



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

Hurricane Sandy Situation Report # 5
October 30, 2012 (3:00 PM EDT)

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

Highlights:

- At 8:00 pm EDT October 29, the National Hurricane Center reported Sandy made landfall near Atlantic City, NJ as a post tropical cyclone.
- As of 2:00 pm EDT October 30, the impacted States report a total of 8,204,190 customers without power in the affected areas. There is some increase in outages as the storm moves west-northwest. See State totals below.

Summary

Electric Outages by State				
Impacted State	Current Customer Outages	Percentage of Customers Without Power	Peak Outages Reported in DOE SitReps	Customers Restored Since Peak
Connecticut	626,559	31%	626,559	0
Delaware	18,611	4%	45,137	26,526
District of Columbia	3,010	1%	3,583	573
Illinois	1,149	< 1%	1,149	0
Indiana	9,224	< 1%	9,224	0
Kentucky	8,379	< 1%	8,379	0
Maine	72,049	5%	90,727	18,678
Maryland	253,315	9%	311,020	57,705
Massachusetts	256,039	7%	298,072	42,033
Michigan	69,006	1%	69,006	0
New Hampshire	136,565	19%	141,992	5,427
New Jersey	2,615,291	65%	2,615,291	0
New York	2,097,933	23%	2,097,933	0
North Carolina	1,998	< 1%	15,466	13,468
Ohio	267,323	4%	267,323	0
Pennsylvania	1,221,536	19%	1,267,512	45,976
Rhode Island	116,592	23%	116,592	0
Tennessee	2,120	< 1%	2,120	0
Vermont	8,104	2%	17,959	9,855
Virginia	147,622	4%	182,811	35,189
West Virginia	271,765	27%	271,765	0
TOTAL:	8,204,190			

Note: States with fewer than 1,000 outages are not included in the table. 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 2010 EIA Customer Data.



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- A State of Emergency has been declared for Connecticut, Delaware, Washington D.C., Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Virginia, and West Virginia.
- As of 8:00 a.m. EDT, October 30, the U.S. Nuclear Regulatory Commission (NRC) reported three nuclear power units in the Northeastern United States had to shut down and two units reduced as a result of impacts from Hurricane Sandy. **Details on the plants and/or units can be found in Situation Report #4.**

ESF 12 Actions:

- ESF 12 is staffing the FEMA National Response Coordination Center (NRCC) in Washington, DC; the FEMA Region I Regional Response Coordination Center (RRCC) in Boston, MA, the FEMA Region II RRCC in Colts Neck, New Jersey; the FEMA Region III RRCC in Philadelphia, PA, and the New York State Emergency Operations Center (EOC) in Albany, NY.

Petroleum & Natural Gas Information:

Refineries

- **Phillips 66 reports that their Bayway refinery in Linden, NJ (238,000 barrel a day capacity) is without power and has some flooding in low-lying areas.**
- **Trade sources are reporting that Hess Corporation’s refinery in Port Reading, NJ (70,000 barrel a day capacity) is without power.**
- A list of refineries impacted by Hurricane Sandy is presented in the table below.

Refineries in the Path of Sandy as of 1:00pm EDT 10/30/12						
Refinery	Location	Capacity (B/D)				
		Operating Capacity*	Shut Down	Restarting	Reduced Runs	Normal
Hess*	Port Reading, NJ	70,000	X			
Monroe Energy	Trainer, PA	185,000			X	
PBF	Delaware City, DE	182,200			X	
PBF	Paulsboro, NJ	160,000			X	
Philadelphia Energy Solutions (Sunoco)	Philadelphia, PA	335,000			X	
Phillips 66	Linden, NJ	238,000	X			
TOTAL		1,170,200	308,000	0	862,200	0

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

*The Hess Port Reading, NJ facility does not process crude, but processes gas oils to produce petroleum products.

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

Ports

- **As of 1:00 pm EDT October 30,** the U.S. Coast Guard reports closures for ports in Sector Delaware Bay, including Philadelphia; Sector Long Island Sound; Sector New York; Sector Southeastern New England (Providence, RI); and for ports along coastal waters in Virginia and Maryland. **Ports have reopened in Sector Baltimore; Sector Hampton Roads, including the Chesapeake Bay entrance; Sector Boston; and southern Massachusetts ports have reopened in Sector Southeastern New England.**



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Petroleum Terminals

- ExxonMobil stated today (October 30) that it's Everett, MA, East Providence, RI, and Springfield, MA terminals sustained no damage, no loss of power, and are operating normally.
- As of 1:00 pm EDT October 30, the following terminals are shut down:
 - Colonial Pipeline's Linden, NJ terminal.
 - Hess' Groton, CT terminal, one of the NE Heating Oil Reserve Terminals.
 - Kinder Morgan's Carteret and Perth Amboy terminals in NJ and Staten Island, NY terminal. The company reports that its Philadelphia terminal has power and should resume operations tomorrow.
 - Magellan Midstream Partners' terminals in Wilmington, DE and New Haven, CT.
 - Motiva's terminals in Bridgeport, CT; Brooklyn, NY, Long Island, NY, Newark, NJ; New Haven, CT; and Sewaren, NJ. The company reports their terminals in Baltimore, MD, Fairfax, VA, Richmond, VA, and Providence, RI are open
 - NuStar Energy's terminals in Paulsboro and Linden, NJ; Virginia Beach and Dumfries, VA; Piney Point, Andrews AFB, and Baltimore, MD. NuStar Energy officials are conducting damage assessments at all terminals except for their terminal in Linden, NJ, whose roads are flooded.
 - Phillips 66's terminals in Riverhead, NY and Tremley Point, NJ.

Petroleum Pipelines

- Colonial Pipeline shut down its mainline serving the Philadelphia, New Jersey and New York harbor markets at 7:00 pm EDT last evening (October 29). Colonial's southern mainlines (Houston-to-Greensboro, N.C.), as well as a mainline between Greensboro and central Maryland, are continuing normal operations.
- As of 9:00 am EDT today (October 30), Kinder Morgan Pipeline reported that their jet fuel line from Newington, VA to Reagan National Airport is down due to a power failure. Restoration time unknown at this time.
- As of 1:00 pm EDT October 29, trade press report that Buckeye Pipe Line has shut some lines out of Linden, NJ including pipelines to Queens and elsewhere in New York City, but the company is still shipping jet fuel to JFK, La Guardia, and Newark airports, and gasoline to Pennsylvania.

Electric Restoration Information

Connecticut

- Connecticut Light and Power reported yesterday (October 29) that more than 1,000 line workers arrived and are working from as far away as the Pacific Northwest, Texas and Washington.

Delaware

- Delmarva Power announced yesterday (October 29) that it has mobilized nearly 2,000 employees and contractors to restore power to those affected.

District of Columbia

- Pepco, serving Washington, DC and Maryland, reported that PHI, Pepco's parent's company, has secured 1,563 line personnel from states as far away as Texas and Mississippi. In addition, they have nearly 600 internal and contract line personnel and 300 tree removal personnel on the system



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ready for quick mobilization. Nearly 400 customer call representatives are available to answer calls, about 165 assessors are ready to identify storm damage, and around 635 support personnel are working on their special storm response roles.

Indiana

- Duke Energy, on October 29, made 1,200 line workers available to help other utilities restore power in Hurricane Sandy's aftermath. Most of the workers are contractors who normally work in the service areas of Duke Energy and Progress Energy. Line workers directly employed by Duke Energy and Progress Energy will remain in the company's service areas to handle existing and potential outages in those locations.

Maine

- Bangor Hydro and Maine Public Service reported yesterday (October 29) that they will have 63 crews available to work the storm and 17 tree crews from Asplundh. Maine Public will have 24 crews available to work and five tree crews from Asplundh. Each utility will assist the other as needed once they've handled outages in their own service territory. In addition, their sister utility from Nova Scotia will assist as needed and local line contractors have been placed on standby as well.

Maryland

- Pepco, serving Washington, DC and Maryland, reported that PHI, Pepco's parent's company, has secured 1,563 line personnel from states as far away as Texas and Mississippi. In addition, they have nearly 600 internal and contract line personnel and 300 tree removal personnel on the system ready for quick mobilization. Nearly 400 customer call representatives are available to answer calls, about 165 assessors are ready to identify storm damage, and around 635 support personnel are working on their special storm response roles.
- Baltimore Gas & Electric (BGE) reported yesterday evening (October 29) that more than 4,100 employees, contractors and out-of-state linemen, tree personnel and support staff are mobilized at BGE facilities and four staging sites. This includes approximately 1,700 out of a requested 3,000 out-of-state and contract linemen, tree personnel and support staff from Florida, Georgia, Illinois, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, Tennessee and Texas.
- Southern Maryland Electric Cooperative (SMECO) announced yesterday evening (October 29) that it has assembled a team of about 500 field workers—including SMECO linemen, contract linemen, and cooperative linemen, along with tree crews—to restore electric service to affected areas. **They reported this is the largest group of assembled linemen and service restoration personnel in their history.**
- **As of 7:30 am today (October 30), First Energy reports preliminary estimates indicate the possibility for lengthy outages. Approximately 7,800 company personnel and out-of-state crews are assisting with service restoration in New Jersey, West Virginia, Pennsylvania, Ohio, and Maryland.** While assessment of the damage by utility workers will be ongoing, the slow-moving nature of the storm will slow the process and hamper the conduct of restoration work.

Massachusetts

- NSTAR reported yesterday (October 29) that, in advance of the storm's arrival, the company opened its emergency operations center and staffed its regional work centers across the state. Approximately 1,200 contract personnel from as far away as Texas and the Midwest are assisting NSTAR's 3,000 employees in their efforts.

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- In Massachusetts, National Grid reported today (October 30) that **it has begun restoration efforts with 348 restoration crews and 224 tree crews working to restore power.**

Michigan

- **Detroit Edison reported today, all available DTE Energy crews are working to restore service. DTE Energy is attempting to recruit assistance from other electric utilities but, most resources are already committed to that massive restoration effort.**

New Hampshire

- As of 8:30 PM 10/29/12, Public Service of New Hampshire (PSNH) reports some of the 550 requested line and tree personnel from as far away as Louisiana, Mississippi, Missouri, Oklahoma, and Texas have arrived to join more than 100 PSNH and local contractor line crews and 100 tree trimming crews already in place for the restoration effort.
- Across its service territory in New York, New Hampshire, Massachusetts and Rhode Island, National Grid has on the ground thousands of employees in support roles and hundreds of supplemental crews from across the US and Canada. National Grid anticipates a second wave of additional personnel from other states once the storm is over. .

New Jersey

- **Public Service Electric and Gas (PSE&G) reported today (October 30) it has a workforce consisting of 1,500 technicians - 600 PSE&G employees and 950 outside workers from Florida, Georgia, Indiana, Illinois, Missouri, Pennsylvania, Tennessee, and Wisconsin. The company estimated today that some customers may be without service for seven or more days. Last night excessive flooding created by the storm surge affected a large number of substations in Essex, Hudson and Middlesex counties. PSE&G has taken these stations out of service until the water recedes, the equipment can be cleaned and dried, and the stations can be safely re-energized. Atlantic City Electric reports that due to the magnitude of the storm, estimated times of restoration have been suspended until personnel are able to assess damage.**
- **Orange and Rockland, serving New Jersey, New York, and Pennsylvania estimated today (October 30) that a majority of its customers without power should have electricity restored within 10 days, but complete repairs and total service restoration could take weeks. These projections are very preliminary and will be adjusted as the full extent of the damage is determined. Because of the widespread damage the hurricane has caused to O&R's electric transmission and distribution system — including 17 transmission circuits down, 12 substations off line and 100 circuits locked out — O&R will have to rebuild much of those systems. O&R has mobilized and deployed about 1,000 O&R employees who were joined by about 800 contractor field workers. More personnel are expected to arrive through the week.**
- Jersey Central Power and Light (First Energy) has approximately 7,500 company personnel and out-of-state workers are assisting with service restoration in New Jersey, West Virginia, Pennsylvania, Ohio, and Maryland but anticipate lengthy outages in the storm's wake. While assessment of the damage by utility workers will be ongoing, the slow-moving nature of the storm will slow the process and hamper the conduct of restoration work.

New York

- **At 11:30 AM today (October 30), Consolidated Edison reports that customers in Brooklyn and Manhattan should have power restored in four days. Customers in areas serviced by overhead lines**

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may take over a week for restoration to be complete. The company cut service last night to two areas of Lower Manhattan and to an area of Brooklyn. Con Ed stated that this was done to protect the underground delivery system equipment from flood waters so that the restoration would happen quicker. The electrical equipment which is in flooded area must have all of its components cleaned of sea water, dried, and then tested.

- **Central Hudson Gas and Electric reported the storm caused damage to one substation and five transmission lines, and seven major distribution circuits were out of service. Central Hudson is deploying 700 employee line personnel, contractors, and mutual aid crews from Florida, Iowa, Indiana, and Wisconsin. It anticipates additional resources will arrive later in the week. The utility must address more than 900 distinct damage locations.**
- New York State Electric and Gas reports the first phase of the service restoration process, damage assessment, will begin once the storm passes, perhaps on Wednesday (October 31).
- **Long Island Power Authority (LIPA) personnel have begun making assessments. Numerous areas remain inaccessible due to flooding and debris on roadways.** The utility reports that several LIPA facilities near the south shore have already been impacted by severe flooding. In addition, localized flooding has made many roads inaccessible to restoration crews. LIPA anticipates assessments can begin after 7AM today (October 30) and expects some customers to be without power at least 7 to 10 days.
- **In New York, National Grid has begun restoration efforts with 400 restoration crews working to restore power. The company estimated today (October 20) that restoration should be complete in 48 hours for most customers.**

Ohio

- **As of 7:30 am today (October 30), First Energy reports preliminary estimates indicate the possibility for lengthy outages. Approximately 7,800** company personnel and out-of-state crews are assisting with service restoration in New Jersey, West Virginia, Pennsylvania, Ohio, and Maryland. While assessment of the damage by utility workers will be ongoing, the slow-moving nature of the storm will slow the process and hamper the conduct of restoration work.

Pennsylvania

- As of 10:15 pm yesterday (October 29), Duquesne Light reports personnel are in the process of restoring power by removing trees and repairing downed wires. System restoration time is undetermined at this time, as the damage to the electrical system is still being assessed.
- PECO has mobilized more than 3,000 employees, contractors and out-of-state crews. The effort includes more than 1,500 field personnel from utilities in areas such as Tennessee, Kentucky, Louisiana and Mississippi, as well as field personnel from PECO's Chicago-based sister utility ComEd. There is the potential that PECO may not be able to immediately provide estimated restoration times until it is able to more fully assess damage to our system.
- **As of 7:30 AM 10/30/12, First Energy reports preliminary estimates indicate the possibility for lengthy outages. Approximately 7,800** company personnel and out-of-state crews are assisting with service restoration in New Jersey, West Virginia, Pennsylvania, Ohio, and Maryland. While assessment of the damage by utility workers will be ongoing, the slow-moving nature of the storm will slow the process and hamper the conduct of restoration work
- **PPL Utilities reported today (October 30) that restoration efforts have begun but anticipates that some customers may be without power for up to a week.**



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- Citizens Electric reports as of 11:30 AM today (October 30) that restoration efforts are underway and most customers should have power restored by tonight, however, some customers may be out until tomorrow. The restoration work involves replacing broken poles and about 20 spans of overhead line.
- As of 7:30 am today (October 30), First Energy reports preliminary estimates indicate the possibility for lengthy outages. Approximately 7,800 company personnel and out-of-state crews are assisting with service restoration in New Jersey, West Virginia, Pennsylvania, Ohio, and Maryland. While assessment of the damage by utility workers will be ongoing, the slow-moving nature of the storm will slow the process and hamper the conduct of restoration work.

Rhode Island

- In Rhode Island, National Grid has begun restoration efforts with 128 restoration crews and 151 tree crews working to restore power.

Tennessee

- Appalachian Power, serving West Virginia, Tennessee, and Virginia, reports that more than 400 outside workers are positioned in areas where outages are expected and will assist more than 500 locally-based Appalachian Power employees with service restoration. The storm is still in process and restoration estimates will not be available until after the storm has passed.

Vermont

- As of 9:30 AM today (October 30) Vermont Electric Cooperative reports that all areas will be restored by 3PM today (October 30).
- On 10/29/12, Green Mountain Power reports nearly 1,000 employees and personnel from out-of-state and Canada are working to respond to outages.

Virginia

- Dominion Power announced today (October 30) that it is conducting an assessment of the storm damage and its personnel and personnel from outside companies are restoring power to customers.
- Northern Virginia Electric Cooperative reports its crews and extra line and tree crews from North and South Carolina are assisting in restoring service to NOVEC's customers.
- Shenandoah Electric Cooperative (SVEC) reports crews from SVEC, other cooperatives, and contractors are prepared to respond to the outages, and will do so, as weather conditions allow.
- Appalachian Power, serving West Virginia, Tennessee, and Virginia, reports that more than 400 outside workers are positioned in areas where outages are expected and will assist more than 500 locally-based Appalachian Power employees with service restoration. As of Noon today (October 30), the utility stated that the storm was still impacting customers in its service area and reported that restoration will take several days.
- Rappahannock Electric Cooperative reports that restoration efforts are underway and storm damage assessment will continue throughout the day. Mutual Assistance crews from cooperatives in Mississippi, Tennessee, and Georgia are assisting in the effort.

West Virginia

- Appalachian Power, serving West Virginia, Tennessee, and Virginia, reports that more than 400 outside workers are positioned in areas where outages are expected and will assist more than 500 locally-based Appalachian Power employees with service restoration. As of Noon today (October

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