



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

Hurricane Irene Situation Report #9

August 30, 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

Electricity				
Impacted State	Current Customer Outages	% of State Customers Without Power	Peak Outages Reported in DOE SitRep(s)	Customers Restored Since Peak
Connecticut	508,963	32%	702,154	193,191
Delaware	3,452	1%	56,901	53,449
District of Columbia	3,695	2%	29,447	25,752
Maine	93,995	7%	201,663	107,668
Maryland	268,038	12%	807,445	539,407
Massachusetts	216,889	7%	567,000	350,111
New Hampshire	31,438	5%	116,766	85,328
New Jersey	343,835	10%	810,847	467,012
New York	525,386	7%	941,914	416,528
North Carolina	147,347	4%	507,063	359,716
Pennsylvania	153,883	3%	707,155	553,272
Rhode Island	133,313	31%	282,280	148,967
Vermont	18,088	5%	47,557	29,469
Virginia	402,535	13%	912,715	510,180
TOTAL:	2,850,857			

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 30, the impacted States report a total of 2,850,857 customers without power. This is a decrease from the 3,306,019 reported as of 8:00 am EDT August 30 in Situation Report #8. Restoration estimates and efforts by electric utilities are reported below.

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 1:00 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 8/30/11 1:00 PM 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			330,000 ^B
LPG	Enterprise Products Partners (Dixie)	TX	VA	100,000			100,000
Product	Buckeye Eastern Products System	NJ	PA, NY	900,000			900,000 ^C
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) were isolated on August 26, and back to full operating capacity on August 30.

C = Buckeye lines returned to near normal operations on August 29.

D = Portland-Montreal 24” 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 1:00 PM 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.

- The U.S. Coast Guard has begun to open ports: Baltimore, North Carolina, Philadelphia (Delaware Bay), New York City, New Jersey, and Virginia (Hampton Roads) are open. Long Island Sound ports are open with restrictions – daylight hours only because of debris and flooding.

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 crews from Florida, Missouri, North Carolina, Wisconsin and Indiana for a total of 208 crews working, including 88 overhead line crews, 59 tree-clearance crews, 29 patrol crews and 32 service crews. The company plans to provide updated restoration times (where possible) On Wednesday (August 31).
- 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 has 34 crews flying in from Seattle and Vancouver to join 800 line and tree crews restoring power.



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Delaware



- DELMARVA Power reported today (August 30) that it expects to restore power to the New Castle Region by noon Thursday (September 1) and to the Bay Region by 11:00 pm Thursday (September 1). The company reported damage to 52 poles in their service territory.
- Delaware Electric Cooperative (DEC) announced 1:37 PM August 29 DEC has restored service to all customers impacted by Hurricane Irene. DEC is sending 5 crews to the Tidewater area of Virginia to assist Northern Neck Electric Coop with restoration efforts.

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 restored power to all public schools in the District of Columbia as of today (August 30). 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 29) 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 there could be isolated and scattered outages extending into Saturday (September 3). BGE has 4,600 personnel, including out-of-state crews, working on restoration. The company is responding to more than 5,000 downed wires today (August 30).
- Pepco, serving D.C. and Maryland, continues to estimate that it will restore service to all of their customers by Thursday evening (September 1). Pepco has restored power to all public schools in Montgomery County. The company has 1,400 restoration personnel, including mutual assistance crews, working to restore its system.



Massachusetts:

- National Grid reported today (August 30) they expect to have restoration estimates for New England communities by the end of the day. The company has 3,500 restoration and support personnel supporting its response effort.
- NSTAR provided a list of expected restoration time by community on their website with all customers expected to be restored by Sunday evening (September 4).

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. With 165 people in the field and an additional 25 arriving today from Pennsylvania, New Hampshire Electric Cooperative (NHEC) expects to have completed the large majority of power restoration work by 7 p.m. today. NHEC estimates that all affected customers will be restored by noon Wednesday (August 31). NHEC crews have been joined in the field by utility crews from five Massachusetts municipal electric companies and four private utility construction companies. More than a dozen tree trimming crews are working alongside line crews and arriving this morning were an additional 11 line crews from four Pennsylvania electric cooperatives.
- Public Service of New Hampshire (PSNH) reported this morning (August 30) that more than 120 PSNH and contract crews are currently working on the restoration effort, and they will be reinforced today by more than 100 additional line crews.

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. JCP&L has more than 4,000 employees assisting with restoration.
- 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). Hundreds of Atlantic City Electric and mutual assistance crews are working to restore customers.



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- Orange & Rockland (O&R) reports 95 percent of the customers affected should see that service return by midnight Friday (September 2).



New York:

- National Grid expects to restore power to customers in Troy by this afternoon (August 30), to customers in Hudson and Saratoga by noon tomorrow (August 31) and the remaining customers by midnight Thursday (September 1). The company reports more than as more than 3,000 people are dedicated to the effort.
- Orange & Rockland (O&R) reports 95 percent of the customers affected 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 95% restoration is expected by midnight Friday September 2. 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 reports that most of their outages are in the hardest-hit counties of Ulster, Albany and Greene, where restoration work has been hampered by severe flooding, impassable roadways and infrastructure destruction. The company estimates the majority of the customers in Columbia, Dutchess, Orange, and Putnam counties will be restored by tomorrow (August 31). A workforce of approximately 1,000 Central Hudson employees, contractors and mutual aid crews is working to restore electricity.



North Carolina:

- Dominion Virginia 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 today (August 30) that crews from five states are working on restoration. Yesterday (August 29) that they expected to restore 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

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(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 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. **Met-Ed expects restoration for all customers by midnight Friday (September 2).**
- 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.
- **Penelec estimates that restoration is expected by midnight Wednesday (August 31).**
- 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. PPL has 674 field personnel working the restoration along with 424 contractor personnel. **The company is estimating 3 to 5 days to restore substantially all customers. PPL reports that it has 18 miles of power lines to replace, in addition to 900 damaged poles, 700 insulators, and 4,638 fuses to fix.**
- 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.



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Virginia:

- Dominion Virginia Power reports that it has restored power to more than 50 percent of 1.2 million customers affected by the hurricane. The utility 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. **In Northern Virginia, where Irene had a lesser impact, the company stated today (August 30) the restoration is complete.** 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 Virginia Power had 27 transmission lines go out of service from the storm and as of yesterday (August 29) 10 of these transmission lines remain out of service and most should be back in service.
- Rappahannock Electric Cooperative (REC), servicing 22 Virginia counties, stated yesterday (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) stated today (August 30) that** based on helicopter assessments, the utility estimates that thousands of customers will still **remain** out 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 is customers should be prepared for extended outages.
- **Vermont Electric Cooperative (VEC) reports that it is down to single member outages that will be restored today (August 30).**

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, the Region IV RRCC in Atlanta, GA, and the Joint Field Office (JFO) in Albany, NY. ESF 12 staff are staffing the Virginia Emergency Operations Center (EOC) and the Maryland EOC. ESF 12 staff are coordinating restoration activities with the State of Connecticut.