



U.S. Department of Energy
Office of Electricity Delivery & Energy Reliability

Hurricane Irene Situation Report #7

August 29, 2011 (3:00 PM EDT)

http://www.oe.netl.doe.gov/emergency_sit_rpt.aspx

Highlights:

- Hurricane Irene made landfall on Puerto Rico as a Category 1 hurricane on Monday August 22 and landfall near Cape Lookout, NC as a Category 1 hurricane at 8:00 am EDT August 27.
In response to Irene the following States declared a State of Emergency: Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, Vermont, and Virginia.

Electricity Information:

Electricity Outages by State

Table with 5 columns: Impacted State, Current Customer Outages, % of State Customers Without Power, Peak Outages Reported in DOE SitRep(s), Customers Restored Since Peak. Rows include Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, Vermont, Virginia, and a TOTAL row.

Note: Due to a large number of service providers, including investor owned utilities and cooperatives, the number of customer outages reported may not be comprehensive.

Sources:

Outages obtained from company web sites and DOE communications.

Total State customers are based on 2009 EIA Customer Data.



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- As of 1:00 pm EDT August 29, the impacted States report a total of 5,123,003 customers without power. This is a decrease from the 5,475,274 reported at 8:00 am EDT August 29 in Situation Report #6. Restoration estimates and efforts by electric utilities are reported below.
- Long Island Power Authority (LIPA), in response to the mandatory evacuations and to ensure the safety of first responders, shutdown power to Fire Island, Robert Moses Beach, Captree Beach, Gilgo Beach, West Gilgo Beach and Oak Beach on August 28.
- The Oyster Creek Nuclear Power Plant in New Jersey, which performed a voluntary controlled shut down on August 27, is expected to resume operations August 29.

Petroleum & Natural Gas Information:

- In the Northeast, Irene, one refinery has shut down (ConocoPhillips Linden, NJ) and three are operating at reduced rates (ConocoPhillips, Trainer, PA, Sunoco, Marcus Hook, PA and Philadelphia, PA), The PBF refineries in, Paulsboro, NJ and Delaware City, DE have returned to normal operations.

Refineries in the Path of Irene as of 8/29/11 2:00 PM EDT							
Refinery Impacted	Location	Capacity (B/D)	Capacity (B/D)				
			Normal Operations	Shut Down	Restarting	Reduced Rates	Back to Normal
ConocoPhillips	Linden, NJ	238,000		238,000			
ConocoPhillips	Trainer, PA	185,000				185,000	
Sunoco	Marcus Hook, PA	178,000				178,000	
Sunoco	Philadelphia, PA	335,000				335,000	
PBF (formerly Valero)	Paulsboro, NJ	160,000					160,000
PBF (formerly Valero)	Delaware City, DE	182,200					182,200
TOTAL		1,278,200	0	238,000	0	698,000	342,200

Note: The table does not include asphalt refineries or facilities already closed in prior years.

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

- The current status of pipeline operations in the Northeast is summarized in the following table.

Pipelines in the Path of Irene as of 8/29/11 8:00 AM EDT							
Type	Name	Start	Terminus	Capacity (barrels/day)	Shut Down	Reduced Rates	Operating
Product	Colonial	TX	NJ	2,400,000			2,400,000
Product	KinderMorgan/Plantation	LA	VA	600,000			600,000 ^A
LPG	Enterprise Products Partners (TEPPCO)	TX	PA	330,000	20,000 ^B		310,000
LPG	Enterprise Products Partners (Dixie)	TX	VA	100,000			100,000
Product	Buckeye Eastern Products System	NJ	PA, NY	900,000	720,000 ^C		180,000
Crude oil	Portland Pipe Line	ME	Quebec	410,000	410,000 ^D		

A = Plantation line resumed normal operations on all pipeline segments.

B = TEPPCO pipeline segments A-3, A-4, A-5 (all in PA) isolated on August 26, estimated restart on August 29.

C = Buckeye lines running NJ-to-PA and PA-to-NY are down, estimated restart on August 29.

D = Portland-Montreal 24" main line was isolated and shut down before storm; performing safety checks on August 29.



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- The current status of terminals reporting as shut down is summarized in the following table.

Impacted Terminals in the Path of Irene as of 8/29/11 8:00 AM EDT			
Company Name	Location	Shut Down Date	Restart Date
ConocoPhillips	Linden, NJ	Exp. 8/28/11	
Buckeye Partners	Linden, NJ	8/27/11	8/29/11
Buckeye Partners	Inwood, NY	8/27/11	8/29/11
Buckeye Partners	Long Island City, NY	8/27/11	8/29/11
Buckeye Partners	JFK and LaGuardia airports, NY	8/27/11	8/29/11
Buckeye Partners	Booth, PA	8/28/11	Lost power
Buckeye Partners	Sinking Spring, PA	8/28/11	Lost power
Enterprise Products Partners (TEPPCO)	Providence, RI	8/27/11	8/29/11
Enterprise Products Partners (TEPPCO)	Eagle, PA	8/26/11	8/29/11
ExxonMobil	Providence, RI	exp. 8/28/11	
KinderMorgan	Carteret, NJ	8/26/11 (unconfirmed)	
KinderMorgan	Staten Island, NY	8/26/11 (unconfirmed)	
Magellan Midstream Partners	Selma, NC	8/27/11	8/28/11
Magellan Midstream Partners	Richmond, VA	8/27/11	8/28/11
Magellan Midstream Partners	Wilmington, DE	8/27/11	8/28/11 [dock closed]
Magellan Midstream Partners	New Haven, CT	8/27/11	High water delaying restart
Motiva Enterprises	Providence, RI	8/26/11	
NuStar	Virginia Beach, VA	8/25/11	8/29/11
NuStar	Wilmington, NC	8/26/11	8/29/11
NuStar	Piney Point, MD	8/26/11	8/29/11
NuStar	Salisbury, MD	8/26/11	8/29/11 [dock closed]
NuStar	Andrews AFB, MD	8/26/11	electric power issues
NuStar	Baltimore, MD	8/26/11	8/29/11
NuStar	Dumfries, VA	8/26/11	8/29/11
NuStar	Linden, NJ	exp. 8/27/11	8/29/11

exp. = expected

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

- Trade press reported that the Transcontinental Gas Pipeline continued to operate during the hurricane but some pumping stations lost power and/or had minor flooding.
- Trade press reported that Tennessee Gas Pipeline operator El Paso was investigating a possible issue with a flow regulator on its 300 Line in Westchester County, New York due to flooding in the area.
- Trade press reported that Iroquois Gas Transmission was monitoring low-lying areas along the pipeline's route, though no problems have been reported. The pipeline is utilizing backup generators.
- Trade press reported that the LNG terminals operated by Dominion at Cove Point, MD, and by Distrigas at Everett, MA, operated normally throughout the hurricane.
- The U.S. Coast Guard has begun to open ports: Baltimore, North Carolina, Philadelphia (Delaware Bay), New Jersey, and New York City are open. Virginia (Hampton Roads) and Long Island Sound ports are open with restrictions – daylight hours only because of debris and flooding. Vessels smaller than 500 gross tons may enter Southern New England ports (Providence and Boston) only with permission, essentially closing the ports to petroleum deliveries.

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Electricity Restoration Activities by State:

Connecticut:



- United Illuminating (UI) had mutual assistance crews arrive this morning (August 29) from Florida, North Carolina, Missouri and Indiana to help UI with the restoration efforts. The company will have a restoration estimate later this afternoon (August 29).
- Con Edison estimates are that it will be just before midnight on Thursday (September 1) before restorations are completed in Westchester County.
- Connecticut Light & Power reported this morning (August 29) that it could be a week or more before all of its customers are restored. The utility's crews are being augmented by crews from Canada, Florida, Ohio, Kentucky, Pennsylvania, Tennessee, the Carolinas, Alabama, Michigan, and Massachusetts.

Delaware



- Delaware Electric Cooperative (DEC) has restored service to most of its members. Once they are restored, the cooperative will be sending 6 crews of 10 men to Northern Neck Electric Cooperative based in Warsaw, VA.
- DELMARVA Power estimated that it will have customers in the Bay Region restored by 11 p.m., Tuesday (August 30) and in the New Castle Region by noon, Thursday (September 1).

District of Columbia:



- Pepco, serving D.C. and Maryland, expects to restore service to all of their customers by Thursday evening (September 1) The company has hundreds of crews, including mutual assistance crews, working to restore its system.

Maine:



- Central Maine Power Company (CMP) has extra line workers and tree crews from Maine and Canada joined the restoration and assessment effort this morning (August 29). CMP warned customers today that the restoration work is likely take several days or more. The company expects to be able to provide more information regarding the timing of the restoration once personnel are able to complete their assessment of the damage.
- Bangor Hydro expects restoration to take several days as the utility faces major system damages. The utility has been working closely with sister utility Maine Public Service to combine resources where possible and provide mutual aid, if needed.



Maryland:



- Pepco, serving D.C. and Maryland, expects to restore service to all of their customers by Thursday evening (September 1) The company has hundreds of crews, including mutual assistance crews, working to restore its system.
- Baltimore Gas and Electric (BG&E) estimated that it would restore electric service to the vast majority of customers late Friday (September 2) with the remaining customers being restored by Saturday (September 3).

Massachusetts:



- NSTAR reports widespread damage throughout their territory. The utility today (August 29) expected full restoration to take several days.
- Western Massachusetts Electric reported yesterday that is estimated all of its customers should have power restored by tonight (August 29).
- National Grid, servicing customers in Massachusetts, New Hampshire, New York and Rhode Island, has 3,500 restoration and support personnel supporting its response effort.

New Hampshire:



- New Hampshire Electric Co-op (NHEC) cannot provide estimated restoration times for specific areas, particularly in the Plymouth and Conway areas where river and stream flooding has closed numerous roads and bridges. However, early assessments indicate there is significant damage to the NHEC electrical distribution system that will require at least two days to substantially repair. NHEC is receiving assistance in the restoration effort today from 23 contract crews. They will be joined by an additional five crews tomorrow morning (August 30).

New Jersey:



- Jersey Central Power and Light (JCP&L) is currently assessing damage and anticipates that most customers will be restored in the next several days. In areas with more extensive damage, restoration is expected to continue throughout the week.
- Public Service Electric & Gas (PSE&G) crews are working to dry flooded substations so they can put circuits from those stations back on line. Flood waters are currently preventing crews from entering a number of other areas. Customers, particularly in flooded areas, should be prepared for lengthy outages until flood waters recede and crews can enter. The company expects the majority of customers will be restored within 48 hours, with total restoration of all customers expected within 4 to 6 days. PSE&G has 6,000 employees supporting the restoration effort, including 840 PSE&G linemen, 270 out of state linemen, an additional 50 crews that have joined the effort from Ohio, and 540 tree contractors.
- Atlantic City Electric expects to have all customers restored by midnight Friday (September 2).



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New York:



- **Central Hudson Gas and Electric Corporation** estimated today (August 29) the restoration process will take several days.
- Con Edison, serving New York City and surrounding area, expects to restore all areas, except for Westchester, by midnight Tuesday (August 30) evening and Westchester customers are expected to be restored midnight Thursday (September 1).
- **Long Island Power Authority (LIPA)** reported today (August 29) that flooding, large uprooted trees, and downed wires and poles are hampering the assessment process. The company is using helicopters, vehicles and survey teams to assess the major damage to LIPA's transmission and distribution lines, substations and other infrastructure.
- Orange & Rockland (O&R) report that damage to the utility's electrical system is extensive. The utility estimates that the vast majority of customers will be restored by Friday (September 2) night and the remaining customers through next weekend. More than 150 O&R, contractor and mutual aid crews from as far as Michigan and Texas are assessing damages and repairing the system. Extensive flooding has required the shut off of over 350 gas customers as a precautionary measure.

North Carolina:



- **Progress Energy** expects to restore service to 85 percent of customers by tonight (August 29), with 96 percent of remaining customers without power by midnight Tuesday (August 30) and 99 percent restoration complete by midnight Wednesday (August 31). In the hardest-hit areas with the most severe damage, final repairs to customers able to receive power will likely continue into Thursday (September 1). This includes the areas around Zebulon, Selma, Spring Hope, New Bern, Jacksonville, Morehead City and Kinston. The company has 1,200 crew members; including crews from five States, assessing Irene damage and restore service.
- **Dominion** estimates it will restore will restore power to 75% of the affected customers by the end of the workday Wednesday (August 31) with a restoration 90%-95% of the customers affected by the end of the day Friday (September 2).

Pennsylvania:



- **Met Ed** is currently assessing damage and anticipates that most customers will be restored in the next several days. In areas with more extensive damage, restoration is expected to continue throughout the week. Met Ed currently has 55 line crews out in the field. In addition, another 60 crews from other FirstEnergy companies arrived Sunday (August 28) to assist in the restoration efforts. The Met-Ed area is experiencing excessive flooding as well as downed trees complicating restoration efforts.
- **PECO**, serving southeastern Pennsylvania, reports that they have 834 field forces out and working. The initial estimated time of restoration is a goal of 90 percent of customers restored by Wednesday



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(August 31) evening with remaining customers restored by Friday (September 2). PECO has had 1,177 natural gas shut-offs due to flooding or possible flooding.

- FirstEnergy Pennsylvania estimates 90 percent restoration by Wednesday (August 31) evening with remaining customers restored by Thursday (September 1).
- Pike County Power estimates that customers will be restored by late Monday (August 29) or Tuesday (August 30).
- UGI Electric reports restoration may take several days. UGI will have 8 crews and 5 tree crews out Monday morning (August 29).

Rhode Island:



- National Grid, servicing customers in Massachusetts, New Hampshire, New York and Rhode Island, has 3,500 restoration and support personnel supporting its response effort.

Virginia:



- Dominion estimates it will restore will restore power to 75% of the affected customers by the end of the workday Wednesday (August 31) with a restoration 90%-95% of the customers affected by the end of the day Friday (September 2). In Northern Virginia, where Irene had lesser impact, restoration will be completed tomorrow. Nearly all customers in the remaining areas, which suffered the most extreme damage, will have their electric service restored by the end of the day Saturday. Dominion had 27 transmission lines go out of service from the storm and as of today (August 29) 10 of these transmission lines remain out of service and most should be back in service by midnight tonight.
- Rappahannock Electric Cooperative (REC), servicing 22 Virginia counties, stated (August 29) that outside crews from Virginia, Tennessee, and Kentucky electric cooperatives are assisting their crews in restoration efforts.

Vermont:



- Vermont Electric Cooperative (VEC) reports most customers will have electricity restored by end of today with the remaining to be restored into the middle of the week. VEC has assistance from crews, along with crews from as far away as Michigan, Tennessee and Missouri will complete damage assessments and begin restoration this morning (August 29). More than 200 utility personnel will be working to restore power to VEC members today.
- Central Vermont Public Service (CVPS) says recovery will entail a monumental effort due to closed bridges and washouts and could take weeks. CVPS says more than 500 outside line, utility and tree contractors from as far away as Illinois, Missouri, Texas and Ontario would assist CVPS's crews. The utility stated that is customers should be prepared for extended outages.



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ESF 12 Actions:

- ESF 12 is staffing the FEMA National Response Coordination Center (NRCC) in Washington, DC, the Region I Regional Response Coordination Center (RRCC) in Boston, MA, the Region II RRCC in New York, NY, the Region III RRCC in Philadelphia, PA, and the Region IV RRCC in Atlanta, GA. ESF 12 staff have been activated to the Virginia Emergency Operations Center (EOC), the Maryland EOC, and the New York EOC.