



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

Hurricane Irene Situation Report #8

August 30, 2011 (10:00 AM 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 8:00 am EDT August 30, the impacted States report a total of 3,306,019 customers without power. This is a decrease from the 5,123,003 reported as of 1:00 pm EDT August 29 in Situation Report #7. Restoration estimates and efforts by electric utilities are reported below.
- The Oyster Creek Nuclear Power Plant in New Jersey, which performed a voluntary controlled shut down on August 27, has resumed operation.

**Petroleum & Natural Gas Information:**

- In the Northeast, one refinery remains 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 8/30/11 8:00 AM 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
<b>TOTAL</b>		<b>1,278,200</b>	<b>0</b>	<b>238,000</b>	<b>0</b>	<b>698,000</b>	<b>342,200</b>

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 8/30/11 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 <sup>A</sup>
LPG	Enterprise Products Partners (TEPPCO)	TX	PA	330,000	20,000 <sup>B</sup>		310,000
LPG	Enterprise Products Partners (Dixie)	TX	VA	100,000			100,000
Product	Buckeye Eastern Products System	NJ	PA, NY	900,000			900,000 <sup>C</sup>
Crude oil	Portland Pipe Line	ME	Quebec	410,000	410,000 <sup>D</sup>		

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 returned to near normal operations on August 29.

D = Portland-Montreal 24<sup>th</sup> main line was isolated and shut down before storm; performing safety checks on August 29.

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



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Impacted Terminals in the Path of Irene as of 8/30/11 8:00 AM EDT

Table with 4 columns: Company Name, Location, Shut Down Date, Restart Date. Rows include ConocoPhillips, Buckeye Partners, Enterprise Products Partners, ExxonMobil, Magellan Midstream Partners, Motiva Enterprises, NuStar.

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 U.S. Coast Guard has begun to open ports: Baltimore, North Carolina, and Philadelphia (Delaware Bay) are open.

Electricity Restoration Activities by State:

Connecticut:



- The United Illuminating Company (UI) is reporting widespread damage to their infrastructure, including the flooding of two bulk power substation units in UI's territory. UI currently has a total of 227 crews working, including 106 overhead line crews, 58 tree-clearance crews, 29 patrol crews and 34 service crews.



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- Connecticut Light & Power (CL&P) reported yesterday evening (August 29) that crews are currently completing damage assessments with ground patrols, as well as aerial patrols from three helicopters to survey damage in hard to reach places. CL&P expects more crews to arrive today (August 30) and is working to bring in additional mutual aid crews from across the country. Restoration efforts will continue around the clock, with crews working approximately 16 hour shifts. CP&L reported yesterday (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**



- DELMARVA Power reported today that it expects to restore power to the New Castle Region by noon Thursday (August 1) and to the Bay Region by 11:00 pm Thursday (August 1). The company reported damage to 52 poles in their service territory.
- 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.

**District of Columbia:**



- Pepco, serving D.C. and Maryland, continues to estimate that it will restore service to all of their customers by Thursday evening (September 1). The company has 1,400 restoration personnel, including mutual assistance crews, working to restore its system.

**Maine:**



- Central Maine Power Company (CMP) estimated yesterday (August 30) that it could be several more days before service is restored to all customers. The company has brought in nearly 500 outside workers to assist with tree clearing and power line repairs. Transmission lines have been repaired to re-energize all of the substations that feed roadside distribution lines. Utility personnel also completed their survey of the company’s primary, three-phase distribution system, and most of the system has been re-energized.
- Bangor Hydro expects that all customers will be restored by tonight (August 30). The utility has been working closely with sister utility Maine Public Service to combine resources where possible and provide mutual aid, if needed.

**Maryland:**



- Baltimore Gas and Electric Company (BGE) expects to restore service to the vast majority of customers currently without power no later than late Friday (September 2), with the possibility that

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there could be isolated and scattered outages extending into Saturday (September 3). BGE has more than 3,800 personnel, including 1,400 from out-of-state, working on restoration.

- Pepco, serving D.C. and Maryland, continues to estimate that it will restore service to all of their customers by Thursday evening (September 1). The company has 1,400 restoration personnel, including mutual assistance crews, working to restore its system.



## Massachusetts:

- National Grid reported yesterday (August 29) that there is substantial damage to their system and expects restoration to last well into the weekend in some of the hardest hit areas. The company has 3,500 restoration and support personnel supporting its response effort.
- NSTAR reported yesterday (August 29) that it would be several days before power is restored to all customers.



## New Hampshire:

- New Hampshire Electric Co-op (NHEC) reported today (August 30) better than expected progress in restoring power to NHEC members affected by Tropical Storm Irene. NHEC estimates that all affected customers will be restored by noon Wednesday (August 31). NHEC is receiving assistance in the restoration effort from 23 contract crews. They will be joined by an additional five crews this morning (August 30).



## New Jersey:

- Jersey Central Power and Light (JCP&L) estimated today (August 30) that the majority of their customers will be restored by the weekend with full restoration by early next week.
- Public Service Electric & Gas (PSE&G) is reporting substantial progress was made restoring power to customers affected by the hurricane. The company expects restoration of all customers within the next 4 to 6 days. In addition to downed trees and wires, flooding has posed a major restoration challenge, especially in counties like Bergen, Middlesex, Somerset and Union. Employees are drying and cleaning flooded substations so they can put circuits from those stations back on line and restore customers. Flood waters are preventing employees from entering a number of other areas. 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:



- National Grid, is reporting substantial damage to their system and expects restoration to last well into the weekend in some of the hardest hit areas.
- Orange & Rockland (O&R) reports that the remaining electric customers should see that service return by midnight Friday (September 2). The rest of the customers who lost their power in the hurricane will be restored to service over the weekend. More than 180 O&R, contractor and mutual aid crews from as far as Michigan and Texas are assessing damage and conducting system repairs. Heavy rains from Hurricane Irene have also impacted O&R's gas system. Extensive flooding had required the shut off of over 500 gas customers as a precautionary measure.
- Con Edison, serving New York City and surrounding area, expects New York City customers to be restored late tonight (August 30) and most customers in Westchester County to be restored by late Thursday (September 1). Flooded roads, inundated manholes, tree limbs, trunks, and downed wires are hindering restoration efforts. Crews from utilities as far away as Texas, Colorado, and Kansas are assisting Con Edison in the restoration process, including: 870 line workers, 400 tree trimmers and 200 damage assessors.
- Long Island Power Authority (LIPA) reported 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. LIPA has deployed 2,300 restoration personnel across Long Island addressing service interruptions on a 24 hour basis.
- Central Hudson Gas and Electric Corporation estimated the restoration process will take several days.

North Carolina:



- Dominion Power expects 90-95 percent of remaining customer to be restored by Friday (September 2). Restoration efforts involve more than 6,000 workers and 1,100 bucket trucks.
- Progress Energy reported yesterday (August 29) that they expected to restor power to 85 percent of customers by last night (August 29), with 96 percent of remaining customers without power by midnight tonight (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.

Pennsylvania:



- Met-Ed estimates that approximately 90 percent of their remaining customers out will be restored by Wednesday (August 31) evening with the remaining customers restored before the weekend. Met Ed currently has 55 line crews out in the field. In addition, another 60 crews from other FirstEnergy

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companies have arrived to assist in the restoration efforts. The Met-Ed area is experiencing excessive flooding as well as downed trees which are making travel difficult.

- Pike County Power reports that the remaining customers out are located predominantly in the Matamoras area. The utility estimates that restoration will be completed by Friday (September 2) evening or Saturday (September 3) morning, depending on further damage assessments.
- PECO, serving southeastern Pennsylvania, estimates that based on current damage assessments 90 percent of outages caused by Hurricane Irene will be restored by 11:00 pm on Wednesday (August 31). All remaining outages will be restored by 11:00 pm on Friday (September 2). In addition to electrical outages, PECO has had 1,204 gas customers shut off due to flooding at various locations; 450 are still shut off. PECO is monitoring all locations for the opportunity to restore as water subsides. Darby, New Hope, and Yardley are the areas with the most outages. PECO reports that they have 834 field forces out and working.
- PPL reports the majority of the remaining outages are in the Northeast, Lehigh, Harrisburg and Lancaster service territories. PPL expects 90 percent of customers restored sometime before Wednesday (August 31) evening; however their system estimated time of restoration is by evening on Thursday (September 1). PPL has 674 field personnel working the restoration along with 424 contractor personnel.
- UGI Electric reported today (August 30) that customers remaining without power are located in Northern Luzerne and Southern Wyoming Counties. The utility is reporting more damage and services down as they work. The utility anticipates full restoration might take several days. They have all available crews and field personnel, but are finding extensive damage, which is slowing down the restoration process. UGI is working with local contractors to help provide mutual aid.

### Rhode Island:



- National Grid reported yesterday (August 29) that there is substantial damage to their system and expects restoration to last well into the weekend in some of the hardest hit areas. The company has 3,500 restoration and support personnel supporting its response effort.

### Virginia:



- Dominion Power expects to restore 65 percent of its affected customers by Wednesday and 90-95 percent of its affected customer by Friday (September 2). Restoration efforts involve more than 6,000 workers and 1,100 bucket trucks. In Northern Virginia, where Irene had lesser impact, restoration will be completed today (August 30). 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 (September 3). Dominion had 27 transmission lines go out of service from the storm and all of these lines have been re-energized. There are 6,000 people helping Dominion to restore power, including more than 2,000 workers from Alabama, Georgia, Indiana, Ohio, Kentucky, Michigan, North Carolina and South Carolina. The company expected an additional 800 workers to arrive yesterday (August 29) and bring the total number of bucket trucks on the job to 1,100.



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- 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:



- **Central Vermont Public Service (CVPS) reports that based on helicopter assessments, the utility estimates that thousands of customers will be without power for days, possibly weeks due to inaccessible roads.** 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 its customers should be prepared for extended outages.
- Vermont Electric Cooperative (VEC) expects its remaining customers to be restored into the middle of the week. VEC has assistance from crews as far away as Michigan, Tennessee and Missouri. More than 200 utility personnel will be working to restore power to VEC members today.

### 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 are staffing the Virginia Emergency Operations Center (EOC) and the Maryland EOC. **ESF 12 staff have been activated to the FEMA Joint Field Office (JFO) in Albany, NY. ESF 12 staff are coordinating restoration activities with the State of Connecticut.**