

# Pennsylvania Summer Reliability Forum

## PENN POWER

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### Keys to Success: Reliability Overview

The table below, taken from the 2011 Annual Joint Reliability Report, shows 2 of 3 reliability indices in 2011 that were better than the Commission's 12-Month Standard.

2011 (12-Month Rolling)	Benchmark	12-Month Standard	12-Month Actual
SAIFI	1.12	1.34	1.03
CAIDI	101	121	138
SAIDI	113	162	143

Penn Power's higher-than-normal CAIDI is directly attributed to several non-excludable storm events as well as a substation vandalism incident. The substation vandalism resulted in a thirty-one minute CAIDI impact. In addition, Penn Power experienced forty-eight (48) non-excludable storm events in 2011 as compared to the previous four-year average of twenty (20) non-excludable storm events.

Penn Power has programs and processes in place to continually address and enhance distribution reliability. Well-established maintenance programs ensure the existing system will continue to operate in a safe and reliable manner. Penn Power also employs maintenance programs aimed to specifically address worst performing circuits and identified line segments where reliability issues may exist.

In 2011, Penn Power continued its reliability strategy consisting of reviewing all outages by outage cause and weather, installing protective devices to minimize the impact and size of outages, aggressive tree trimming, and creative shift coverage to improve response time. This included additional troublemen coverage with first line supervision called out directly for all outages impacting over 100 customers to expedite restoration. During 2011, forty-three circuits were field assessed to look for aging infrastructure and broken equipment such as crossarms, braces and poles, of which priority findings were addressed expeditiously. This review consisted of manual inspections with additional infrared inspections on the nine worst performing circuits. In its resolve to improve reliability by implementing the initiatives noted above, Penn Power remains committed to providing safe and reliable service to their customers.

### Lessons Learned

After each storm event in 2011, Penn Power leadership conducted post storm review meetings. The meetings were utilized to identify and disseminate lessons learned to be used for improving the emergency response plan. The following were identified as action items during those meetings:

#### **Enhance Communication Efforts**

In an effort to ensure more consistent and accurate communications with community leaders and local Emergency Management Agencies ("EMAs"), Penn Power representatives have held meetings with these groups as well as emergency first responders to communicate the Company's restoration process and provide emergency contact information. In the future, Penn Power will make every effort to provide a physical presence in a county EMA if requested.

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As a result of an enhanced Emergency Communications Plan, Penn Power has also implemented the Critical Information Team (CIT). This team is designed to provide a consistent, reliable and timely flow of information to a variety of key stakeholders (customers, media, community leaders, etc.) during a major storm event.

### **Consider Social Media Presence**

Penn Power has implemented the use of Twitter to communicate with customers. The @Penn\_Power Twitter account provides timely information on the numbers of customers restored to service, the number of customers remaining without power, restoration efforts and electrical safety. These efforts and face-to-face outreach are closely aligned with our service restoration efforts, and include safety messages that run in newspapers, on the radio and as online banner ads.

### **Create a more user-friendly, mobile version of our website for outage information**

On April 2, 2012, FirstEnergy implemented a new outage map on the FirstEnergy website ([www.firstenergycorp.com](http://www.firstenergycorp.com)). This new functionality applies to FirstEnergy's Penn Power service territory. The outage map allows for optimized viewing on mobile devices and provides outage information at the county level as well as the zip code level. In addition, the website provides statewide alerts, estimated time of restoration and planned outage information.

## Summer Readiness

**Capacitor Inspections** – As of June 1, Penn Power inspected all line capacitor banks and completed all necessary repairs or replacements to ensure at least 98% availability

**Mobile Substations** - Penn Power completed a review of the status of its mobile substations and other spare equipment. This included inspections of the mobile trailer, transformer and breaker. Spare equipment includes voltage regulators and substation cooling items such as transformer fans.

**Aerial Patrols** – Two aerial patrols are conducted annually in Pennsylvania to inspect transmission facilities. The purpose of routine patrols is to ensure the integrity of in-service transmission lines to maintain safe and reliable service. The first aerial patrol of transmission lines in Penn Power was completed in January.

**Refresher Training** – All employees with secondary storm response roles (hazard responder, hazard dispatcher, storm analyst, etc.) have received appropriate refresher training.

## Storm Response

**Preparation and Planning** - Planning, preparation and pre-staging work is initiated days before a storm strikes. As part of those efforts, Penn Power's in-house meteorologists closely monitor weather data and track storms to assess the potential impact on our electrical system and service area.

If it is determined that a storm could potentially disrupt service, Company leadership and operations managers hold conference calls and conduct meetings to evaluate the need for hazard responders, damage assessors and line crews as well as supplies and equipment. This core management team also evaluates the need for additional crews from other FirstEnergy operating companies, and outside

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utilities and contractors. Depending on the magnitude of the storm, staging areas are organized to prepare for the efficient deployment of crews and equipment.

**Outage Restoration Strategy** - In the early stages of service restoration, hazard responders go into the field to assess damage to the electric system and identify electric hazards – such as downed and potentially energized wires – and then remain at those locations to protect the public until linemen safely isolate or clear the hazard. Next, forestry crews clear fallen trees and branches as well as other debris so utility workers can repair and re-energize power lines.

Once debris has been cleared from the affected areas, service is initially restored to high-voltage transmission equipment, lines and substations, because they supply power for local distribution systems. After that, crews focus on restoring service on a high-priority basis to hospitals, critical care and life-support facilities, fire departments and other first responders. Focus is then placed on repairs that will bring the greatest number of customers back in service. Next, repairs that restore service to individual customers occur.

**Communications and Outreach** – External Affairs managers establish communications with emergency management agencies, local officials and regulators to keep them apprised of preparation and planning efforts. Communications representatives also contact the media to enlist their help in encouraging customers to prepare for the likely storm events and provide information on who to call if they lose power.

In 2012, Penn Power representatives have held meetings with local EMAs to communicate the Company's restoration process and have worked with these officials to provide representation in these emergency facilities during major storm events.

## Projects

Penn Power is currently building a new 500-138kV Bulk Transmission Substation in the Cranberry area of Penn Power. Construction of the new substation is scheduled for completion by June 2012. This substation will not only provide a significant source of bulk power to the Cranberry area of Penn Power which is one of the highest growth areas but also enhance the reliability of the entire transmission network for the western Pennsylvania area.