



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

Hurricane Irene Situation Report #6

August 29, 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. At 11:00 pm EDT August 28, the National Hurricane Center had downgraded Irene to post-tropical and discontinued issuing notices on Irene.
In response to Irene the following States declared a State of Emergency: Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Jersey, New York, North Carolina, Pennsylvania Rhode Island, Vermont, and Virginia.

Electricity Information:

Electricity Outages by State

Table with 3 columns: Impacted State, Electric Customer Outages, % of State Customers Without Power. 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.

William N. Bryan | Deputy Assistant Secretary | ISER | Department of Energy | (W) 202-586-7517 (C) 202-657-1334



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- As of 8:00 am EDT August 29, the impacted States report a total of 5,475,274 customers without power. This is a decrease from the 5,946,246 reported at 2:00 pm EDT August 28 in Situation Report #5. Restoration estimates and efforts by electric utilities are reported below.
- Based on the highest outage reported in the DOE Situation Reports, the following States have shown decreases in customer outages:
 - Delaware – 43,065 customers restored
 - District of Columbia – 9,490 customers restored
 - Maryland – 300,882 customers restored
 - New Jersey – 117,149 customers restored
 - New York – 3,395 customers restored
 - North Carolina – 172,205 customers restored
 - Pennsylvania – 252,466 customers restored
 - Virginia – 297,371 customers restored
- 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.
- PJM stated Sunday (August 28) that its transmission system experienced minimal impacts and none of these impacts affected the overall reliability of its grid. Adequate generation capacity has been available, according to PJM, even though some generation facilities in their footprint were affected by Irene. PJM is the regional transmission organization (RTO) that coordinates the movement of wholesale electricity in 13 States (including Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, and Virginia) and the District of Columbia.
- ISO New England (ISO-NE) reported Sunday (August 28) the bulk power system is operating reliably. The region has experienced outages on the bulk power system but these outages are not presenting any reliability issues. ISO-NE is the RTO for Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont.

Petroleum & Natural Gas Information:

- In the Northeast, Irene, one refinery has shut down (ConocoPhillips Linden, NJ) and the other five are operating at reduced rates (ConocoPhillips, Trainer, PA, Sunoco, Marcus Hook, PA and Philadelphia, PA, and PBF, Paulsboro, NJ and Delaware City, DE).



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Refineries in the Path of Irene as of 8/29/11 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	
TOTAL		1,278,200	0	238,000	0	1,040,200	0

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.

- As of 5 PM August 28, two Buckeye Eastern Products Systems lines were shut down. One line from Linden, NJ to Macungie, PA never shut down. Buckeye expects to start bringing the lines back online this afternoon (August 29) after safety checks are performed.
- On August 28, Colonial Pipeline reported that service has been restored in Selma, NC, and the company is working to restore service to Norfolk, VA, where there are power losses and standing water at some facilities. There have been no interruptions in the pipeline's service to Linden, NJ and New York Harbor.
- 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 8/29/11 8:00 AM EDT

Table with 4 columns: Company Name, Location, Shut Down Date, Restart Date. Lists various companies like ConocoPhillips, Buckeye Partners, and NuStar with their respective locations and shutdown/restart dates.

exp. = expected

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

- 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.

Electricity Restoration Activities by State:

Connecticut:



- 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



- DELMARVA Power stated yesterday (August 28) they have no estimated time of restoration. The utility has 100 crews, including crews from PA, TX, LA, and OH, assisting in restoration activities.

District of Columbia:

- Pepco, serving D.C. and Maryland, has reported damage to five substations, in addition to 131 priority feeder lines and 304 downed wires. The company anticipates having restoration information for their system tonight (August 29). Pepco reported today (August 29) that all substations impacted by Irene have been repaired.

Maine:



- Bangor Hydro has been working closely with sister utility Maine Public Service to combine resources where possible and provide mutual aid, if needed.
- Central Maine Power Company (CMP) crews are being supplemented with Extra lineworkers and tree crews from Maine and Canada t beginning this morning. CMP warns customers that the restoration work is likely take several days or more.

Maryland:



- Pepco, serving D.C. and Maryland, has reported damage to five substations, in addition to 131 priority feeder lines and 304 downed wires. The company anticipates having restoration information for their system tonight (August 29). Pepco reported today (August 29) that all substations impacted by Irene have been repaired.
- Baltimore Gas and Electric (BG&E) expects the restoration effort to continue for at least the next several days. The hardest hit areas of service territory include Anne Arundel, Baltimore, Calvert and Prince George’s Counties, and Baltimore City. The company has approximately 3,700 employees, contractors, and out-of-State linemen in place to assist with restoration efforts.

Massachusetts:



- 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:



- In New Hampshire the I-93 corridor from Salem to Manchester and the Greater Keene was the hardest hit area.
- As of last night (August 28) roughly half of Nashua, NH outages had been restored.

New Jersey:



- Atlantic City Electric reported yesterday (August 28) that is assessing the damage to its system.
- Public Service Electric & Gas (PSE&G) has over 1,000 linemen, including crews from Ohio, and 540 tree contractors supporting the restoration activity.

New York:



- 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) is using helicopters, vehicles and survey teams to assess the major damage to LIPA's transmission and distribution lines, substations and other infrastructure. Following the assessment of LIPA's electric system, LIPA crews will first restore power to critical facilities, including hospitals, nursing homes, fire stations and evacuation shelters.
- 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 the majority of remaining customers without power by midnight Tuesday (August 30), with 95 percent of restorations 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



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has 1,200 crew members; including crews from five States, assessing Irene damage and restore service.

- Dominion Power reports damage assessment continues, overall estimate of restoration times to be available to all customers by noon Monday (August 29). Dominion has over 6,000 line workers from six States assisting crews in the restoration.

Pennsylvania:



- 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 (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).
- 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.
- 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 Virginia Power is currently assessing damages to facilities and distribution networks. An overall estimate of restoration times will be available to all customers by noon Monday (August 29). The utility reported a peak of 1.2 million customers affected the second largest restoration effort after Hurricane Isabel. Dominion has more than 6,000 personnel involved in the restoration effort. Dominion reported yesterday (August 28) that they have full generating capacity and no issues with storm related access to their sub-stations and major infrastructure. They are Dominion has over 5,000 line workers from six States assisting crews in the restoration.
- 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.



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Vermont:



- Central Vermont Public Service (CVPS) says recovery will entail a monumental effort due to closed bridges and washouts. CVPS says hundreds of crews 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) crews, along with crews from as far away as 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.

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.