

Pennsylvania Summer Reliability

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A. Reliability Enhancement Programs

West Penn Power Company ("West Penn Power" or "Company") has programs and processes in place to continually address and enhance distribution reliability. These programs include inspection and maintenance, such as overhead circuit, pole and capacitor inspections. West Penn also conducts worst performing circuit reviews, main line hardware reviews, complete circuit coordination reviews, remote circuit monitoring, customers experiencing multiple interruption review, and outage cause analysis trending.

West Penn Power's vegetation management program is in place with plans to further enhance reliability based on cycle tree trimming. In addition to the vegetation management program, the Company has instituted a danger tree program, which consists of removing or significantly reducing in height, diseased, or damaged trees located outside the boundary of the right-of-way that may pose a threat to service reliability or the integrity of the line. This program also includes identifying and removing trees affected by the Emerald Ash Borer. West Penn Power is also performing Zone 1 (from the substation to the first protective device) patrols which identify potential danger trees and any overhead hardware at risk of failing.

West Penn Power has also employed a formalized circuit lockout review process. This review allows dispatch, engineering, and the field to identify both proactive and reactive solutions to reduce outages. Examples of these solutions include the installation of cutouts on un-fused taps, additional circuit tie capabilities, and modified coordination of protective devices

West Penn Power is confident that its 2015 plans will continue to have a positive impact on reliability.

B. Preventative Maintenance Programs

In accordance with 52 Pa. Code § 57.198, every two years, West Penn Power files a Biennial Inspection, Maintenance, Repair and Replacement Plan. This Biennial Plan is designed to reduce the risk of outages on the Company's system and form the basis for the Company's inspection and maintenance objectives. The Biennial Plan includes programs to conduct vegetation management, pole inspections, distribution overhead line inspections, distribution transformer inspections, recloser inspections and substation inspections.

These well-established maintenance programs ensure the existing system will continue to operate in a safe and reliable manner, and serve to identify any potential system issues so that they can be proactively addressed.

C. Capacity Planning

West Penn Power's electric delivery system is able to successfully serve customers' needs as a result of ongoing system enhancements and the hard work of employees

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and contractors. The weather is again expected to be the primary driver of customer demand this summer.

West Penn Power does not foresee any significant concerns with system delivery capacity during the upcoming summer based on its performance during last summer's peak. Ongoing facility enhancements designed to improve reliability, load-bearing upgrades, and customers' adoption of energy efficiency and conservation opportunities are being viewed as additional opportunities to strengthen the system.

D. 2014/2015 Storm Update and Lessons Learned

In calendar year 2014, West Penn Power did not experience any major events as defined in 52 Pa. Code § 57.192. Throughout coordination efforts, working safely and efficiently is the main objective. Regional conference calls are executed to plan and prepare logistics. Effective planning allows for the precise deployment of crews, supplies, and equipment. Employees are also staggered around the clock to maximize productivity.

After each significant storm event, West Penn Power leadership conducts post storm review meetings. The meetings are utilized to identify and disseminate lessons learned to be used for improving the emergency response plan.

E. 2015 Summer Readiness

Capacitor Inspections – West Penn Power is on track to complete inspections by June 1, on all line capacitor banks and complete all necessary repairs or replacements to ensure at least 98% availability.

Mobile Substations – West 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 was completed in May and the second will be completed by year end.

Capacity Additions:

- **Squab Hollow 230/138kV Project** – This project is to construct a new substation with 230/138kV transformation, 250 MVar SVC, and construct a loop with the existing 230kV and 138kV lines. The project is scheduled to be completed by June 2015.
- **Yukon – Smithton – Shepler Hill 138kV Line** – This project adds a transmission line structure to increase the loading capability of the line. The project in-service date is June 2015.

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- **Shingletown Substation 230kV Capacitor** – This project adds a 230kV capacitor to address potential low transmission voltage under contingency conditions. Capacitors allow the transmission system to maintain voltage at acceptable levels. The project in-service date is June 2015.

Transmission Preparedness - West Penn Power conducts an annual transmission readiness review with transmission operations to discuss the capability and reliability of the system for the summer. The Company's detailed review did not reveal any significant issues for the summer of 2015. Based on the system conditions modeled the West Penn Power transmission system is expected to sufficiently support the forecasted peak summer loading.

In addition, PJM has adequate operational procedures identified to effectively control and mitigate contingency outage conditions on the transmission system. West Penn Power has adequate operational procedures outlined to implement any PJM required actions and to mitigate contingency conditions on the lower voltage systems (<100kV).

Emergency Exercises – As part of the FirstEnergy Utilities (FEU) Emergency Preparedness program, West Penn completed a Company-wide emergency exercise in the first quarter of 2015. The structure of the exercise facilitated the testing and validation of key emergency response roles, systems and processes. The primary objective of each exercise was to ensure a complete understanding of the restoration process by all participants through exposure to a variety of real-world scenarios and decision making challenges that could be experienced during actual restoration events.

Event Preparedness – The primary cause for significant effects to the electric transmission and distribution system is the impact of severe weather. FirstEnergy's in-house meteorologists use highly sophisticated, proprietary data and forecasting models specifically designed to provide actionable intelligence. When predicted weather meets specific criteria, planning and preparation work is immediately initiated, many times days before any impact.

As part of the preparation efforts, West Penn's executive leadership and operations managers locally engage the emergency restoration process. Based on available data and collaboration within West Penn, resource needs are evaluated and requests are submitted as needed to the FEU Emergency Operations Center for fulfillment. These requests can include, but are not limited to: line resources (both internal to FirstEnergy and external), hazard responders, damage assessors, public protectors, vegetation crews, equipment needs, and material requirements. Depending on the predicted magnitude of the event, staging areas are pre-identified and can be quickly activated to prepare for the efficient deployment of crews and equipment.

Refresher Training – All employees with emergency response roles receive appropriate refresher training at specified intervals in order to be immediately deployable when an event impacts the system. Expectations for employees to complete appropriate training and verify all equipment and personal protective equipment are available and in proper working order are communicated each year during emergency exercises and verified by West Penn management.

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Staffing – West Penn conducts a staffing analysis annually which accounts for attrition, including retirements, to determine the proper staffing levels of craft workers. West Penn Power utilizes the Power Systems Institute (“PSI”), which is a unique, two-year program that combines classroom learning with hands-on training, for hiring skilled workers.

In 2012, West Penn announced its partnership with Westmoreland County Community College to offer the line worker degree program as well as a substation electrician program with Pierpont Community and Technical College located in West Virginia. The Westmoreland program yielded nine line worker graduates in 2014 that were hired by West Penn. A total of five Pierpont substation electrician graduates were also hired by West Penn in 2014.

In 2015, West Penn will continue to hire PSI students as they successfully complete the program. It is expected that there will be seventeen line worker graduates and two substation electrician graduates in 2015.

F. Storm Response

Outage Restoration Strategy – Information obtained through the use of various tools and resources is critical to determine the type, number and location of resources needed to assure prompt restoration of service. Line personnel, damage assessors and hazard responders are integral resources in providing initial and ongoing assessments of the damage in the field. Line personnel are equipped with mobile data terminals (“MDTs”) in their vehicles and will input damage information directly into the MDT. This information is immediately available for viewing in the Outage Management System (“OMS”). The OMS is the central collection point for all relevant information concerning damage reports, assessment and configuration of the electric distribution system. During emergencies that meet triggering criteria, the circuit quarantine process is used for rapid assessment of heavily damaged circuits.

In addition to the resources discussed above, a number of tools are also available for determining the extent of outages and damage, as well as the number of customers affected. These include: aerial patrols, remote indicators, OMS and associated dashboards, customer calls, and police and fire personnel.

Communications and Outreach - External Affairs managers establish communications with emergency management agencies, local officials and regulators in advance of and throughout a storm 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. Proactive email alerts and phone messages are initiated to key stakeholders, critical care, and well water customer alerting them to the potential for extended power outages. These efforts and face-to-face outreach are closely aligned with the Company’s service restoration efforts. The Company also provides safety messages via newspapers, radio, and as online banner ads.

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Outage Restoration and Storm Response Best Practices – West Penn has implemented various best practices, tools and technology to continuously improve both the restoration process and communications with key stakeholders and customers during events.

West Penn is making it easier for customers to check the progress of service restoration efforts when they experience a power outage. The Company's "24/7 Power Center" *outage maps* display the status of crews restoring service after a power outage in the West Penn service territory. West Penn customers can see when crews have been dispatched, when they are working on a repair, and when additional crews or equipment are needed to complete restoration work.

In addition, customers can subscribe to *email and text message alert notifications* to receive billing reminders, weather alerts in advance of major storms, and updates on scheduled or extended power outages.

Hazard Responder iPhone App – This application allows for direct dispatching of critical information regarding identified hazards to a responder team in the field. The app provides location information, customer call comments, turn-by-turn directions to the location and has the ability to input information and pictures directly into assigned orders. This information is passed directly into the OMS and is available to more accurately prioritize resources and ensure the correct resource and materials are sent to the site for repairs.

Enhanced ETR tools – Several new and enhanced tools have been developed and implemented that improve and streamline the process of establishing ETRs. Dashboards have also been developed that make it much easier to monitor ETR performance and adherence.

Work Prioritization Tool – A tool that assimilates and helps prioritize emergency work based on selected inputs and parameters whose purpose is to maximize restoration progress.

Staging Site Standardization – A full audit of all sites is ongoing to ensure appropriate agreements are in place, facilities are mapped, needed equipment is staged at strategic warehouse locations, and appropriate vendors are immediately deployable.

Incident Command System (ICS) Implementation – All West Penn employees are currently undergoing appropriate training on basic ICS principles.

Electronic Damage Assessment – Damage Assessors are now trained to use the Panasonic Toughpad, a ruggedized mobile display device to provide electronic documentation of damage. The Toughpad provides the Damage Assessor with an electronic field copy of circuit maps, allows for more rapid damage assessments, and can be used to generate an inventory list of damaged equipment.

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Foreign Crew Texting – West Penn Power has implemented an innovative program that allows mutual assistance crews to text order status information. The OMS will be directly updated with information received from the field.