

Review of Major Events in 2010 and Associated Regulatory Activity

Discussion document

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Emergency Preparedness and Service Restoration for Utilities

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Over the years, there have been many sources of lessons learned...

Selected Sample of Events

Event Date	Type	Company	Regulatory Response
Jan 1997	Ice Storm	Entergy Gulf States (TX)	Audit, Fine, Get Well
Jul 1999	Heat waves	Com Ed, Con Ed, PSE&G	Audits, DOE POST, Get Well
Jul 2001	Thunderstorm	Indianapolis Power & Light	Audit, Fines, Get Well
Dec 2002 Feb 2003	Ice Storm	Duke Energy, Progress Energy	Audits, UG Study, Get Well
Aug 2003	Blackout	Many companies in Northeastern North America	Congressional study, suits, new NERC rules, etc.
Oct 2003	Hurricane Isabel	PHI (Pepco, Delmarva)	Assessment, UG Study, Get Well
Dec 2003	Snow storm	PacifiCorp (Utah P&L)	Audit, Get Well
Aug-Sep 2004	Charley, Frances, Ivan, Jeanne	FPL, Progress, Southern	Rate recovery proceedings
Jul-Sep 2005	Dennis, Katrina, Ophelia, Rita, Wilma	Entergy, Southern, Progress, SCANA, FPL	Congressional hearings...
Jan, Jul, Sep Jul 2006	Wind storms Heat Wave	Con Ed – Westchester Con Ed – Northwest Queens	Audit...
Jul 2006	Wind storm	Ameren	Audits in IL & MO...
Dec 2006	Wind storm	Puget Sound Energy, Seattle City Light	Audit, assessment...

...Remember 2009?...

Selected Sample of Events

Event Date	Event Description	Companies hit hard	Customers Affected (000)	Days to Restore
Jan 27	Ice Storm in KY	E.on, AEP, Co-ops, Duke	770	2.5 to 4.5
Jan 28	Ice Storm in AR, MO	Entergy, AEP, Co-ops	570	3.0 to 7.0
Feb 11	High winds in OH, PA, WV	AEP, FirstEnergy, Allegheny	970	2.0 to 5.0
Mar 1	Winter storm in NC, VA, GA	Duke, Dominion, Southern	450	0.5 to 2.0
Apr 23	Riverside substation outage	SCE	280	0.1
Apr 25	T-storms in Detroit	DTE	125	3.5
Apr 27	T-storms in Houston	CenterPoint Energy	158	0.8
May 8	T-storms in SW-MO, IL	Ameren, Empire	150	0.1 to 6.0
Jun 10	T-storms in TX	Oncor	800	3.5
Jun 12	T-storms in AR, MS, TN, GA	Entergy, TVA, Southern	320	2.8
Jun 19	T-storms in IL	ComEd	245	0.5
Aug 7	T-storms in MI	DTE, CMS	195	1.0 to 4.0
Oct 13	High winds in N-CA	PG&E, SMUD	950	2.0
Nov 12	Tropic. Storm Ida in VA, NC	Dominion	335	1.5
Dec 18	T-storms in OH, KY, WV, NC	AEP, Progress (Carolinas)	450	1.0 to 7.0

...And 2010 was no exception

Selected Sample of Events

Event Date	Event Description	Companies hit hard	Customers Out (000)	Days to Restore
18 Jan	Pacific Storm	PG&E	1,100	9.5
5-6 Feb	MidAtlantic Winter Storm	PHI, Duke, AEP, Dom, DQE	700	1 - 8
11 Feb	TX Winter Storm	Oncor	200	4.5
25 Feb	New England Winter Storm	Southern Maine & NH	500	3
13 Mar	Jersey Coast High Winds	PSE&G, JCP&L, ConEd, LIPA, PECO	900	2.5 - 7
18 Jun	Great Lakes T-storms	ComEd, CMS, NIPSCO, DTE	800	2 - 4
23 Jun	MidWest T-Storms	ComEd, NIPSCO	350	.5 - 1.5
24 Jun	MidAtlantic T-Storms	PECO, ACE	400	5
30 Jun	Tropical Storm Alex	AEP, Brownsville PUD	<10	-
25 Jul	MidAtlantic T-Storms	Pepco, BG&E, Dom	500	2 - 5
7 Sep	Tropical Storm Hermine	CPS	350	0.5
30 Sep	MidAtlantic Storms	BG&E, PHI, Dom, Progress	100	2
26 Oct	Great Lakes Wind Storms	ComEd, CMS, Xcel, WPS	650	2 - 3
13 Nov	Great Lakes Snow Storm	Xcel	200	2
12 Dec	Great Lakes Winter Storms	CMS, DTE, WE	200	2
26 Dec	East Coast Winter Storms	Progress, Duke, NStar, NGrid	250	2
26 Jan	MidAtlantic Winter Storm	Pepco, BG&E, Dominion	600	1 - 4.5
31 Jan	MidWest Ice Storm	Duke Energy Midwest	300	3

Pacific Winter Storm – Jan 18 thru 28

WASHINGTON, March 2, 2011 /PRNewswire-USNewswire/ -- The Edison Electric Institute today honored Pacific Gas and Electric Company (PG&E) for outstanding power restoration efforts following devastating winter storms that swept through the utility's service territory in January 2010.

The association's "Emergency Recovery Award" award is presented annually to U.S. and foreign-based member companies that faced untoward circumstances caused by extraordinary events and put forth an outstanding effort to restore service to the public. Winners were chosen by a panel of judges following an international nomination process, and the awards were presented today during EEI's Spring CEO meetings.

A series of Pacific winter storms fueled by a strong jet stream brought extreme high wind conditions, unusually heavy rains, thunderstorm activity and low-elevation snow, impacting the company's entire service territory from January 18 through January 28. The first half of the weather event included three nearly continuous heavy rain and wind storms, with gusts over 60 miles per hour. The worst of the storm period fell on January 20, when rain totals exceeded 2.5 inches in some areas and service was disrupted to 1,356 customers. The second half of the storm produced unusual moderate to heavy snowfall accumulations below 4,000 feet in the northern and central Sierra Nevada Mountains, plus localized heavy rain and funnel clouds near the coast and interior valleys.

More than 1.1 million customers experienced service disruptions due to 3,634 sustained outages. Power was restored to all customers on January 30. Recovery crews used extraordinary measures, including Sno-Cats, snowmobiles and helicopters to gain access to rugged areas, and in some cases resorted to snow shoes to carry heavy equipment into remote locations. The volume and extent of the damage were the most significant obstacles to overcome. The majority of the devastation occurred in parts of PG&E's service territory with the least amount of transportation access. Repairs included replacing more than 100 miles of distribution line, 634 distribution poles and 937 transformers.

PG&E meteorologists tracked the storm as it crossed the Pacific and provided ongoing forecasts to Emergency Preparedness, utilizing the newly-developed Storm Outage Prediction Project model. The model indicated that peak winds would hit late on Sunday, January 17, through Monday, January 18. The advance notice allowed PG&E to pre-stage resources to ensure adequate staffing levels in the hardest hit divisions. In addition, the company preemptively opened its Emergency Operations Center and staffed the necessary command and general staff positions.

The volume and extent of damage required PG&E to reach out to mutual assistance crews from Portland General Electric, Eugene Water and Electric Board and Puget Sound Electric. The company also brought in equipment from Plumas Sierra, San Diego Gas & Electric and Nevada Energy.

Presenting the award to PG&E, EEI President Tom Kuhn said: "Storms of this strength and size demand an extraordinary response to get the lights back on as quickly as possible, and PG&E brought every resource to bear to ensure a swift recovery. PG&E and all of its personnel are truly deserving of this award."

Record-breaking snow in Dallas/Ft. Worth – Feb 11

DALLAS - Feb. 11, 2010 will go down in the record books as the snowiest day in Dallas-Fort Worth history. The official 24-hour snowfall total at DFW Airport was 11.2 inches by midnight, but the snow kept falling. By 4 a.m. Friday, there were 12.5 inches of snow on the ground at the airport. Other areas saw more: 14.2 inches in Haslet, and 11.8 inches in Weatherford, according to the National Weather Service.

The biggest problem on Friday morning was the roads: the slushy snow on the ground, coupled with temperatures that dropped below freezing in the wee hours. The bridges and overpasses began icing early. By 4 a.m. TxDOT crews were working to apply sand and de-icing agent to the busiest roads and overpasses. There were about 260 wrecks in Dallas between Thursday evening and Friday morning, but no serious injuries, police Sgt. Warren C. Mitchell said. "We're just thankful," he said.

At Dallas-Fort Worth International Airport, about 250 departing flights were canceled, spokesman David Magana said. Airport officials were hopeful the schedule would stabilize later Friday now that the snow has stopped falling, but Magana cautioned travelers to check flight schedules carefully before heading to the airport.

WEIGHTY PROBLEM - The weight of a foot of snow is substantial -- so heavy, in fact, that the roof of a tire shop warehouse collapsed in West Dallas early Friday morning. The building at 2421 W. Commerce caved in around 4 a.m. and broke the sprinkler heads installed to stop fires. Emergency crews had to cut off the water supply before conducting a search. No one was inside the building when the roof collapsed.

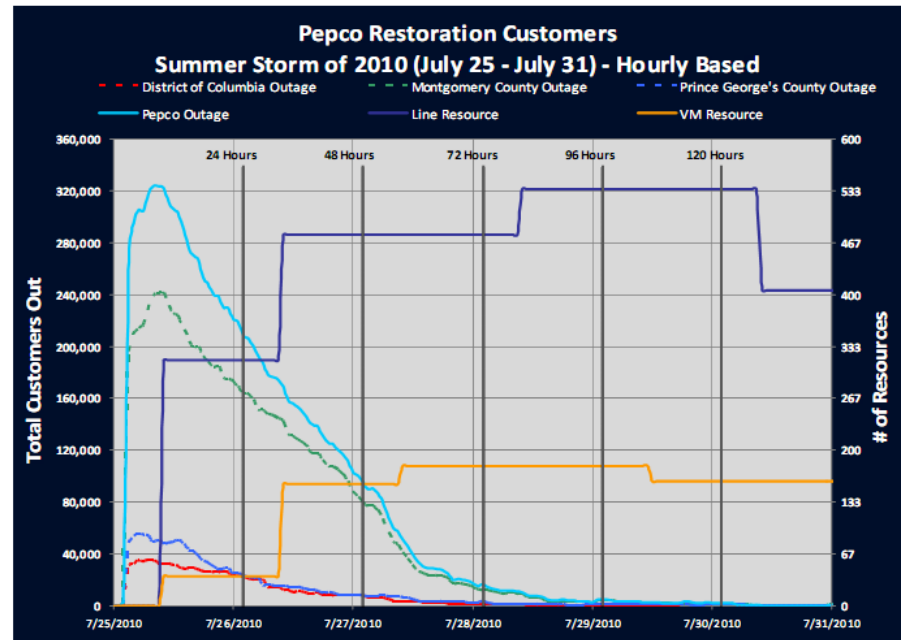
POWERLESS - At least 200,000 people were without power across North Texas on Friday, according to Oncor. Downed limbs caused arcing and sparks in a neighborhood of Highway 67 and I-35 about 6:30 a.m. Lights at several of the homes were flashing on and off as the electricity came in fits and starts. The heavy snow weighed down power lines and trees, and in at least one case snapped a power pole. Downed trees also blocked roadways and littered yards. Oncor says broken tree branches have fallen on power lines and it is taking hundreds of crews to keep up with the repairs. As of mid-day Friday, the electric company reported at least 200,000 people were without power across North Texas.

Oncor said it has about 2,500 people out making repairs and another 1,500 out-of-state contractors coming to help. Power will be restored for critical customers first. That includes people with disabilities and those on oxygen. Then they'll get to everyone else on the list. In the meantime, they encourage safety. "We want people to know if they do know of a power line down or see a tree down, don't go near it. Don't touch it. It could be live. Call 911. It could be very dangerous. It could harm you," said Oncor spokesman Jeamy Molina.



MD PSC Case 9240 – Pepco outages in 2010 (Feb, Jul, Aug)

- Maryland PSC response to Pepco storm performance in 2010:
 - Third-party audit ordered in October, 2010
 - Awarded to First Quartile Consulting
 - Final Report issued March 2, 2011
 - Evidentiary hearings in June
- Pepco has 526,000 customers in MD in two counties of the DC metro area. (DC customers not included in study). Focus of study was Pepco performance in storms of Feb, Jul, and Aug of 2010. Auditors judged that same issues arose in latest storm of January, 2011
- Audit Findings:
 - System is well designed
 - But vulnerable to tree damage after Hurricane Isabel in 2003
 - Pepco tree trimming “inadequate”. Will now start removing “vegetation above lines
 - Needs to also add sectionalizing switches Restoration was good, but
 - “incomplete damage assessments” led to
 - “poor” ETR’s and
 - “inconsistent” communication with public entities
- Pepco response:
 - Will be presented in pre-filed and live testimony, but already:
 - CEO Joe Rigby says Pepco must do better
 - Enhanced spending program committed



Other regulatory responses

- Michigan to DTE Sep 7 storm
- Ohio to Duke attempt to recover
- Unitil attempt to recover
- LIPA newsday articles
- NGrid Dec 26 storm headlines