



Post-Tropical Cyclone Harvey

Event Report (Update #15)

REPORT TIME & DATE:	10:00 AM EDT Saturday, September 2, 2017
INCIDENT START DATE:	Friday, August 25, 2017
PRIMARY LOCATION(S):	Gulf Coast (Texas and Louisiana)
REPORT DISTRIBUTION:	Public @ https://energy.gov/oe/downloads/hurricane-harvey-situation-reports-august-2017

EXECUTIVE SUMMARY

As of 5:00 AM EDT, Post-Tropical Cyclone Harvey was 25 miles west-northwest of Lexington, Kentucky moving northeast at 13 MPH, with maximum sustained winds of 20 MPH. Harvey has continued to weaken since yesterday morning when it was declared post-tropical. Residual flooding will continue in and around Houston, Beaumont, Port Arthur, Orange, and western Louisiana border as well as in scattered areas in the mid-Mississippi Valley.

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

- Texas
 - As of 7:30 AM EDT, September 2, the State of Texas has 129,089 customer outages according to EAGLE-I & additional utilities not captured in EAGLE-I; 1.1% state customers.
 - Entergy Texas has 53,111 customer outages. This is a 4.3% decrease.
 - AEP Texas has 50,903 customer outages. This is a 22.8% decrease.
 - CenterPoint Energy has 19,313 customer outages. This is an 11% decrease.
 - Sam Houston Electric Coop has 3,012 customer outages; a 65.5% decrease.
 - CenterPoint Energy is reporting 99.33% of customers have power. High water continues to be a factor in restoration, including Brazoria County.
 - Entergy Texas has reported there are currently 252 miles of transmission lines out and 13 flooded substations within their service territory.
 - Crew members from Entergy New Orleans are en route to Texas to help restore the City of Beaumont's network.

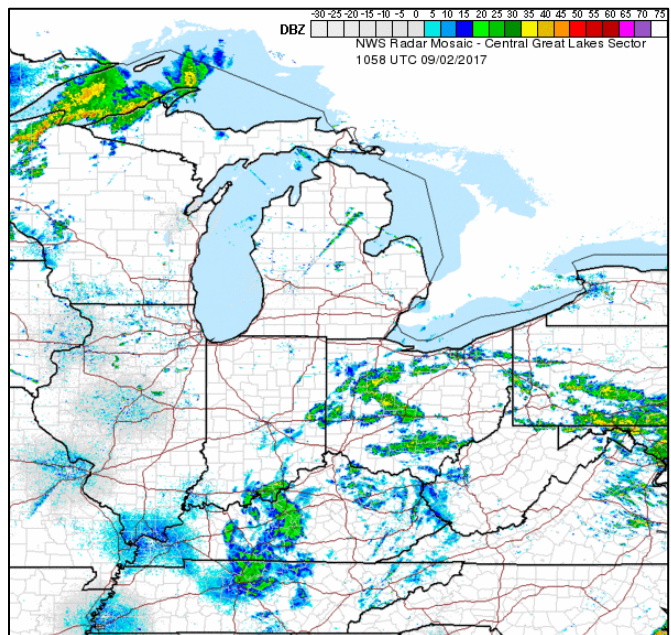
Oil and Natural Gas Sector Impacts (as of 7:30 AM EDT)

- The Secretary of Energy has authorized the Strategic Petroleum Reserve (SPR) to negotiate and execute an emergency exchange agreements with three companies to provide 5.3 million barrels of crude oil. Authorized exchanges are summarized in this report.
- As of 08:00 AM EDT, September 2, 10 refineries in the Gulf Coast region were shut down, according to public reports. No refineries have changed their status since yesterday afternoon's report. These refineries have a combined refining capacity of 2,917,729 b/d, equal to 30.1% of total Gulf Coast (PADD 3) refining capacity and 15.8% of total U.S. refining capacity.
- The Citgo (157,500 b/d), Flint Hills (296,470 b/d), and Valero (293,000) Refineries in the Corpus Christi area are all in the process of restarting.
- The U.S. Coast Guard reports a number of ports in the Port Arthur and Lake Charles are starting to open with restrictions: 30' draft restriction for all waters of the Sabine-Neches Waterway.

- Colonial’s gasoline Line 1 and distillate Line 2 (combined capacity: 2.5 million b/d) continues to operate intermittently from Lake Charles east to Greensboro, NC and are dependent on terminal and refinery supply.
 - Given the anticipated level of work required to restart these facilities, Colonial continues to estimate that it will be able to return to service from Houston Sunday, September 3. This timing is an estimate, and dependent on a number of considerations, including safe access to locations, passable roads and commercial power, and completion of any needed repairs.
- Nine states 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 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.
- FEMA has established a “Rumor Control” website: <https://www.fema.gov/hurricane-harvey-rumor-control>

INCIDENT OVERVIEW

- As of 5:00 AM EDT, Post-Tropical Cyclone Harvey was 25 miles west-northwest of Lexington, Kentucky moving northeast at 13 MPH, with maximum sustained winds of 20 MPH. Harvey has continued to weaken since yesterday morning when it was declared post-tropical, and is expected to move northeastward across upstate New York on Saturday before reaching the St. Lawrence River Valley in Canada by Monday.
- Harvey is expected to produce additional rainfall accumulations of 0.5 to 1 inches across Pennsylvania and into western New York followed by 1 to 2 inches of rain across interior New England. Residual flooding will continue in and around Houston, Beaumont, Port Arthur, Orange, and western Louisiana border as well as in scattered areas in the mid-Mississippi Valley.



ELECTRICITY SECTOR



ELECTRICITY OUTAGE DATA

ELECTRICITY OUTAGES AS OF 7:30 AM EDT 09/02/2017			
Impacted State	Current Confirmed Customer Outages	Percent of Confirmed State Customers without Power	24-hr Peak Customer Outages
Louisiana	701	<1%	10,619
Tennessee	6,164	<1%	24,924
Texas	129,089	1.1%	165,430
Total	135,954	-	*

**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, September 2, the State of Louisiana has 701 customer outages. This represents <1% of customers in the state.
 - Beauregard Electric Coop (BECi) has 505 customer outages. This is an 18% decrease from last report.
- Tennessee
 - As of 7:30 AM EDT, September 2, the State of Tennessee has 6,164 customer outages. This represents <1% of customers in the state.
 - Memphis Light Gas and Water has 2,924 customer outages. This is a 74% decrease from last report.
 - Cumberland EMC has 2,423 customer outages. This is a 1% decrease from last report.
- Texas
 - As of 7:30 AM EDT, September 2, the State of Texas has 129,089 customer outages. This represents 1.1% of customers in the state.
 - Entergy Texas has 53,111 customer outages. This is a 4.3% decrease from last report.
 - AEP Texas has 50,903 customer outages. This is a 22.8% decrease from last report.
 - CenterPoint Energy has 19,313 customer outages. This is an 11% decrease from last report.
 - Sam Houston Electric Coop has 3,012 customer outages. This is a 65.5% decrease from last report.
 - AEP Texas crews are using drones and helicopters to assess damage and working to repair or replace:
 - 3,100 distribution poles
 - 500 transmission structures
 - CenterPoint Energy is reporting 99.33% of customers have power. High water continues to be a factor in restoration, including Brazoria County.



- o Entergy Texas has reported there are currently 252 miles of transmission lines out and 13 flooded substations within their service territory.
- o Crew members from Entergy New Orleans are en route to Texas to help restore the City of Beaumont’s network.

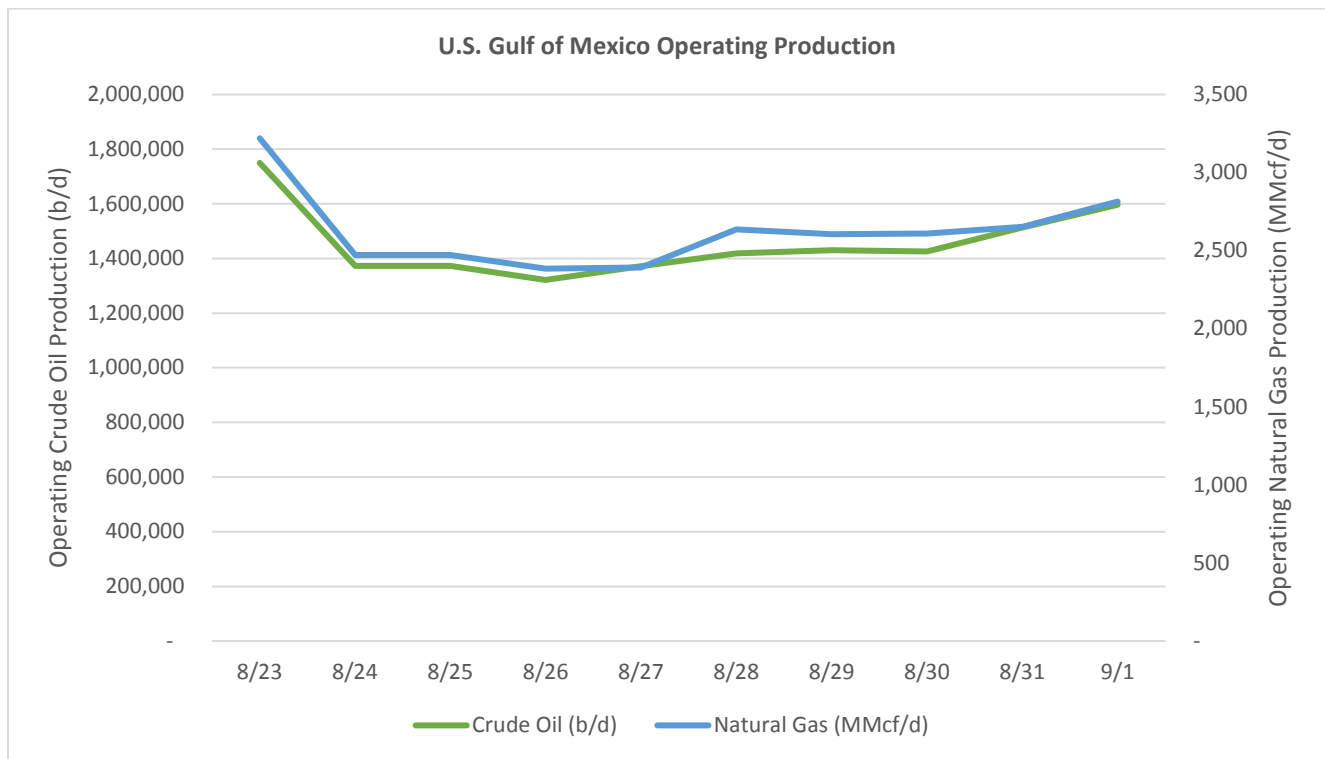
OIL & GAS SECTOR

OFFSHORE PRODUCTION

- As of 12:30 PM EDT, September 1, 152,989 b/d (8.74%) of the oil production and 405.99 MMcf/d (12.61%) 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 09/01/2017</i>			
Production	Pre-Event	Shut-In (08/31)	Shut-In (09/01)
Crude Oil (b/d)	1,750,000	236,115	152,989
Natural Gas (MMcf/d)	3,220	568.09	405.99
Infrastructure	Pre-Event Count	Evacuated (08/31)	Evacuated (09/01)
Manned Platforms	737	94	75
Rigs	31	5	0

Source: BSEE: <https://www.bsee.gov/resources-tools/hurricane/activity-statistics-update>



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 08:00 AM EDT, September 2, 10 refineries in the Gulf Coast region were shut down, according to public reports. No refineries have changed their status since yesterday afternoon's report. These refineries have a combined refining capacity of 2,917,729 b/d, equal to 30.1% of total Gulf Coast (PADD 3) refining capacity and 15.8% of total U.S. refining capacity.
- Six refineries had begun the process of restarting from being shut down. This process may take several days or weeks to start producing product, depending whether any damage is found. No refineries have changed their status since yesterday afternoon's report. These refineries have a combined capacity of 968,220 b/d, equal to 10% of total Gulf Coast (PADD 3) refining capacity and 5.2% of total U.S. refining capacity.
- Five refineries in the Gulf Coast region were operating at reduced rates. No refineries have changed their status since yesterday afternoon's report. The refineries have a combined total capacity of 1,563,776 b/d, equal to 16.1% of total Gulf Coast (PADD 3) refining capacity and 8.4% 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.

Status of Texas and Louisiana Gulf Coast Ports as of 8:00 AM EDT 09/02/2017		
Port	Status	Date Stamp
Sector Corpus Christi		
Brownsville	Open. According to USCG, port never closed due to Harvey.	09/01/17
Corpus Christi	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.	09/01/17
Sector Houston and Galveston		
Freeport	Open.	09/01/17
Galveston	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	Port Condition Recovery. Open with restrictions. Houston Ship Channel above LB18 to Mitchell’s Point open.	09/01/17
Texas City	Port Condition Recovery. Open with restrictions. Texas City Channel, Texas City Turning Basin, and Industrial Canal open.	09/01/17
Sector Port Arthur and Lake Charles		
Beaumont	Open with restrictions. 30' draft restriction for all waters of the Sabine-Neches Waterway.	09/01/17
Lake Charles	Open with restrictions. 37 feet draft restrictions of the Calcasieu Ship Channel.	09/01/17
Nederland	Open with restrictions. 30' draft restriction for all waters of the Sabine-Neches Waterway.	09/01/17
Orange	Open with restrictions. 30' draft restriction for all waters of the Sabine-Neches Waterway.	09/01/17
Port Arthur	Open with restrictions. 30' draft restriction for all waters of the Sabine-Neches Waterway.	09/01/17
Port Neches	Open with restrictions. 30' draft restriction for all waters of the Sabine-Neches Waterway.	09/01/17
Sabine Pass	Open with restrictions. 30' draft restriction for all waters of the Sabine-Neches Waterway.	09/01/17
Sector Morgan City		
Houma	Houma navigational channel and Bayou Grand Caillou Floodgates have reopened.	08/31/17
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
Sector Lower Mississippi River		
All ports	Due to heavy weather, mariners are advised by the COTP to transit the lower Mississippi, Arkansas, Red, Black, and Ouachita rivers and other river tributaries with caution.	08/30/17

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:

Status of Texas and Louisiana Gulf Coast Rail Infrastructure as of 8:00 AM EDT 09/02/2017		
Rail Company	Status	Date Stamp
Kansas City Southern Railway	Force majeure and an embargo on network in Texas affected by Harvey. Damage assessment has been difficult due to accessibility concerns.	08/31/17
Union Pacific	Routes through San Antonio opened up allowing for trains to be run both north and south between San Antonio and	09/01/17

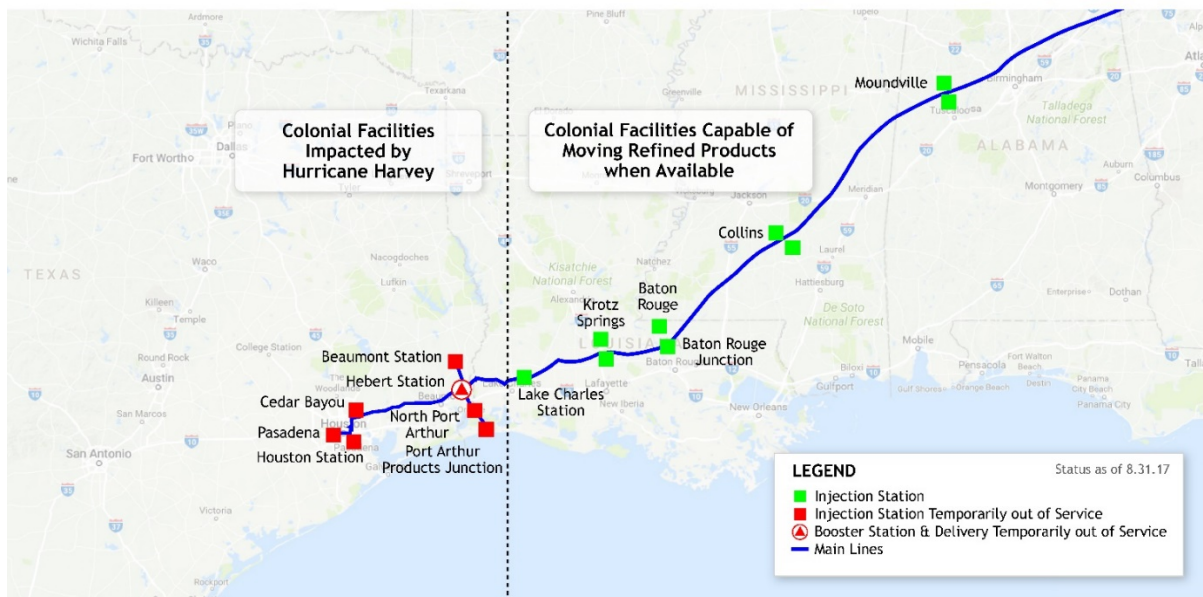


	Hearne, TX. Reorganizing major rail yards at Settegast, and Englewood. Repairs complete on some infrastructure in Houston and South Texas. Cleanup operations underway at Houston yards 8/31. Repaired track between Houston and Bryan, Texas and between Houston and Angleton, Texas. Currently working on Houston-San Antonio track repairs.	
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
YRC Freight	Houston terminal closed.	08/29/17

COLONIAL PIPELINE

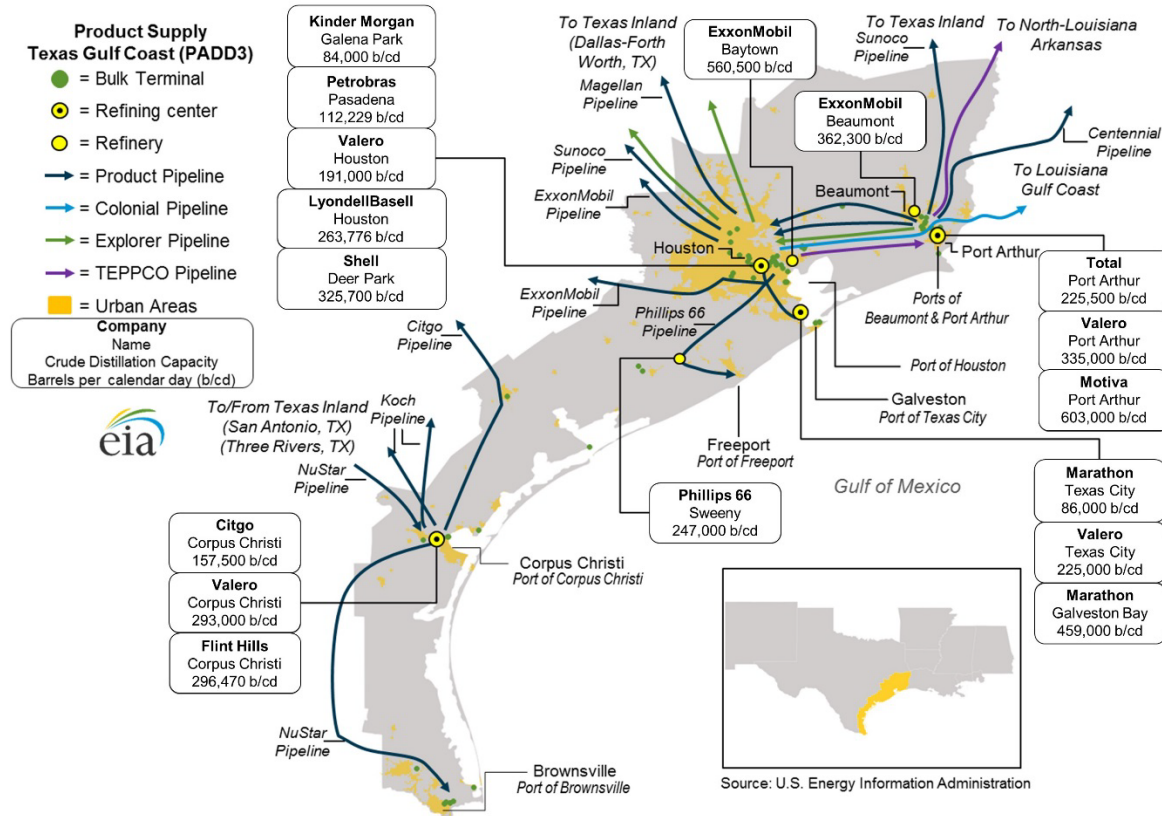
- Colonial’s Lines 1 and 2 continue to operate from Lake Charles east. Deliveries will be intermittent and dependent on terminal and refinery supply. The lines remain down from Houston to Hebert due to the storms.
- Colonial estimates that it will be able to return to service from Houston Sunday, following an evaluation of its infrastructure and successful execution of its start up 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 8:00 AM EDT 09/02/2017					
State	Waiver	Issued By	Effective Dates		Status
			Start	End	
Multi-state waiver	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 all east coast states located in PADD 1 – Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, Delaware, District of	U.S. EPA	08/30/17 Expanded: 08/31/17	09/15/17	Active

State Fuel Waivers as of 8:00 AM EDT 09/02/2017					
State	Waiver	Issued By	Effective Dates		Status
			Start	End	
	<p>Columbia, Maryland, New Jersey, New York, and Pennsylvania, Florida, Georgia, North Carolina, South Carolina, Virginia, and West Virginia; all Midwestern states located in PADD 2 - Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, Ohio, Oklahoma, Tennessee, and Wisconsin; and all Gulf coast states located in PADD 3 – Alabama, Arkansas, Louisiana, Mississippi, New Mexico, and Texas. The waiver supersedes and expands the areas covered by the August 30 waiver.</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>				
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
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	RVP 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	RVP standards of 9.0 psi waived. Permits the sale or distribution of winter gasoline with an	State of Mississippi	08/30/17	09/15/17	Active



State Fuel Waivers as of 8:00 AM EDT 09/02/2017					
State	Waiver	Issued By	Effective Dates		Status
			Start	End	
	11.5 psi RVP.				
VA	Waived the RVP 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. 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 8:00 AM EDT 09/02/2017				
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 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	08/28/17	09/27/17	Active

State Emergency Declarations and HOS Waivers as of 8:00 AM EDT 09/02/2017				
State	Details	Effective Dates		Status
		Start	End	
	affected areas. All economic requirements normally associated with interstate motor transportation for all vehicles providing relief supplies to affected areas.			
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	08/31/17	09/15/17	Active
Virginia	State of Emergency	09/01/17	09/15/17	Active



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

DOE Strategic Petroleum Reserve Site Status <i>(as of 5/2/2017)</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 agreements with three refiners to provide 5.3 million barrels of crude oil. 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

