

**Pike County Light & Power Company**  
**2014 Summer Readiness Overview**

**June 1, 2014**

## **System Overview**

Pike County Light & Power Company (“Pike” or the “Company”) is an electric distribution company (“EDC”) which has approximately 4,500 delivery customers. The Company is a subsidiary of Orange and Rockland Utilities, Inc. (“O&R”). Pike’s service territory is fed primarily from two 34.5kv feeders that originate from New York substations in the O&R service territory; Line 5-10 from the Cuddebackville Substation and Line 7 from the Port Jervis Substation. The eastern portion of the Pike service territory is fed by two 13.2kv feeders from the Matamoras Substation that has ties to distribution circuitry from O&R’s Port Jervis Substation, in New York, as well. The Matamoras Substation is fed from both Line 7 and Line 5-10, which reinforce each other through an automatic transfer scheme at the substation. The western portion of the Pike service territory is fed radially from Line 7 and has numerous step transformers which serve load at 2.4kv and 13.2kv. The Line 7 main line currently has three reclosers to reduce exposure and number of customers affected under contingency conditions.

## **Reliability Enhancement/Preventative Maintenance Programs**

The Company utilizes several proactive and prescriptive maintenance programs to support electric distribution system reliability.

- **Vegetation Management**

The Company’s vegetation management program consists of a three-year Scheduled preventive vegetation management program, the removal of danger trees, and hot spot trimming as necessary. Scheduled preventive vegetation management work took place in 2012 and will be performed again in 2015. This program increases the clearance between vegetation, specifically trees, and the distribution system primary conductors. Routine circuit patrols are performed and will also identify any significant or pressing conditions, such as danger trees, that must be addressed immediately or in the near term. The Company performs circuit patrols regularly after significant storms or major events have affected the electric delivery system. In addition, we have a strong outreach program that results in customers and municipalities notifying us of conditions requiring action.

- **Infrared Inspection Program**

The three phase mainline circuitry is inspected annually using thermal infrared cameras. This program identifies “hot” spots which indicate heating of distribution system components and potential failure points. Anomalies are prioritized and repairs initiated based on the thermal measurements of the detected anomalies. The inspection is performed when system loads are high enough to generate the thermal anomalies and is currently scheduled to commence in the month of June as system conditions permit.

- **Power Quality**

Pike utilizes eleven automatically switched and fixed capacitor banks to maintain system voltage throughout the summer period. These units are inspected and functionally tested annually prior to the summer peak loading periods. These inspections and functional tests have taken place for the 2014 period. In addition, Pike has five line voltage regulators that assist in the maintenance of proper distribution voltage levels throughout peak and off-peak load cycles. These units are also tested annually to verify readiness for summer peak loading when the devices are needed most. The functional tests were completed during the spring of 2014. All capacitor banks and voltage regulators are in good condition and ready for the summer period.

- **Mid-Point Recloser/Sectionalizing Program**

There are currently three reclosers in service on Line 7 which sectionalize the circuit to minimize the number of customers affected during fault conditions. These units are tested annually and every attempt is made to have the inspections performed prior to the summer period when system activity increases due to summer storms and other conditions. The units were inspected during the spring of 2014. One of the reclosers was found to have a loose trip solenoid in the recloser control cabinet. It was repaired, tested and put back in service.

- **Substation Maintenance**

All substation maintenance is performed in accordance with the “Substation Maintenance and Inspection Program” that is detailed and included in the Pike County Light & Power Annual Electric Reliability Report. The maintenance as outlined has been performed on the Matamoras as well as the Port Jervis and Cuddebackville substations. These stations that serve the Pike service territory are in good condition and are ready for the summer period.

- **Distribution Overhead Line Inspections**

The overhead lines of the Pike system are inspected every two-years. These inspections identify abnormal conditions and verify satisfactory transformer conditions. Our distribution pole inspection program is on a ten-year cycle and verifies pole strength and other attributes that could impact reliability.

### **Capacity Planning, Additions and Electric Delivery System Projects**

The peak load of the Pike system was recorded at 18.0 MVA in 2013. Although this appears to be a drop in demand since the actual 2011 peak of 18.96 MVA, the two loads were at different temperature variables (TV), and power factor improvements have been made. Overall, this area has still experienced a 1.36% annual increase in electric demand over the past two years. Orange and Rockland has prepared a 30-year plan for the Pike County area to address the expected and predicted load growth, and maintain reliability, while minimizing the financial impact on customers. The Pike electric delivery system has sufficient capacity for the 2014 summer peak period.

Three electric delivery system projects are being considered for the Pike service territory in the upcoming five-year horizon. The five-year plan calls for a one half mile section of conductor behind the Matamoras substation to be upgraded and re-routed, which will improve backup for the head end portion of radial Line 7 and reduce the exposure of the line by 1.5 miles. In 2013, a mainline parallel path to Line 7 was started along Old Milford Road from Roberts Lane to approximately Pocono Drive to improve reliability. In 2015, this mainline will continue along Old Milford Road to about Whetfield Drive, and then back to Route 6 (US 209) in 2018. During this timeframe, an underground along US 209 will connect the ROW behind the Matamoras Station to the Old Milford Road mainline, and provide a backup for the radial Line 7 to Milford. The parallel path will provide switchable backup for an area of this circuit where the majority of the interruptions have historically occurred, and the upgraded conductor will improve capacity and reliability for the foreseeable future.

Beyond the five-year horizon, the Company has continuing plans to upgrade sections of Line 7 in stages to improve capacity and reliability, which will defer the need for the Milford Substation for many years until its construction is necessary.

The Company's Port Jervis Substation is scheduled for upgrade in 2020. The 20 MVA single bank station will be replaced with a station consisting of two 69-13.2kV, 50 MVA banks. With only enough room to install one more transformer (single 69/34.5kV bank), Pike County would have been on a radial bank feed with limited backup. With this, a second station (Deerpark Station) is scheduled for construction in 2017. The station will consist of two 69/34.5kV, 50 MVA transformers that will provide primary and backup service for Pike County, and eliminate the need of the third transformer at the Port Jervis Station. This station upgrade will substantially improve the source reliability, primary and contingency capacity for the electric delivery system serving the Pike service territory.

## **2013 Storm Update and Lessons Learned**

Only one major storm affected the Pike service territory in 2013. The extreme heat that entered the service territory over the Fourth of July Holiday weekend produced a lightning storm on the evening of July 7, causing damage on the system that developed into outages for 2,641 customers. Due to the limited Storm activity, no Lessons Learned were generated in 2013.

### **Storm Response**

The Company continually monitors weather forecasts throughout the summer months using several weather prediction services. Staffing of both Company and contractor personnel are increased using the Company Storm Classification Matrix as a guide, which outlines minimum staffing levels based on a combination of expected weather conditions and anticipated customer outages. The Community Response Team, in conjunction with the Priority Restoration Group, will continually update emergency and municipal officials prior to and during system emergencies.

Public and employee safety are paramount in setting restoration priorities and coordinating restoration efforts. It is the Company's focus to make conditions safe, restore normalcy to the communities as quickly as possible, and manage repairs throughout the event. The following represents the general sequence for the restoration of the electric delivery system:

- Wires down in heavy pedestrian areas or state or emergency service road closures;
- Municipally reported wires down or road closures and critical facilities, including hospitals, police and fire stations, water supply and sewage;
- All other wires down and road closures and all distribution circuit lockouts;
- All other affected customers prioritized by highest customer count.

### **Summary**

PCL&P continually strives to improve our response to outages and customer communications regarding our storm recovery updates. The various proactive programs, ongoing initiatives, and capacity planning mentioned in this report are part of our efforts to systematically improve system reliability for the 4,500 delivery customers in the area. PCL&P is ready for the 2014 summer storm season.