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April 26, 2016

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Ms. Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

RE: Annual Electric System Reliability Report
3 Years Ending December 31, 2015
Docket Nos. L-00030161 and M-00991220

M-2016-2522508

Dear Secretary Chiavetta:

Enclosed, please find UGI Utilities, Inc., Annual Electric System Reliability Report for the 3-year period ending December 31, 2015 with an original signature as requested.

Should you have any questions or concerns please contact me at 570-830-1286 or via email at esorber@ugi.com.

Sincerely,

Eric Sorber
Director Engineering & Operations
UGI Utilities, Inc. – Electric Division
One UGI Center
Wilkes-Barre, PA 18701



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PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

UGI Utilities, Inc.
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PO Box 12677
Reading, PA 19612-2677
610-796-3400

VIA FEDERAL-EXPRESS

April 18, 2016

Ms. Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120

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RE: **Annual Electric System Reliability Report
3 Years Ending December 31, 2015
Docket Nos. L-00030161 and M-00991220**

Dear Secretary Chiavetta:

Pursuant to the Commission's May 7, 2004 Final Rulemaking Order amending Electric Service Reliability Regulations (52 Pa. Code §§57.191 - 57.197) at Docket Nos. L-00030161 and M-00991220, UGI Utilities, Inc. - Electric Division ("UGI") hereby files its Annual System Reliability Report. This report contains SAIDI, SAIFI, and CAIDI results on a 3-year rolling basis for the period ending December 31, 2015 along with the raw data from the same period. Also included are the Inspection & Maintenance Goals, Operations & Maintenance Expense, and Capital Budget data.

The Office of Consumer Advocate, the Office of Small Business Advocate, the Bureau of Audits, and the Bureau of Conservation, Economics and Energy Planning have each been served with copies of this filing.

Questions related to the attached report should be directed to Mr. Vince DeGiusto, Jr. at (570) 830-1289 or email vdegiustojr@ugi.com.

Sincerely,

Eric Sorber
Electric Division, Director - Engineering & Operations

Attachment

cc: **FEDERAL EXPRESS**

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UGI Utilities, Inc. – Electric Division Annual System Reliability Report 2015

April 18, 2016

**UGI Utilities, Inc. – Electric Division
2015 Electric Service Reliability Annual Report**

§ 57.195(b)(1) – An overall current assessment of the state of the system reliability in the EDC’s service territory including a discussion of the EDC’s current programs and procedures for providing reliable electric service.

For the twelve month period ending December 2015, UGI Utilities, Inc. – Electric Division’s (“UGI” or “Company”) SAIDI was 41 minutes. This is below both its 12 month benchmark of 140 minutes and standard of 256 minutes. UGI’s SAIFI for the 12 month period was .40, remaining well below its 12 month benchmark of .83 and 12 month standard of 1.12. UGI’s CAIDI was 103 minutes for the most recent 12 month period. This is also below its 12 month benchmark of 169 minutes and 12 month standard of 228 minutes. All three indices show noticeable improvement over 2014 results.

UGI’s objective is to provide its customers with safe, reliable electric service. Providing reliable service is not a program unto itself, but rather it is an inherent part of every element of the service delivery process. Each segment of service delivery, including system design, construction, and operation and maintenance, has service reliability as its main objective.

System Design

System design is fundamental to providing reliable electric service. To that end, UGI has incorporated service reliability into all aspects of its system design. Planning standards, construction standards, component selection, engineering, engineering training, engineering instructions and System Control and Data Acquisition (“SCADA”) integration programs all have service reliability as a fundamental consideration.

Construction

No matter how well an electrical system is designed, the components making it up must be properly assembled in order for it to function as intended. UGI construction personnel possess the knowledge and skills necessary to effectively perform their duties. Post construction inspection programs assure that additions and improvements to the system are completed properly.

Operation

A continuously staffed operations center is in place to assure quick response to interruptions on the delivery system. The center is staffed by system operators who diagnose system problems and mount a rapid and appropriate response to trouble on the system.

There are service/line personnel on duty eight hours a day during weekdays and on Saturdays. An afternoon shift trouble-man is scheduled during weekdays to provide quick response to service interruption calls. Call-out rosters are in place to mobilize staff when service/line personnel are not on duty or when additional resources are required.

UGI Utilities, Inc. – Electric Division
2015 Electric Service Reliability Annual Report

UGI has an outage management system in place, which allows it to gather information on system interruptions. The information accumulated in this system is analyzed to spot equipment failure trends and outage clusters. This information is also used to spot weaknesses in the system and to make decisions on allocation of resources for maintenance and/or system upgrades.

Maintenance

UGI has inspection and maintenance programs in place to monitor all equipment on its system and to address any problems identified through these programs. UGI implemented the 2015 – 2016 Bi-annual I&M Plan filed with the Commission and has found no significant system equipment issues during performance of the I&M Plan initiatives in 2015.

**UGI Utilities, Inc. – Electric Division
2015 Electric Service Reliability Annual Report**

§ 57.195(b)(2) – A description of each major event that occurred during the year being reported on, including the time and duration of the event, the number of customers affected, the cause of the event and any modified procedures adopted to avoid or minimize the impact of similar events in the future.

- (i) Under Title 52, Pa. Code §57.192, a major event is defined as either:
 - a) An interruption of electric service resulting from conditions beyond the control of the electric distribution company which affects at least 10% of the customers in the EDC's service territory during the course of the event for a duration of 5 minutes each or greater. The event begins when notification of the first interruption is received and ends when service to all customers affected by the event is restored.
 - b) An unscheduled interruption of electric service resulting from an action taken by an electric distribution company to maintain the adequacy and security of the electrical system, including emergency load control, emergency switching and energy conservation procedures, as described in §57.52 (relating to emergency load control and energy conservation by electric utilities), which affects at least one customer.
- (ii) A major event does not include scheduled outages in the normal course of business or an electric distribution company's actions to interrupt customers served under interruptible rate tariffs.

Major Events

A major event occurring in 2014 has been discussed in previous reports. There were no major events during 2015 or 2013.

Modified Procedures

UGI initiated a program to install additional distribution sectionalizing devices. This includes automatic and manual type devices such as reclosers, air-breaks, switches and fuses. These facilities will increase reliability by reducing the number of customers exposed to an outage or by providing sectionalizing points which will isolate customers from damage and allow partial restoration of circuit sections. UGI field personnel are currently evaluating each feeder to identify appropriate device locations and generating work orders for the installation of the various devices. To date 63% of the distribution feeders have been reviewed resulting in the installation of 142 new devices. The balance of the feeders are expected to be completed in the next five years.

**UGI Utilities, Inc. – Electric Division
2015 Electric Service Reliability Annual Report**

§ 57.195(b)(3) – A table showing the actual values of each of the reliability indices (SAIFI, CAIDI, SAIDI, and if available, MAIFI) for the EDC’s service territory for each of the preceding 3 calendar years. The report shall include the data used in calculating the indices, namely the average number of customers served, the number of sustained customer minutes interruptions, the number of customers affected and the minutes of interruption.

The reliability results for UGI’s service area over the last three years are as follows:

2013 – 2015 Reliability Statistics

| | SAIDI | SAIFI | CAIDI |
|-----------------------------|------------|-------------|------------|
| 3-Year Avg. Standard | 170 | 0.91 | 186 |
| UGI 3-Yr. Rolling Avg. | 63 | 0.54 | 117 |

| | SAIDI | SAIFI | CAIDI |
|---------------------------|------------|-------------|------------|
| 12-Month Standard | 256 | 1.12 | 228 |
| 12-Month Benchmark | 140 | 0.83 | 169 |
| 2015 UGI Results | 41 | 0.40 | 103 |
| 2014 UGI Results | 63 | 0.44 | 144 |
| 2013 UGI Results | 85 | 0.77 | 110 |

The 3-year rolling averages for SAIFI, SAIDI and CAIDI are performing within the standards established by Commission Order at Docket No. M-00991220 on May 7, 2004.

Data necessary to calculate a Momentary Average Interruption Frequency Index (MAIFI) is not available for UGI’s service area. As previously discussed with the Commission, UGI currently has no plan to install the equipment required to track momentary interruptions on the hundreds of operating distribution devices located throughout its territory. The basis for this decision is the high cost associated with the purchase and installation of these devices with little commensurate benefit.

UGI Utilities, Inc. – Electric Division
2015 Electric Service Reliability Annual Report

§ 57.195(b)(12) – Significant changes, if any, to the transmission and distribution inspection and maintenance programs previously submitted to the Commission.

There have not been any significant changes during 2015 to the transmission and distribution inspection and maintenance programs outlined in previous reports submitted to the Commission. Starting January 1, 2011 all of the Electric Division's distribution system equipment is being inspected and maintained consistent with its Bi-Annual Inspection and Maintenance Plan as filed with the Commission. The Plan's requirements do not significantly alter UGI's prior inspection and maintenance programs.

**UGI Utilities, Inc. – Electric Division
2015 Electric Service Reliability Annual Report**

| | Raw Data | | | | Reported Indices | | |
|-----------------------|------------|---------------|-----------------|------------------|------------------|-------------|------------|
| | SI | TCI | TCB | TMCI | SAIDI | SAIFI | CAIDI |
| January-2015 | 24 | 222 | 60,924 | 19,932 | 0 | 0.00 | 90 |
| February-2015 | 17 | 1,830 | 60,835 | 331,606 | 5 | 0.03 | 181 |
| March-2015 | 21 | 193 | 60,721 | 18,595 | 0 | 0.00 | 96 |
| April-2015 | 34 | 546 | 60,417 | 77,730 | 1 | 0.01 | 142 |
| May-2015 | 35 | 1,938 | 60,433 | 166,459 | 3 | 0.03 | 86 |
| June-2015 | 48 | 9,447 | 60,294 | 988,740 | 16 | 0.16 | 105 |
| July-2015 | 27 | 2,582 | 60,201 | 247,239 | 4 | 0.04 | 96 |
| August-2015 | 33 | 823 | 60,069 | 99,527 | 2 | 0.01 | 121 |
| September-2015 | 33 | 932 | 59,978 | 73,859 | 1 | 0.02 | 79 |
| October-2015 | 20 | 1,377 | 59,903 | 69,335 | 1 | 0.02 | 50 |
| November-2015 | 32 | 3,884 | 59,914 | 344,674 | 6 | 0.06 | 89 |
| December-2015 | 22 | 348 | 59,879 | 40,669 | 1 | 0.01 | 117 |
| 2015 TOTAL | 346 | 24,122 | 60,297 * | 2,478,365 | 41 | 0.40 | 103 |
| January-2014 | 17 | 2,054 | 61,722 | 148,185 | 2 | 0.03 | 72 |
| February-2014 | 13 | 145 | 61,738 | 15,794 | 0 | 0.00 | 109 |
| March-2014 | 16 | 3,561 | 61,585 | 493,075 | 8 | 0.06 | 138 |
| April-2014 | 34 | 3,052 | 61,507 | 240,757 | 4 | 0.05 | 79 |
| May-2014 | 32 | 4,021 | 61,210 | 647,778 | 11 | 0.07 | 161 |
| June-2014 | 21 | 2,100 | 61,060 | 734,190 | 12 | 0.03 | 350 |
| July-2014 | 17 | 2,454 | 60,985 | 418,678 | 7 | 0.04 | 171 |
| August-2014 | 27 | 1,824 | 60,972 | 229,463 | 4 | 0.03 | 126 |
| September-2014 | 18 | 1,104 | 60,896 | 134,870 | 2 | 0.02 | 122 |
| October-2014 | 25 | 2,472 | 60,939 | 342,952 | 6 | 0.04 | 139 |
| November-2014 | 31 | 3,470 | 60,903 | 345,580 | 6 | 0.06 | 100 |
| December-2014 | 21 | 628 | 60,886 | 111,439 | 2 | 0.01 | 177 |
| 2014 Total | 272 | 26,885 | 61,200 * | 3,862,761 | 63 | 0.44 | 144 |
| January-2013 | 22 | 5,504 | 62,162 | 137,647 | 2 | 0.09 | 25 |
| February-2013 | 13 | 4,917 | 62,120 | 616,741 | 10 | 0.08 | 125 |
| March-2013 | 7 | 182 | 61,958 | 19,158 | 0 | 0.00 | 105 |
| April-2013 | 48 | 3,935 | 61,767 | 672,419 | 11 | 0.06 | 171 |
| May-2013 | 23 | 629 | 61,714 | 64,732 | 1 | 0.01 | 103 |
| June-2013 | 42 | 3,146 | 61,908 | 444,316 | 7 | 0.05 | 141 |
| July-2013 | 53 | 13,058 | 61,815 | 869,458 | 14 | 0.21 | 67 |
| August-2013 | 26 | 4,299 | 61,828 | 887,559 | 14 | 0.07 | 206 |
| September-2013 | 41 | 2,609 | 61,770 | 387,971 | 6 | 0.04 | 149 |
| October-2013 | 12 | 1,487 | 61,760 | 320,989 | 5 | 0.02 | 216 |
| November-2013 | 37 | 6,489 | 61,813 | 737,874 | 12 | 0.10 | 114 |
| December-2013 | 16 | 1,644 | 61,831 | 116,023 | 2 | 0.03 | 71 |
| 2013 Total | 340 | 47,899 | 61,871 | 5,274,887 | 85 | 0.77 | 110 |
| 3-YEAR AVERAGE | 319 | 32,969 | 61,123 * | 3,872,004 | 63 | 0.54 | 117 |

* annual arithmetic average

SI: System Interruptions
TCI: Total Customers Interrupted
TCB: Total Customer Base
TMCI: Total Minutes Customer Interrupted

**UGI Utilities, Inc. – Electric Division
2015 Electric Service Reliability Annual Report**

§ 57.195(b)(4) - A breakdown and analysis of outage causes during the year being reported on, including the number and percentage of service outages, the number of customers interrupted, and customer interruption minutes categorized by outage cause such as equipment failure, animal contact, tree related, and so forth. Proposed solutions to identified service problems shall be reported.

Outage by Cause - January 2015 through December 2015

| OUTAGE CAUSE | % OF TOTAL INCIDENTS | NUMBER OF INTERRUPTIONS | CUSTOMERS INTERRUPTED | MINUTES INTERRUPTED |
|---------------------|-----------------------------|--------------------------------|------------------------------|----------------------------|
| Animal | 20.52% | 71 | 667 | 57,457 |
| Company Agent | 0.29% | 1 | 11 | 352 |
| Construction Error | 0.00% | 0 | 0 | 0 |
| Customer Problem | 0.58% | 2 | 3 | 414 |
| Equipment Failure | 36.13% | 125 | 5,834 | 527,958 |
| Lightning | 4.91% | 17 | 1,366 | 51,441 |
| Motor Vehicle | 7.80% | 27 | 7,463 | 924,456 |
| Other | 0.29% | 1 | 37 | 3,256 |
| Public | 6.07% | 21 | 2,029 | 216,774 |
| Structure Fire | 1.16% | 4 | 649 | 19,602 |
| Trees | 14.16% | 49 | 4,138 | 336,858 |
| Unknown | 4.05% | 14 | 1,659 | 312,733 |
| Weather Related | 2.31% | 8 | 61 | 7,775 |
| Weather/Snow | 0.00% | 0 | 0 | 0 |
| Weather/Ice | 0.00% | 0 | 0 | 0 |
| Weather/Wind | 1.73% | 6 | 205 | 19,289 |
| TOTAL | 100.00% | 346 | 24,122 | 2,478,365 |

Proposed Solutions to Identified Problems:

UGI has not identified any particular source of outage as problematic. As a small system, UGI is subject to a high level of variability in system damage due to weather.

