



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

Hurricane Sandy Situation Report # 9
November 1, 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 November 1 there are 4,454,650 customers without power in the affected States. This is a decrease from the 4,657,013 customers without power reported in Situation Report #8. Restoration estimates and efforts by electric utilities are reported 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	348,294	17%	626,559	278,265
Maryland	40,760	2%	311,020	270,260
Massachusetts	12,883	< 1%	298,072	285,189
Michigan	10,004	< 1%	120,637	110,633
New Hampshire	8,324	1%	141,992	133,668
New Jersey	1,733,202	43%	2,615,291	882,089
New York	1,525,969	16%	2,097,933	571,964
Ohio	96,880	1%	267,323	170,443
Pennsylvania	509,839	8%	1,267,512	757,673
Rhode Island	21,376	4%	116,592	95,216
Virginia	7,538	< 1%	182,811	175,273
West Virginia	139,581	14%	271,765	132,184
TOTAL:	4,454,650		8,317,507	3,862,857

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.

- Yesterday (October 31), the US Environmental Protection Agency (EPA), in consultation with the US Department of Energy, issued an emergency waiver of the reformulated gasoline (RFG) requirements for the States of Connecticut, Delaware, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, , and Virginia, and the District of Columbia. The waiver also applies to Alabama, Georgia, Mississippi, North Carolina, South Carolina, and Tennessee to allow for fuel flexibility in the system. The waiver will be in effect through November 20.
- Yesterday (October 31), the US Environmental Protection Agency (EPA), in consultation with the US Department of Energy, issued an emergency waiver of the Ultra Low Sulfur Diesel (ULSD)



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

fuel specifications in mobile nonroad diesel engines in New Jersey. The waiver will be in effect through November 13.

- As of 7:00 am EDT, November 1, the U.S. Nuclear Regulatory Commission (NRC) reports three nuclear power units in the Northeastern United States continue to be shut down and two units remain reduced as a result of impacts from Hurricane Sandy. **Details on the plants and/or units can be found in Situation Report #8.**

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

- A list of refineries impacted by Hurricane Sandy is presented in the table below.

Refineries in the Path of Sandy as of 1:00 pm EDT 11/1/12						
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	335,000	527,200

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 November 1, the Captain of the Port (COTP) of New York has authorized loaded fuel barges to transit to all operational facilities in the Upper Bay, the North River (Hudson) and the East River to Long Island Sound. Fuel barges must have a predetermined fuel facility destination at which to offload their cargo before authorization to enter or transit within the port is granted. The Arthur Kill, Kill Van Kull, and Buttermilk Channel will remain closed for all vessel traffic due to known hazardous conditions in the water. The U.S. Coast Guard has reopened all other port sectors affected by Sandy.

Petroleum Terminals

- Motiva states that their terminals in New York and New Jersey have experienced flooding and power loss. Two diesel storage tanks were damaged at the Sewaren, NJ terminal.
- The table below lists the status of petroleum terminals impacted by Hurricane Sandy.



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

Status of Petroleum Terminals as of 1:00 pm EDT 11/1/12				
Company	City	State	Status	Date Stamp
Motiva	Bridgeport	CT	Open with reduced operations	10/31/12
Hess	Groton	CT	Shut	10/30/12
Gulf Oil	New Haven	CT	Open	11/1/12
Magellan Midstream	New Haven	CT	Open with reduced operations	11/1/12
Motiva	New Haven	CT	Open	10/31/12
Magellan Midstream	Wilmington	DE	Open	10/30/12
NuStar Energy	Andrews AFB	MD	Open	10/31/12
Motiva	Baltimore	MD	Open	10/31/12
NuStar Energy	Baltimore	MD	Open	10/31/12
NuStar Energy	Piney Point	MD	Open	10/31/12
IMTT	Bayonne	NJ	Shut	10/31/12
Kinder Morgan	Carteret	NJ	Shut	10/30/12
Colonial Pipeline	Linden	NJ	Shut	10/30/12
NuStar Energy	Linden	NJ	Shut, Restart timing pending	10/31/12
Motiva	Newark	NJ	Shut	10/31/12
NuStar Energy	Paulsboro	NJ	Open	10/31/12
Kinder Morgan	Perth Amboy	NJ	Shut	10/30/12
Motiva	Sewaren	NJ	Shut	10/31/12
Phillips 66	Tremley Point	NJ	Shut	11/1/12
Castle Port Morris	Bronx	NY	Open	11/1/12
Schildwachter Oil	Bronx	NY	Open	11/1/12
Bayside Fuel Oil Depot	Brooklyn	NY	Open	11/1/12
Motiva	Brooklyn	NY	Shut	10/31/12
Skaggs Walsh	College Point	NY	Open	11/1/12
Northville Industries	Holtsville	NY	Open	11/1/12
Motiva	Long Island	NY	Shut	10/31/12
Phillips 66	Riverhead	NY	Shut	11/1/12
Kinder Morgan	Staten Island	NY	Shut	10/30/12
Kinder Morgan	Philadelphia	PA	Open	10/31/12
Motiva	Providence	RI	Open	10/31/12
NuStar Energy	Dumfries	VA	Shut, Expected Back 11/1	10/31/12
Motiva	Fairfax	VA	Open	10/31/12
Motiva	Richmond	VA	Open	10/31/12
NuStar Energy	Virginia Beach	VA	Open	10/31/12

Petroleum Pipelines

- The Colonial Pipeline shut down its mainline serving the Philadelphia, New Jersey and New York harbor markets at 7:00 pm EDT, October 29. **Today (November 1) trade press reported that the line would resume limited operation tomorrow (November 2).** Sandy has caused severe flooding at Colonial Pipeline’s tank farm and other facilities in Linden, NJ. Colonial’s southern mainlines

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

(Houston-to-Greensboro, N.C.), as well as a mainline between Greensboro and central Maryland, are continuing normal operations.

- As of 8:40 am EDT yesterday (October 31), trade press reports that Buckeye Partners LP is in the process of restarting six oil products pipelines. The resummptions are conditional on favorable reports about the lines and supply availability. Buckeye does not have a timeframe for restarting operations.

Electric Restoration Information

Connecticut

- The United Illuminating Company has projected it will complete service restoration to 95% of its customers before midnight on Monday (November 5).
- Connecticut Light and Power (CL&P) projected today that, assuming good weather, 98% of customers will have power by Monday (November 5) or Tuesday (November 6). Yesterday (October 31), CL&P reported that it has 5,000 workers responding to damage from Hurricane Sandy

Maryland

- FirstEnergy Corp., whose utilities serve New Jersey, Pennsylvania, Ohio, Maryland and West Virginia, estimated yesterday (October 31) that its Maryland customers will be restored by early evening Saturday, with the exception of the hardest hit area of Garrett County, which requires further assessment. Its assessment and restoration effort in the wake of Hurricane Sandy includes more the 12,000 company personnel, electrical contractors and outside utility resources are assisting with service restoration efforts.
- Pepco, serving Washington, DC and Maryland, reported last night (October 31) that it has restored power to all customers affected by Hurricane Sandy.
- Baltimore Gas and Electric Company (BGE) is working to restore service to the remaining 5 percent of customers without power. BGE has more than 5,600 employees, contractors and out-of-state linemen, tree personnel and support staff on the restoration team. This number includes more than 1,800 out of a requested 3,000 out-of-state and contract linemen, tree personnel and support staff from Alabama, Florida, Georgia, Illinois, Indiana, Louisiana, Mississippi, Missouri, Minnesota, New Mexico, North Carolina, Oklahoma, Tennessee and Texas. BGE's sister utility, ComEd, an Exelon company based in Chicago, is also providing support to the company's preparation and restoration efforts.

Massachusetts

- NSTAR has restored service to 95 percent of customers and estimates full restoration by tonight (November 1).
- National Grid has restored service to 94 percent of its Massachusetts customers and estimates full restoration by Friday (November 2) for all areas with one exception— service restoration to Berkshire, MA is still being assessed.

New Hampshire

- National Grid has, as of noon today (November 1), fully restored all affected customers in the New Hampshire portion of its service territory.



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

- **Public Service of New Hampshire (PSNH) reported at noon today that projects to have power fully restored by no later than midnight tonight (November 1) for the vast majority of the communities it serves.** Yesterday (October 31), the first wave of 75 two-man crews from Hydro Québec arrived in New Hampshire and joined with PSNH crews and contractors already in the field. Aided by others, including crews from as far away as Texas and Oklahoma, PSNH expects that its restoration will be substantially completed by Friday evening
- **New Hampshire Electric Coop (NHEC) announced at 11:00AM today (November 1) that most members will be restored during daylight hours today. NHEC expects to be fully restored by 10:00 PM. tonight, with the exception of scattered, individual outages.**

New Jersey

- Public Service Electric and Gas (PSE&G), serving New Jersey reported today (November 1) that it forecasts to have virtually all of its customers restored to service within the next seven to ten days. The majority of customers will be restored before then. However, customers who have individual flooding or downed lines issues may take longer to be restored. **The company stated that they continue to make progress on the substations serving Hudson, Essex, and Middlesex counties which were affected by flood waters.** PSE&G has assembled over 1,730 technicians – 600 PSE&G workers, 1,050 workers from across the country, and an additional 600 contractors to cut and remove trees. Crews helping in the restoration efforts have arrived from Florida, Georgia, Indiana, Illinois, Missouri, Pennsylvania, Tennessee, Texas, and Wisconsin, as well as Canada.
- Orange and Rockland (O&R), serving New Jersey, New York, and Pennsylvania estimated at 8:00 AM yesterday (October 31) 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. The company has restored 13 of the 27 transmission lines and 7 of the substations that were damaged by the storm. More than 1,000 O&R employees and over 1,000 contractors from almost 20 states are working on rebuilding O&R's electric system.
- Jersey Central Power and Light reported today (November 1) that the majority of its customers will be restored in the next seven days and customers in the hardest-hit areas are expected to be restored within 14 days. Remaining customers will be restored once damaged roads, infrastructure and homes are rebuilt. Across the First Energy utilities, more the 12,000 company personnel, electrical contractors and outside utility resources are assisting with service restoration efforts. These workers including linemen, dispatchers, hazard responders, damage assessors, mechanics, supervisors, and call center representatives.
- Atlantic City Electric (AEC) reports extensive damage to its system. As of Noon yesterday (October 31), AEC estimates 90 percent of customers in the Mainland areas (Cape May, Glassboro, Pleasantville, and Winslow Districts) will be restored by midnight on Sunday November 4. Restoration estimates for the NJ Barrier Islands will be established after damage assessments have been completed. **Crews from Arkansas, Texas, Alabama, Florida, New Mexico, South Carolina, Mississippi, Indiana, Tennessee, Louisiana, and many other states are assisting in the restoration effort.**
- **Sussex Rural Electric Cooperative announced this morning (November 1) that they expect to have everyone who can be reconnected back on at the end of the day, tomorrow.**

New York

- **Consolidated Edison (ConEd) crews still face hundreds of wires down in New York City and Westchester County, where more than 600 roads are closed. Trees also block access to wires and**



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

equipment throughout the system and hundreds of vaults are flooded. The company expects to make significant progress restoring electricity over the next two days due to yesterday's (October 31) damage assessment and field work planning. Additional crews from around the country continue arriving from as far away as California to assist New Yorkers. Last night (October 31), ConEd announced that it had restored power to customers served by two underground electrical networks taken out of service October 29. The networks are in lower Manhattan (serving 2,000 customers) and Brighton Beach (serving 28,200 customers). The company stated that underground lines are expected to be back within three days and overhead lines will take at least a week. ConEd stated that across its service area the storm knocked down more than 100,000 primary electrical wires in overhead areas. **The hurricane is the worst natural disaster to strike ConEd's customers.**

- Central Hudson estimated last night (October 31) that it is on track to meet its projected restoration goal of 90 percent of total impacted customers by Friday (November 2) at 11:00 PM. Some restoration activities will continue to take place over the weekend. Central Hudson is deploying 700 employee line personnel, contractors, and mutual aid crews from Florida, Iowa, Indiana, and Wisconsin.
- **New York State Electric and Gas (NYSEG) reported this morning (November 1) that more than 2,100 company and contract personnel are working on the massive power restoration effort, primarily in Putnam, Westchester, Sullivan, Dutchess, and Monroe counties. Power is expected to be restored to the vast majority of customers in the Rochester region by midnight tomorrow. Estimated restoration times for other areas will be established once damage assessment is complete.**
- Long Island Power Authority (LIPA) has more than 1,200 crews from **Niagara Mohawk Power Corp (National Grid)**, other utilities, and qualified contractors from as far as California and Texas are currently assisting with restoration efforts, supported by more than 4,500 people behind the scenes from virtually every company department assisting with activities such as call handling, logistics and damage assessment. An additional 1,969 utility personnel are on way to Long Island to assist in the restoration effort Yesterday (October 31) restored power to 22 Substations of 50 that were out of power. LIPA anticipates some customers to be without power at least 7 to 10 days.
- Orange and Rockland (O&R), serving New Jersey, New York, and Pennsylvania estimated at 8:00 AM yesterday (October 31) 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. The company has restored 13 of the 27 transmission lines and 7 of the substations that were damaged by the storm. More than 1,000 O&R employees and over 1,000 contractors from almost 20 states are working on rebuilding O&R's electric system.

Ohio

- Ohio Edison, a FirstEnergy Company, announced yesterday (October 31) that the majority of customers in Erie, Ottawa, Huron and Medina counties are expected to have service restored by midnight today, while the majority of customers in Lorain County are expected to be restored by noon tomorrow.

Pennsylvania

- PECO announced Wednesday (October 31) it has a team of 3,500 PECO crews, contractors and employees from other utilities working to restore service to its customers. PECO expects to be able to restore service to approximately 80-90 percent of customers impacted by the storm by Friday night. Service for most of the remaining customers should be restored during the weekend. Some



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

customers, in the most damaged and isolated areas may be without electric service until next week.

Hurricane Sandy now ranks as the most damaging storm in PECO history.

- First Energy, which includes PennPower, WestPenn Power, Met-Ed and Penelec, reported yesterday (October 31) that nearly 95 percent of Met-Ed's customers are expected to be restored by this weekend, with the remainder restored early next week. The majority of affected customers in the Erie, Oil City, Johnstown, Lewistown and Clearfield areas should have been restored around midnight last night. The majority of Penelec customers in Altoona, Mansfield and Towanda are expected to be restored by midnight tonight. Across the First Energy utilities, more the 12,000 company personnel, electrical contractors and outside utility resources are assisting with service restoration efforts.
- **PPL Utilities reports that, as of 9:00 am today (November), roughly 90 percent of the remaining outages are located in the Lehigh Valley and northeast Pennsylvania.** The utility expects outages to last through the weekend. PPL received more than 400 line technicians, tree crews, and other personnel from the Kentucky-based utilities Kentucky Utilities Co (KU) and Louisville Gas & Electric (LG&E) which are subsidiaries of PPL's parent company, PPL Corporation. **The utility projects that customers in north central Pennsylvania, an area including communities such as Hazleton, Pottsville, Sunbury, Bloomsburg, Lock Haven and Williamsport, should have the last of their outages restored by 11:00 PM tomorrow.**
- Orange and Rockland (O&R), serving New Jersey, New York, and Pennsylvania estimated at 8:00 AM yesterday (October 31) 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. The company has restored 13 of the 27 transmission lines and 7 of the substations that were damaged by the storm. More than 1,000 O&R employees and over 1,000 contractors from almost 20 states are working on rebuilding O&R's electric system.

Rhode Island

- **National Grid estimates full restoration in Rhode Island by Friday (November 2) with possible isolated customers on Saturday (November 3).**

Virginia

- **Dominion Power expects service to be restored to all customers by tonight (November 1) except for a very few locations where flooding or severe damage occurred.**
- **Northern Virginia Electric Cooperative (NOVEC) estimates that all members will be restored by tonight (November 1).** NOVEC crews, along with crews from North and South Carolina, and Maryland, are making sure all power lines are repaired and connected
- **Shenandoah Electric Cooperative (SVEC) estimated at 4:00 am this morning (November 1), all of its member owners will have power restored by the end of the day.** With the number of members affected, SVEC has brought in additional manpower, including crews from six cooperatives, and two contractors, from Alabama, North Carolina, and Virginia. In total, SVEC has approximately 425 men and women working to restore electric service.
- **Appalachian Power (AEP), which services Tennessee, Virginia, and West Virginia, released some restoration estimates today for Virginia, noting that Lebanon (Russell) and Tazewell (Tazewell) and all surrounding areas should be 90 percent restored by midnight tonight (November 1) and Grundy (Buchanan), Clintwood (Dickenson), and Wise County and all surrounding areas should be 90 percent restored by tomorrow night.**



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

- Rappahannock Electric Cooperative (REC) expects to have most outages restored by the end of the day tomorrow (November 1). Some members may still be without power longer, as access to downed lines is proving difficult in certain off-road and mountainous areas. Remaining outages are concentrated in the counties of Greene, Rappahannock, Fauquier and Madison. In addition to REC work crews and contract resources, the restoration work has been bolstered by help from fourteen sister cooperatives in Tennessee, Alabama, South Carolina and Georgia.

West Virginia

- Appalachian Power (AEP), which services Tennessee, Virginia, and West Virginia, reports that, in West Virginia, many areas will be 90 percent restored by Friday night (November 2) while some (Kanawha, Boone, Cabell, Puntman, Clay, and Roane counties) will not until Sunday night (November 4). More than 50 distribution substations were taken out by the storm and 14 remain out of service; the majority of these stations are expected to be restored today. More than 110 circuit breakers were taken out of service due to the storm and all but about 33 have been restored. Approximately 55 transmission lines were affected by storm and 30 remain out of service.
- Yesterday (October 31), MonPower (First Energy) reported that damage assessment is underway but is being complicated due to weather conditions. Restoration is expected by early next week for the majority of customers, but because of the difficult terrain and snow on the ground, and additional accumulation expected, some customers in remote areas may not be restored until the middle of next week. Damage assessments will be conducted via helicopter once conditions improve. Across the First Energy utilities, more the 12,000 company personnel, electrical contractors and outside utility resources are assisting with service restoration efforts. The utility is working to secure additional resources.