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June 5, 2012

Mr. Darren Gill  
Ms. Yasmin Snowberger  
Pennsylvania Public Utility Commission  
P.O. Box 3265  
Pittsburgh, Pa., 17105-3265

RE: Summer Reliability Forum

Dear Mr. Gill and Ms. Snowberger,

During a recent meeting and conference call with the Energy Association of Pennsylvania's Regulatory Committee, you had requested information related to each of the Electric Distribution Company's 2012 summer preparedness and reliability efforts. Duquesne welcomes the opportunity to share information about its 2011 electric system reliability efforts and performance as well as Duquesne's 2012 Summer Readiness efforts, as discussed in the attached document.

If you would like additional information on any of the items discussed, please do not hesitate to contact me.

Sincerely,

Timothy F. Kuruce  
Vice President, Operations

Attachment

cc: via Email with Attachment

Pennsylvania Public Utility Commission

Robert F. Powelson, Chairman  
John F. Coleman, Vice Chairman  
John H. Cawley, Commission  
Wayne E. Gartner, Commissioner  
Pamela A. Witmer, Commissioner  
Jan Freeman, Executive Director  
Karen Moury, Director of Regulatory Operations

Duquesne Light:

Fred Eichenmiller, Director  
Vern Edwards, Mgr., Regulatory Affairs  
Pat Conti, Mgr., Operations  
Ken Varhola, Sr. Governmental Rep.



The Pennsylvania Public Utility Commission's  
2012 Summer Reliability Forum

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2011 Storm Response  
and  
2012 Summer Readiness

June 7, 2012

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Duquesne Light provides safe and reliable electric service to more than 580,000 customers in southwestern Pennsylvania, including the City of Pittsburgh. Duquesne Light uses more than 45,000 miles of overhead lines, 250,000 utility poles and 103,000 transformers to bring that electric service to our customers' homes and businesses.

Although Duquesne Light customers experience electric service reliability that is among the best in Pennsylvania, severe weather and other emergency events occur, and service interruptions are unavoidable. When those interruptions occur, Duquesne Light relies on its comprehensive service restoration program to restore service safely and timely. Some of the more significant reliability efforts expended to insure this high level of service reliability are detailed below.

## **Keys To Success**

### Reliability Enhancement Programs

In the past year, the Coraopolis and Richland 4KV Substations were eliminated and all load converted to 23KV distribution. The conversion included poles, crossarms, transformers and all associated equipment upgrades. These conversions will now allow greater distribution restoration automation, and in conjunction with the new equipment, will maintain or improve service reliability for both duration and frequency.

Also, we have continued our conversion of submersible Underground Residential Distribution (URD) transformers to pad mounted and also replaced the cable, bushing junctions and associated equipment. The focus was on converting URD plans that have had higher than average outages caused by equipment failures.

In an effort to improve reliability and improve public safety, Duquesne Light has been replacing aged underground network transformers within downtown Pittsburgh. These transformers are principally located in sidewalk vaults and may have large pedestrian traffic in the area. Since 2002, a total of 205 network transformers have been replaced throughout the network areas. For 2012, 28 of these transformers are planned for replacement, and 15 have been completed year to date.

### Preventative Maintenance Programs

Duquesne's Asset Management Group performs ongoing analysis of reliability indices, root cause analysis of outages, and tracking and monitoring of other reliability performance measures. This long-term process was implemented to optimize reliability and to identify improvement opportunities, including making recommendations for capital projects such as circuit rehabilitation, new substations and new distribution circuits. Recently implemented improvement efforts included:

1. An Infrared and Ultrasound Inspection Program that systemically identifies circuit and Substation problems for remedial action in advance of failure.
2. An ongoing long-term Sectionalizer Maintenance and Replacement Program which serves to refurbish and maintain reliable operation of all automatic and remotely controllable switches on Duquesne's automated distribution system, including replacement of those that are no longer operating efficiently.

3. A comprehensive Substation Rehabilitation Program targets improvements in delivery system substation facilities, including the replacement of deteriorated and obsolete transformers, breakers, switches, relays, regulators and other equipment. Lateral fusing on 23KV distribution circuits is an ongoing initiative. Installing fuses on single phase and three phase overhead taps reduces the number of customers affected by an outage and improves reliability.
4. Scheduled preventative and predictive maintenance activities continue to reduce the potential for future service interruptions. Corrective maintenance is prioritized with the objective to reduce and eliminate any backlog in the most cost-efficient manner. Several capital budget projects target distribution reliability improvements, including pole replacement, substation rehabilitation, circuit load relief and voltage improvement, URD rehabilitation, circuit rearrangement and installation of additional automated, remotely controlled pole top devices.

Specific programs, procedures, and ongoing preventative maintenance activities that support Duquesne's commitment to service reliability excellence includes new distribution substations being installed between existing major substations to take advantage of transmission reliability, decrease distribution circuit exposure and improve reliability to end users. Additionally, preventive line maintenance work includes the replacement of cross arms, arrestors, insulators, and other equipment on the overhead system, as well as inspections and remedial work on the underground system, which is regularly performed in order to maintain Duquesne's distribution plant.

### **2011 Storms and Lessons Learned**

Storm Review Meetings are held following all major outage events. These meetings bring representatives from each of the areas involved in the restoration effort together to openly discuss the successes and improvement opportunities of the most recent emergency service restoration effort. Following these Storm Review Meetings, any identified service restoration process improvements are then implemented, as needed, to continually improve response time and restoration effectiveness. Although there were no major PUC event exclusions during 2011, Duquesne utilized its Storm Emergency Response Plans for five storms that occurred in 2011.

One example of a process improvement identified and implemented from a Storm Review Meeting was implementation of a process to provide text messages to field personnel during storm restoration work to improve consistency in the information being provided to our customers. Specifically, any time a restoration update is provided to the media and the Duquesne's Customer Service personnel, a copy of that update is also sent to all field personnel. These text messages include information on the number of customers remaining out and estimated time of restoration. With that, restoration update information communicated to the customers, regardless of the source, is consistent.

### **2012 Summer Readiness**

#### **Capacity Additions**

As examples, Duquesne Light recently completed two capacity expansion projects. At Duquesne's Midland Substation, two 50 MVA transformers were installed replacing the two older, 10 MVA transformers. At Duquesne's Forbes substation, two 40 and one 50 MVA transformers

were replaced with three 50 MVA transformers. The completion of these two projects should lower capacity constraints in these areas.

#### Preventative Maintenance Activities

Duquesne Light Company has a professional Vegetation Management Department that develops and implements a comprehensive Integrative Vegetation Management Program (IVM) which provides for the safe and reliable operation of its electrical system. Encroaching vegetation in and along rights-of-way is selectively managed on a scheduled and cyclic basis, applying industry-best IVM practices involving manual, mechanical, chemical, and cultural means to achieve specific objectives. Achievement of these objectives has positively impacted the Company's SAIFI and SAIDI reliability figures associated with vegetation-related interruptions.

#### Event Preparedness

Each year, Duquesne Light also prepares for heat or storm related outages through a number of proactive initiatives, which includes:

1. Equipping service vehicles with spare transformers during summer months to enable quick replacement of overloaded transformers.
2. Installing Garmin GPS systems in service vehicles to improve driver navigation which ultimately reduces response times to trouble locations.. The GPS systems are very beneficial when DLC crews are needed to travel outside of their normal service district, or to other utilities when providing Mutual Assistance.
3. Maintaining respected memberships in the Mid Atlantic (MAMA) and Great Lakes (GLMA) Mutual Assistance groups.
4. Maintaining a subscription to Accuweather, a premier weather forecasting service, who provides customized forecasts twice a day, severe weather alerts and 24x7 availability to an Accuweather forecaster.

#### Transmission Preparedness

On May 22, 2012 between the hours of 07:30 and 14:30, Duquesne Light Company's Operations Center participated in PJM's Summer Emergency Procedures Drill. PJM conducts these system-wide drills to assess the readiness of system operations personnel during emergency conditions. The objectives of the drills are to ensure that the following occurs:

1. PJM personnel and member companies understand emergency procedures.
2. Communication facilities are adequate between PJM and member companies.
3. PJM and member company personnel demonstrated effectiveness of corporate / governmental affairs communications.
4. PJM RTO, LCCs and MOCs provided adequate information to governmental agencies.

During the 2012 drill, PJM issued a Hot Weather Alert, Low Voltage Alert, Maximum Emergency Generation Alert, Primary Reserve Alert and a Voltage Reduction Alert. All Emergency Procedure Warnings and Actions were issued as part of the drill to ensure participants properly notified government agencies and to exercise internal communications for each member company. The drill simulated worsening conditions that included generation unit losses and high loads that resulted in simulated 1,200 MWs of Manual Load Shed (system wide).

## **Storm Response**

### **Storm Preparations**

Duquesne Light Company maintains a comprehensively written Storm Plan, which is updated at least annually, that provides the overall procedures for restoration activity. The purpose of the Storm Plan is to provide guidelines and procedures for managing response to service interruption events that result from any cause.

Duquesne Light Company conducts Storm Preparedness Training each year for employees serving roles on the Storm Restoration Team. Duquesne's most recent Storm Drill/Training session was conducted in March 2012. During these sessions, simulated outage scenarios are presented to the Storm Restoration Team, who prepare and simulate responses to recover the system specific to the scenario. This drill enables the Storm Team members to become highly efficient should actual events occur.

Each year, Duquesne Light performs a test of the Alternate Operations Center (AOC), with the most recent test occurring on Thursday, April 26, 2012. The annual test includes two parts, a full functional test of the AOC systems and technology, and a test of the emergency staffing plan for all critical facilities, which would be implemented upon the loss of SCADA.

## **Outage Restoration Strategy**

When the extent of storm damage to the electrical system is severe and widespread throughout the Duquesne service area, restoration activities must be prioritized. In all situations, the safety of the public, as well as those working to restore service, is always the overriding priority. Duquesne Light follows these restoration priorities, which are generally universal throughout the electrical utility industry.

### **1. Public Safety Hazards**

Our first priority is to quickly address public safety hazards, such as wires that are down across major highways, burning wires or equipment or building fires. While downed power lines are being handled, company personnel continue to assess the total damage to the electrical system's infrastructure and begin restoring service.

### **2. Public Health and Safety Facilities (Critical Customers)**

Repair work that restores power to essential facilities that provide emergency services is a high priority. This includes hospitals, police, fire and emergency facilities, water and sanitary authorities, nursing homes and assisted living facilities, etc.

### 3. Major Circuits

Duquesne Light continues rebuilding its system by next focusing on major circuits as it strives to restore power to the greatest number of customers as quickly as possible.

### 4. Small Neighborhoods/Individual Homes

Once major circuits have been repaired, restoration efforts focus on smaller neighborhoods and groups of customers served by a single transformer. Finally, service to individual homes and businesses is restored as crews repair "service drops," which are the wires that bring electricity from the nearest pole to an individual building.

Duquesne Light has placed more detailed information regarding its restoration priorities on its website, which can be found at <https://www.duquesnelight.com>, then clicking on the tabs "Homes" then "Outages and Safety".

## **Communications and Outreach**

Duquesne Light continues to work hard in keeping our customers informed and prepared for each year's summer storm season. In April of this year, the Company ran its annual "Summer Storm Season Preparation" article in its customer newsletter, which is delivered to approximately 525,000 customers. The article discusses how the Company prepares for storms, what the Company does during storms, and encourages customers to be prepared for service interruptions by assembling a storm emergency kit.

During major outages and storms, Duquesne Light utilizes a variety of methods to keep customers informed of outages and restoration efforts. Those communications methods include regular updates to local media outlets, postings on the company's Twitter, Facebook and web page, text messages to customers, and updates to the local Emergency Management Agencies.

New this year will be an outage map that is utilized as part of the company's Power Restoration Update Center (PRUC) website. The PRUC is activated when 25,000 or more customers are affected by a storm for longer than 24 hours.