

#### **Hurricane Ike Situation Report #22**

October 3, 2008 (2:00 PM EDT)

http://www.oe.netl.doe.gov/emergency\_sit\_rpt.aspx

# Summary

	Electricity						
Impacted State	Electric Customer Outag	% of State Out					
Texas		0%					
TOTAL:		1,911					
Petroleum & Natural Gas							
	Amou	nt	% Capacity Out*				
Crude Oil Production Shut-In (b/d)	6	26,045	48.2%				
Natural Gas Production Shut-in (mm	cf/d)	3,303	44.6%				
Refinery Capacity Shut down (b/d)	4	31,500	NA NA				

#### Notes:

Total state customers are based on 2006 EIA Customer Data.

Outage totals for all counties served by CenterPoint were taken from the Texas PUC as of 3:30 PM EDT on October 2, with the exception of outages for Galveston and Harris County, which came from CenterPoint Energy as of 8:30 AM EDT October 3. **Source:** 

Crude Oil and Natural Gas Production Data from Minerals Management Service.

Refinery Status confirmed by company or on company web site and through various trade press sources.

### **Highlights:**

- As of 8:30 AM EDT October 3, there are 1,911 customers that remain without power in Texas. Power has been restored to over 33,000 customers since Ike Situation Report No.21 on Wednesday (October 1). All remaining outages are for customers served by CenterPoint. As of 8:30 AM EDT the counties with the most remaining outages are:
  - Harris County 1,048
  - Galveston County 651

### **ESF 12 Actions:**

• ESF-12 continues to support FEMA Region VI with energy restoration support for Hurricane Ike. On September 30, FEMA Region VI requested ESF-12 support to assist with connecting temporary housing units to the electricity distribution system. ESF-12 personnel deployed to Austin, TX on October 1 and are currently working with Disaster Housing Operations (DHOPS) at the FEMA Region VI Joint Field Office (JFO) in Austin, TX.

<sup>\* %</sup> capacity out represents percent of production capacity in the Gulf of Mexico.

# **Situation Report Detail**

### **Petroleum & Gas Information**

Oil & Gas Offshore Production Shut In Status for Affected Area						
Location	% Shut In					
Crude Oil (B/D)	626,045	1,300,000	48.2%			
Natural Gas (MMCF/D)	3,303	7,400	44.6%			

Source: Minerals Management Service

- On October 2, the Louisiana's Department of Natural Resources reports that 66,798 b/d or 43 percent of the normal Louisiana oil production has been restored. Operators in 17 parishes and in-State offshore areas normally produce 155,767 b/d (the numbers are in addition to MMS reports of Federal offshore production). Shut-in oil production is 61,862 b/d and the status of remaining 27,107 b/d is unknown. The estimated amount of restored gas production is 712 MMcf/d or 43 percent of the daily gas production capacity, which is 1,642 MMcf/d. The estimated amount of shut-in gas production is 648 MMcf/d; the status of the remaining 282 MMcf/d has not been confirmed.
- As of 8:00 AM EDT October 3, the Houston and Sabine Ship Pilots' Associations report operations continue as normal in guiding deep draft commercial ships, such as oil tankers and bulk carriers, through their respective ship channels. The Galveston/Texas City and Lake Charles Pilots' Associations also continue operations, but with draft restrictions of 38 feet and less in their waterways. In addition, the Gulf Intracoastal Waterway will be shut today from mile marker 338-339 for debris removal. As of 12:20 PM EDT October 1, restrictions on the Lower Mississippi River have been eased for deep draft vessels going up to Baton Rouge (mile marker 233.4). Nighttime transit is now allowed from mile marker 191 to 230 for all vessels with drafts of 40 feet or less.
- As of 10:00 AM EDT October 3, almost all of the petroleum product pipelines have resumed operations at pre-Gustav levels. Plantation pipeline is the latest to report reaching normal

<sup>&</sup>lt;sup>1</sup> Note that on October 1, 2008 MMS reported that "there were failures to report by some operators on September 29 and September 30, 2008. Steps have been taken to ensure full compliance with the prescribed deadlines in the future. Since the statistics are based on the operators' reports, both the evacuation and shut-in production figures provided for September 29 and September 30 are inaccurate. Due to the nature of the calculations, the statistics from those two days will not be recalculated."



operations. Genesis pipeline has resumed normal operations along its crude oil gathering and refinery services systems. See table below for pipeline status.

• As a result of Hurricane Gustav and Ike, several States in the Southeast region continue to experience spot outages of diesel and gasoline at retail stations. While fuel supplies remain tight, conditions are improving.

	Pipelines in the Path of Gustav / Ike as of 10/3/08 10:00 AM EDT								
Туре	Name	Start	Terminus	Capacity (barrels/day)	Shut Down	Partial Shut Down	Reduced Rates	Operating	
Crude	Capline	LA	IL	1,200,000				1,200,000	
Crude	LOOP/Locap	LA	LA	1,200,000				1,200,000	
Crude	Genesis gathering/refine	TX, MS, Al	TX, MS, AL	100,000				100,000	
Crude	Marathon gathering	GOM	LA/TX	NA	NA				
Crude	Sunoco Logistics/Wester	TX	TX	NA			NA		
Product	Centennial	TX	IL	210,000			210,000		
Product	Central Florida	FL	FL	115,000				115,000	
Product	Colonial	TX	NJ	2,400,000				2,400,000	
Product	CP Seaway Products	TX	OK	85,000				85,000	
Product	CP Sweeny to Pasadena	TX	TX	115,000				115,000	
Product	Explorer	LA/TX	IN	700,000				700,000	
Product	Longhorn	TX	TX	72,000				72,000	
Product	Magellan	TX	CO, MN, WI, IL	120,000				120,000	
Product	NuStar/Texas Gulf Coast	TX	TX	100,000				100,000	
Product	Plantation	LA	VA	600,000				600,000	
Product	TEPPCO	TX	PA, NY	330,000				330,000	
NGL	Dixie	TX	NC	100,000				100,000	
NGL	Enterprise	TX	IL, MN	641,000				641,000	

Source: Status of pipelines from Association of Oil Pipe Lines; Capacity data from company web sites

• Two refineries are shut down as of 10:00 AM EDT October 3, ExxonMobil's Beaumont and Valero's Houston, TX refineries with a total operable capacity of 0.4 million b/d. Valero reported late on September 29 that its Houston Refinery had to shutdown its fluid catalytic cracker for as long as 3 weeks to undertake repairs. With the exception of the two refineries that are shut down, all refineries are either at reduced runs or operating at normal levels. See table below for status of refineries.



Refineries in the Path of Gustav / Ike as of 10/3/08 10:00 AM EDT							
				C	apacity (B/D	)	
Refinery Impacted	Location	Storm	Operating	Shut Down	Restarting	Reduced Runs	Back to Normal
Pascagoula/Mobile Region	on		•				
Chevron	Pascagoula, MS	G	330,000				330,000
Shell	Saraland, AL	-	86,000				,
	goula/Mobile Total		416,000	0	0	0	330,000
Lower Mississppi River F							•
Alon (Formerly Valero)	Krotz Springs, LA	G	80,000			80,000	
Chalmette Refining	Chalmette, LA	G	192,760			20,000	192,760
ConocoPhillips	Belle Chasse, LA	G	247,000				247,000
ExxonMobil	Baton Rouge, LA	G	503,000				503,000
Marathon	Garyville, LA	G	256,000				256,000
Motiva	Norco, LA	G	236,400				236,400
Motiva	Convent, LA	G	235,000				235,000
Murphy Oil	Meraux,LA	G	120,000				120,000
Placid Refining	Port Allen, LA	G	56,000				56,000
Shell	Saint Rose, LA	G	55,000				55,000
Valero	Norco, LA	G	185,003				185,003
	sissppi River Total	<u> </u>	2,166,163	0	0	80,000	2,086,163
Lake Charles Region			2,100,100			00,000	2,000,100
Calcasieu	Lake Charles, LA	G+I	78,000			78,000	
Citgo	Lake Charles, LA	G+I	429,500			429,500	
ConocoPhillips	Westlake, LA	G+I	239,400			429,300	239,400
	Lake Charles Total	G+I	746,900	0	0	507,500	239,400
Port Arthur Region	Lake Onaries rotar		140,000			001,000	200,400
ExxonMobil	Beaumont, TX	G+I	348,500	348,500		1	
Motiva	Port Arthur, TX	G+I	285,000	346,300		205 000	
Total Petrochemicals	Port Arthur, TX	G+I	232,000			285,000 232,000	
Valero (formerly Premcor)		G+I	289,000				
valero (lormeny Fremcor)	Port Arthur Total	G+I	1,154,500	348,500	0	289,000 <b>806,000</b>	
Havetan/Calvestan Bani			1,154,500	346,300	U	800,000	
Houston/Galveston Regi			407 700			407 700	
	Texas City, TX	ı	467,720			467,720	0.47.000
ConocoPhillips	Sweeny, TX	- !	247,000				247,000
Deer Park	Deer Park, TX		329,800				329,800
ExxonMobil	Baytown, TX	ı	567,000			070.000	567,000
Houston Refining	Houston, TX	ı	270,600			270,600 76,000	
Marathon	Texas City, TX		76,000			-,	
Pasadena Refining	Pasadena, TX	G+I	100,000	00.000		100,000	
Valero	Houston, TX	ı	83,000	83,000			100 500
Valero	Texas City, TX on/Galveston Total	ı	199,500	00.000	0	014 000	199,500
		2,340,620	83,000	0	914,320	1,343,300	
Corpus Christi Region	0 0 0		450,000			ı	150.000
Citgo	Corpus Christi, TX	1	156,000				156,000
Flint Hills Resources	Corpus Christi, TX	1	288,126				288,126
Valero	Corpus Christi, TX	1	142,000				142,000
Valero	Three Rivers, TX	ı	93,000				93,000
	orpus Christi Total		679,126	0	0	0	679,126
TOTAL		7,503,309	431,500	0	2,307,820	4,677,989	

**Note:** The table does not include all refineries in the PADD III, Gulf Coast Region.

 $Storm\ column\ indicates\ hurricanes\ impacting\ refineries:\ G=Gustav;\ I=Ike,\ G+I=Both\ storms,\ and\ -=no\ impact.$ 

Valero's Houston, TX refinery shut its FCC on September 29 for repairs as it was attempting to restart.

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



- As of 6:20 PM EDT October 2, High Island Offshore System (HIOS) reports that the Force Majeure declared on September 10 remains in effect. HIOS informed its customers that a vessel is scheduled to start repair work on the 42-inch diameter mainline on Monday, October 6 and anticipates that the system will be fully restored by November 20. There is partial service that continues at 3 points along a lateral that was not damaged by Ike and only one of the four delivery points (interconnection with ANR Pipeline) is currently available.
- As of 4:12 PM EDT October 1, Nautilus Pipeline Company declared a Force Majeure and notified its customers that due to excessive amount of liquids along its system, all gas flow has been shut-in until such time the liquids can be handled appropriately.
- As of 4:15 PM EDT October 1, Manta Ray Offshore Gathering declared a Force Majeure and reports that due to downstream limitations on processing natural gas, four receipt points from the Cleopatra system are shut-in.
- As of 8:00 PM EDT October 2, Transcontinental Gas Pipe Line (Transco) reports that multiple receipt points along the Southeast LA lateral remains shut-in due to a drilling rig striking the pipeline. The owner of rig estimates 12-13 weeks before it can be removed from the pipeline. Additional points along the Southeast LA lateral that were not impacted by the drilling rig may be back in service within 2-3 weeks. In addition, Transco reports that Compressor Station 44 on the Southwest LA lateral sustained flood damage and repairs are estimated to be complete within 3 weeks and once the Station is operational, upstream gas flow can resume.
- As of 10:00 AM EDT October 3, seven major natural gas pipelines in the Gulf Coast area report complete shut-in of their systems. This is an increase of 2 pipelines from Situation Report No. 21 as both Nautilus and Manta Ray pipelines have recently declared Force Majeure impacting all points along their systems. See table below.
- There are 39 major natural gas processing plants in the path of Hurricane Ike with a total operating capacity of 17.7 billion cubic feet per day (Bcf/d). As of 10:00 AM EDT October 3, the Energy Information Administration (EIA) has confirmed that 5 plants remain shut down which includes those plants still impacted from Gustav, totaling an operating capacity of 3.18 Bcf/d (18 percent of the capacity in Hurricane Ike's path). In addition, EIA reports 29 plants have resumed operations at reduced or normal levels with a total operating capacity of 10.92 Bcf/d. Four plants report that they are capable to restart (totaling 3.36 Bcf/d operating capacity) once upstream gas flow are sufficient. See table below.



Force Ma		tical Notice Posting by Natural Gas Pipelines as of 10/03/08 10:45 AM EDT
Pipeline Name	Time Stamp	Notice (Status)
ANR Pipeline Co.	10/2/08	All points upstream of Grand Chenier compressor station are available to flow gas. Some points along the Cameron Meadows lateral segment have become available, but some points remain shut-in.
Chandeleur Pipeline Co.	10/2/08	Operationally Scheduled Volumes indicates pipeline is flowing at over 90% of pre hurricane levels.
Columbia Gulf Transmission	10/2/08	Flow from offshore points is at approximately 40% of normal operating capacity.
Destin Pipeline Co.	9/18/08	Pascagoula processing plant Force Majeure declared Sept. 15 now lifted and flows will resume to normal.
Discovery Gas Transmission	9/26/08	Updated customers on time frame of schedule to repair 30" mainline that could take up to 60+ days - Damage to offshore system will prevent the receipt of all offshore gas. Onshore delivery & receipt points will continue to accept flow.
Enbridge (UTOS)	10/1/08	UTOS facilities remain under Force Majeure and all points are shut-in. UTOS Station 44 sustained flood damage. Both Sabine and Barracuda processing plants remain shut down and no estimate of return has been given at this time. Transco & ANR continue to assess the damage on their interconnecting lines.
Garden Banks Gas Pipeline	10/1/08	Garden Banks' pipeline facilities are essentially ready for return to service; however, the pipeline remains shut-in because there is no current availability of downstream outlets for condensate, which includes interconnects with Tennessee, Transco, and Sea Robin. The ANR interconnect is available and ready to receive gas.
High Island Offshore System	10/2/08	Force Majeure from Sept 10 remains in effect - 42-inch diameter line on system has been severed. A vessel is scheduled to start repair work on Monday Oct. 6. All repairs will be completed and system restored by Nov. 20. There is partial service to 3 points along a lateral not impacted that can flow gas but all other offshore points remain shut-in. Two delivery points are now available – ANR & Tennessee.
KinderMorgan (Texas & Tejas)	10/1/08	All firm storage customers can resume injections at 100% of their firm injection rights. KM anticipates having limited interruptible space available for all of October.
Manta Ray Offshore Gathering	10/1/08	Declared Force Majeure on Oct. 1. Due to downstream limitations on processing gas, all four receipt points to Manta Ray from the Cleopatra system are shut-in. This Force Majeure impacts one downstream delivery point which shut-in on Oct 1.
Mississippi Canyon Pipeline	9/30/08	Force Majeure lifted – flow commenced on Sept 29 at reduced levels.
Natural Gas Pipeline Co of America	10/2/08	Limited capacity is available through some segments of lines in the impacted Gulf Coast area at this time. Force Majeure still in effect for Station 342 and Station 302.
Nautilus Pipeline Co.	10/1/08	Declared Force Majeure on Oct. 1. Due to excessive amount of liquids in pipeline system, Nautilus has informed customers that entire pipeline has been shut-in.
Sabine Pipe Line (Henry Hub)	10/1/08	Force Majeure has been lifted for some additional points along the system and gas flow can commence on 3 points (KM Texas, Houston Pipeline, and KM Tejas).
Sea Robin Pipeline Co.	10/2/08	Eleven points along the West Leg and 17 points along the J Leg remain shut-in and are not cleared to flow gas until appropriate repairs are made. Sea Robin expects return of service to segments by Nov. 24.
Southern Natural Gas Co.	10/2/08	Four of the previous six receipt points remain shut-in totaling 58.5 MMcf/d. The restart of these points is dependent on third parties repairing damage and it is unknown when these points will return.
Stingray Pipeline Co.	10/1/08	Force Majeure remains in effect and all receipt points remain shut-in. Stingray estimates it will take 4-8 weeks to complete repairs to its onshore facilities including the separation facility.
Tennessee Gas Pipeline	9/29/08	Declared Force Majeure on Sept 29 for damage to subsea portion of line (500 line). All points on line are at zero until further notice from TGP.
Texas Eastern Transmission	10/3/08	Investigations of pipeline's facilities are complete and have returned to operations. TE has restrictions on gas flow at delivery and receipt points along portions of the South TX and East TX zones.
Texas Gas Transmission	10/2/08	Unplanned maintenance at Youngsville, LA compressor station impacting gas flow on Eunice East segment with anticipated repairs completed by mid-October.
Transcontinental Gas Pipe Line	10/3/08	Many receipt points along the Southeast LA lateral remains shut-in due to damage from a drilling rig hitting the pipeline. Owner of rig estimates 12-13 weeks before it can be removed. Additional points along lateral not impacted by drilling rig may be back in service within 2-3 weeks. Compressor Station 44 on the Southwest LA lateral sustained flood damage and repairs are estimated to be complete within 3
Trunkline Gas Pipeline	10/2/08	weeks. Unplanned outage at Kaplan Compressor Station causing zero flow to Henry Hub and Acadian interconnect. 32 receipt points have been cleared for flow from the Terrebonne Offshore System.
Venice Gathering System	9/30/08	Venice Processing plant has informed pipeline that the plant's Force Majeure has been lifted; however, plant start up is not expected until Monday, Sept 29. The Force Majeure will stay in effect, but will be lifted on a point by point basis. A limited volume of gas flow commenced Sept 29 and is expected to increase as points become available on the system.
Dauphin Island Gathering	9/16/08	Force Majeure lifted as Mobile Bay (Duke) processing plant completed maintenance. System will resume normal operations.
Black Marlin Pipeline	9/15/08	Force Majeure declared Friday, Sept 12 No gas flow being accepted.
Gulf South Pipeline	9/18/08	Critical Period has been lifted as of gas day Sept 18.
Northern Natural	9/22/08	Matagorda Offshore Pipeline System accepting gas flow at normal levels.



Natu	ıral Gas Processinç	Plants in	the Path of Ike & Gustav as of 10/03/08 10:00 AM EDT					
	Location			Capacity (n	nillion cubic fe	et per day)1		
Plant Name		Impact	Design System Operation	Shut Down	Capable to Restart <sup>2</sup>	Operating at Reduced Level	Normal	
EAST LA / AL								
Yscloskey	St. Bernard, LA	G	1,850	1,850				
Venice	Plaquemines, LA	G	1,300		1,300			
Pelican	St. Mary, LA	G	600			600		
Larose	Lafourche, LA	G + I	600			600		
Plaquemine	Iberville, LA	G	225				225	
Burns Point	St. Mary, LA	G	160		160			
Mobile Bay (Duke)	Mobile, AL	M	300				300	
WEST LA / EAST TX								
Eunice	Acadia, LA	G + I	1,200			1,200		
Sea Robin	Vermilion, LA	G + I (M)	950		950			
Bluewater	Acadia, LA	G+I	950		950			
Cameron Meadows	Cameron, LA	G+1	500	500				
lowa	Jefferson Davis, LA	G + I	500				500	
Grand Chenier II	Cameron, LA	G+I	400			400		
Sabine Pass	Cameron, LA	G + I	300	300				
Stingray	Cameron, LA	G	300	300				
Lowry	Cameron, LA	G+I	265			265		
Barracuda	Cameron, LA	G+I	225	225				
Gillis	Calcasieu, LA	G + I	180			180		
Dubach	Lincoln, LA	G	175				175	
East Texas (MarkWest)	Panola, TX		780				780	
East Texas (DCP)	Panola, TX	-	750				750	
Godley (Forth Worth II)	Johnson, TX		300			300		
Port Arthur	Jefferson, TX	G + I	200				200	
Carthage	Panola, TX		175				175	
Indian Springs	Polk, TX	_	150				150	
CENTRAL EAST TX								
Houston Central	Colorado, TX	-	700				700	
Markham	Matagorda, TX	G+I	300				300	
Matagorda <sup>3</sup>	Matagorda, TX	G+I	250	-	-	-	-	
Armstrong	De Witt, TX	I	250				250	
Point Comfort	Calhoun, TX	I (M)	200				200	
Old Ocean	Brazoria, TX		200				200	
Wilcox	Lavaca, TX		220				220	
La Grange	Fayette, TX	I	200				200	
Waskom	Harrison, TX	-	270				270	
SOUTH EAST TX		•				· ·		
King Ranch	Kleberg, TX	-	925				925	
Shoup	Nueces, TX	-	290				290	
La Gloria	Jim Wells, TX	-	265				265	
Gregory	San Patricio, TX	I	150				150	
Gulf Plains	Nueces, TX	-	150				150	

Note: Storm column indicates hurricanes impacting processing plant: G = Gustav; I = Ike, G+I = Both storms, M = Maintenance, and - = no impact "N/A" (Not Available or Confirmed) identifies those plants that are in the path of Ike that have not yet been confirmed of their status.

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

<sup>&</sup>lt;sup>1</sup> The capacity represents the design capacity of the plants and does not represent the actual gas flow through these plants.

<sup>&</sup>lt;sup>2</sup> Confirmed plants capable to restart after electricity is restored or when upstream gas flow commences service.

<sup>&</sup>lt;sup>3</sup> The Matagorda processing plants has been idle (mothballed) prior to Hurricane Gustav/Ike.