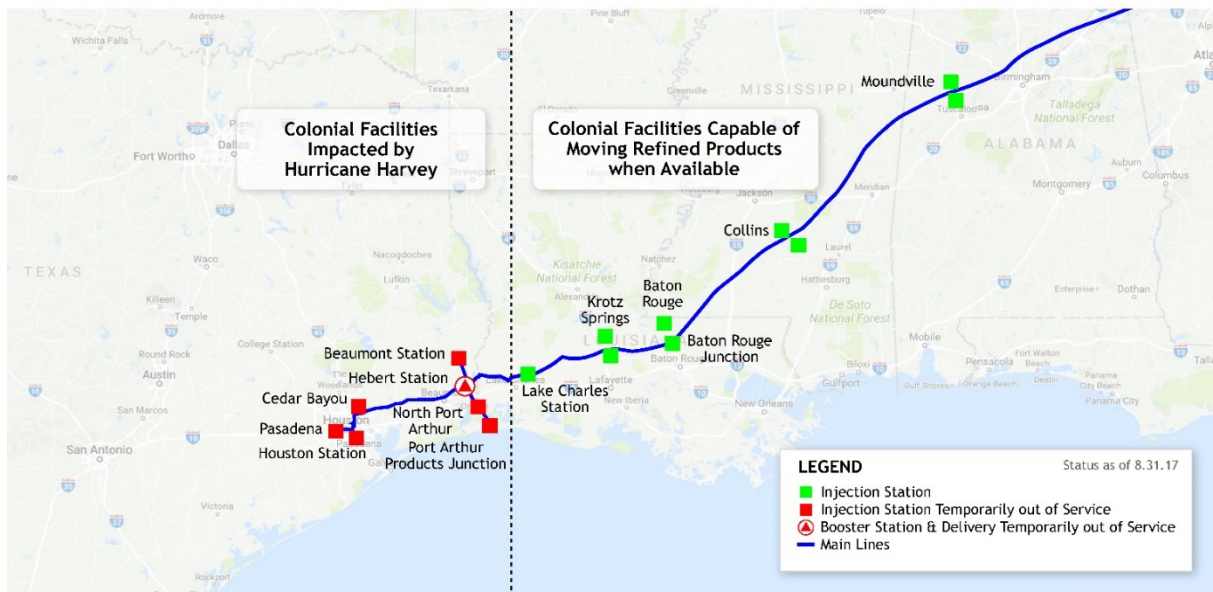


	Englewood. Repairs complete on some infrastructure in Houston and South Texas. Cleanup operations underway at Houston yards 8/31. Repaired track between Houston and Bryan, Texas and between Houston and Angleton, Texas. Currently working on Houston-San Antonio track repairs. Fire at Arkema chemical plant is hindering repair work on its line between Houston and Beaumont, TX.	
YRC Freight	Houston terminal closed.	08/29/17
ABF Freight	Service in Houston, Dallas, Little Rock, and San Antonio interrupted due to Harvey.	09/01/17

**COLONIAL PIPELINE**

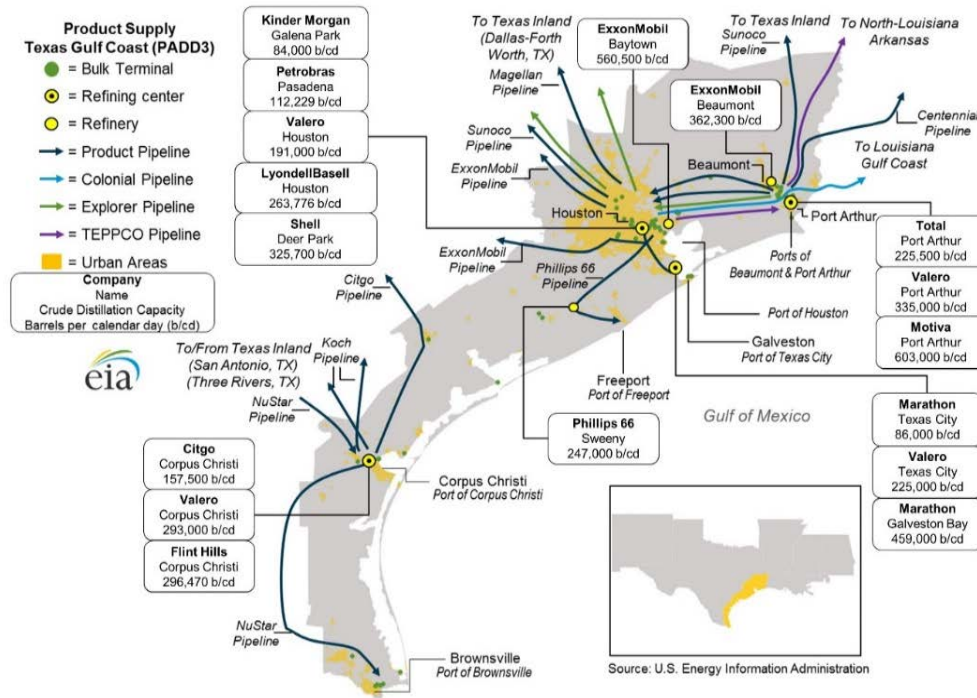
- Colonial’s Lines 1 and 2 continue to operate from Lake Charles east. Deliveries will be intermittent and dependent on terminal and refinery supply. The lines remain down from Houston to Hebert due to the storms.
- Colonial estimates that it will be able to return to service from Houston Sunday, following an evaluation of its infrastructure and successful execution of its startup plan. Of the 26 refineries that connect to the Colonial system, 13 are located between Houston and Lake Charles.
- Colonial is one part of the fuel delivery system, and there are multiple means of supplying the market to mitigate concerns with supply, including other pipelines, trucks, and barges.
- Colonial’s top priorities remain the safety of its personnel and integrity of its system will remain the top priorities. For more updates: <https://harvey.colonialresponse.com/>

 **Colonial Pipeline Gulf Coast Status Map**



**OTHER PRODUCT PIPELINES**

- Below is a map of refineries and petroleum product pipelines in the Texas Gulf Coast for awareness.



Source: EIA: <https://www.eia.gov/analysis/transportationfuels/padd1n3/>

**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). Later in the day, the waiver was expanded to include 38 states and Washington, DC.

State Fuel Waivers as of 7:30 AM EDT 09/03/2017					
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 all states located in PADD 1, PADD 2, and PADD 3. The waiver supersedes and expands the areas covered by the August 30 waiver.</p> <p><b>RFG</b> standard is also waived in the designated regions. Also waived are provisions prohibiting</p>	U.S. EPA	08/30/17 Expanded: 08/31/17	09/15/17	Active



State Fuel Waivers as of 7:30 AM EDT 09/03/2017					
State	Waiver	Issued By	Effective Dates		Status
			Start	End	
	the blending of RFG blendstock with conventional gasolines or blendstocks.				
TX	<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.	U.S. EPA	08/25/17	09/15/17	Active
TX	<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.	U.S. EPA	08/25/17	09/15/17	Active
LA	RVP requirements of 7.8 psi and 9.0 psi waived in applicable areas. Permits the sale or distribution of winter gasoline with an 11.5 psi RVP.	State of Louisiana	08/29/17 Expanded: 08/30/17	09/15/17	Active
MI	<b>RVP</b> regulations waived. Permits the transportation and sale of motor fuels 9.0 psi RVP in Wayne, Oakland, Macomb, St. Clair, Livingston, Washtenaw, Monroe, and Lenawee counties, and up to 11.5 psi RVP elsewhere in Michigan.	State of Michigan	08/31/17	09/15/17	Active
MS	<b>RVP</b> standards of 9.0 psi waived. Permits the sale or distribution of winter gasoline with an 11.5 psi RVP.	State of Mississippi	08/30/17	09/15/17	Active
VA	Waived the <b>RVP</b> limit for gasoline ethanol blends prescribed by regulations.	State of Virginia	09/01/17	09/15/17	Active

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

- Nine states have declared state emergencies due to Harvey. Note that Kansas has not declared a State of Emergency, however is using its resources to assist other states. 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 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.
- 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. On August 31, the FMCSA expanded the Regional Emergency Declaration to additional states and Washington, DC.
- The table below summarizes emergency declarations and HOS waivers issued by states.





State Emergency Declarations and HOS Waivers as of 7:30 AM EDT 09/03/2017				
State	Details	Effective Dates		Status
		Start	End	
Regional (Multi-State)	Regional Emergency Declaration and FMCSR waiver issued by FMCSA. Applies to Alabama, Arkansas, Colorado, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maryland, Mississippi, Missouri, New Jersey, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Tennessee, Texas, South Carolina, Virginia, Washington, D.C. and West Virginia	08/25/17 Expanded 08/31/17	10/26/17	Active
Texas	State of Disaster declared for 61 counties in Texas.	08/23/17 Expanded: 08/30/17 09/01/17	TBD	Active
Louisiana	State of Emergency.	08/23/17	TBD	Active
Kentucky	State of Emergency/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 supplies, goods, and services in and through the State.	08/30/17	09/29/17	Active
Georgia	State of Emergency/HOS waiver issued for petroleum products through the State.	08/30/17	09/20/17	Active
Kansas	Governor acknowledged state of emergency in Texas and declared that licensing rules, registration and fuel tax permits, and oversize vehicle permit fees are waived for motor carriers and persons operating motor vehicles directly participating in the relief and restoration effort.	08/30/17	09/20/17	Active
North Carolina	State of Emergency/HOS waiver issued for petroleum products, and emergency relief supplies and services through the state.	08/31/17	09/30/17	Active
South Carolina	State of Emergency/HOS waiver issued for petroleum products through the state.	08/31/17	09/30/17	Active
Michigan	State of Emergency/HOS waiver issued for petroleum products through the state.	08/31/17	09/15/17	Active
Virginia	State of Emergency/HOS waiver issued for	09/01/17	09/15/17	Active



State Emergency Declarations and HOS Waivers <i>as of 7:30 AM EDT 09/03/2017</i>				
State	Details	Effective Dates		Status
		Start	End	
	petroleum products through the state.			

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

DOE Strategic Petroleum Reserve Site Status <i>(as of 5/3/2017)</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

- 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 emergency exchange agreements with four refineries for up to 5.3 million barrels of crude oil from SPR’s West Hackberry and Bayou Choctaw sites. Authorized exchanges are summarized in the table below.

SPR Authorized Exchanges		
Requesting Refinery	SPR Draw Down Site	Amount Authorized (up to)
Phillips 66 Lake Charles Refinery (First Request)	West Hackberry	200,000 barrels sweet crude; 300,000 barrels sour crude
Phillips 66 Lake Charles Refinery (Second Request)	West Hackberry	200,000 barrels sweet crude; 300,000 barrels sour crude
Marathon Petroleum Company	Bayou Choctaw	3,000,000 barrels sweet crude
Valero Marketing and Supply Company (First Request)	Bayou Choctaw	500,000 barrels sweet crude
Valero Marketing and Supply Company (Second Request)	Bayou Choctaw	500,000 barrels sweet crude
Placid Refining Company LLC	Bayou Choctaw	300,000 barrels sweet crude

