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VIA FEDERAL EXPRESS

April 30, 2018

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

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PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

**RE: Annual Electric System Reliability Report
3 Years Ending December 31, 2017 ("PUBLIC")
Docket Nos. L-00030161 and M-00991220**

Dear Secretary Chiavetta:

M-2016-2522508

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, 2017 along with the raw data from the same period.

The Office of Consumer Advocate, the Office of Small Business Advocate, the Bureau of Audits, and the Bureau of Technical Utility Services 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: **VIA FEDERAL EXPRESS**

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**UGI Utilities, Inc. – Electric Division
Annual System Reliability Report
2017**

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**PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU**

April 30, 2018

**UGI Utilities, Inc. – Electric Division
2017 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 2017, UGI Utilities, Inc. – Electric Division’s (“UGI” or “Company”) SAIDI was 64 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 0.49, again, remaining well below its 12-month benchmark of .83 and 12-month standard of 1.12. UGI’s CAIDI was 131 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.

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 Supervisory 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.

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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 2017 – 2018 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 2017. UGI has identified an increase in the number of potential danger trees via the annual vegetation inspections performed under the Bi-annual I&M Plan. The increase is primarily due to the infestation of the Emerald Ash Borer, which is devastating the Pennsylvania ash tree population. UGI has added additional vegetation resources to target additional danger tree removals going forward.

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§ 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 2015-2017.

Modified Procedures

UGI continues its 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 84% of the distribution feeders have been reviewed resulting in the installation of 20 additional fuse installations in 2017. This brings the total number of new devices to 165. In addition, UGI upgraded 26 reclosers to add communications, which provides for remote monitoring and control. UGI expects to add or upgrade 22 additional reclosers in 2018 and add an estimated 16 new fuse installations. The balance of the feeder reviews is expected to be completed in the next three years.

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2017 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:

2015 – 2017 Reliability Statistics

	SAIDI	SAIFI	CAIDI
3-Year Avg. Standard	170	0.91	186
UGI 3-Yr. Rolling Avg.	62	0.51	121

	SAIDI	SAIFI	CAIDI
12-Month Standard	256	1.12	228
12-Month Benchmark	140	0.83	169
2017 UGI Results	64	0.49	131
2016 UGI Results	78	0.63	125
2015 UGI Results	41	0.40	103

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.

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	Raw Data				Reported Indices		
	SI	TCI	TCB	TMCI	SAIDI	SAIFI	CAIDI
January-2017	24	1,171	63,729	137,902	2	0.02	118
February-2017	21	685	63,748	156,560	2	0.01	229
March-2017	41	3,588	63,792	461,297	7	0.06	129
April-2017	23	3,708	63,773	352,494	6	0.06	95
May-2017	40	2,975	63,719	560,540	9	0.05	188
June-2017	38	4,273	63,734	543,442	9	0.07	127
July-2017	41	2,153	63,673	351,089	6	0.03	163
August-2017	32	2,643	63,687	556,026	9	0.04	210
September-2017	13	3,861	63,708	269,491	4	0.06	70
October-2017	36	4,568	63,634	312,749	5	0.07	68
November-2017	25	1,186	63,549	323,967	5	0.02	273
December-2017	17	584	63,528	80,312	1	0.01	138
<i>2017 Total</i>	351	31,395	63,690	4,105,869	64	0.49	131
January-2016	27	639	59,889	90,830	2	0.01	142
February-2016	40	9,830	59,889	1,258,214	21	0.16	128
March-2016	26	6,973	59,783	831,584	14	0.12	119
April-2016	46	1,672	59,519	449,736	8	0.03	269
May-2016	27	3,631	59,375	713,329	12	0.06	196
June-2016	38	1,060	60,944	127,727	2	0.02	120
July-2016	48	10,274	63,668	753,493	12	0.16	73
August-2016	49	1,140	63,653	150,282	2	0.02	132
September-2016	26	1,782	63,584	249,920	4	0.03	140
October-2016	33	578	63,644	120,393	2	0.01	208
November-2016	10	553	63,662	22,521	0	0.01	41
December-2016	12	777	63,666	78,310	1	0.01	101
<i>2016 Total</i>	382	38,909	61,773	4,846,339	78	0.63	125
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
<i>2015 Total</i>	346	24,122	60,297	2,478,365	41	0.40	103
3-YEAR AVERAGE	360	31,475	61,920 *	3,810,191	62	0.51	121

* annual arithmetic average

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

**UGI Utilities, Inc. – Electric Division
2017 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 2017 through December 2017

OUTAGE CAUSE	% OF TOTAL INCIDENTS	NUMBER OF INTERRUPTIONS	CUSTOMERS INTERRUPTED	MINUTES INTERRUPTED
Animal	12.54%	44	783	50,611
Company Agent	0.57%	2	2	207
Construction Error	0.00%	0	0	0
Customer Problem	0.00%	0	0	0
Dig In	0.28%	1	90	11,200
Equipment Failure	27.92%	98	11,323	1,413,234
Lightning	1.42%	5	375	31,452
Motor Vehicle	7.69%	27	3,428	525,553
Other	1.99%	7	114	8,244
Public	3.42%	12	3,649	239,619
Structure Fire	0.00%	0	0	0
Trees	34.19%	120	9,336	1,612,919
Unknown	3.70%	13	559	23,431
Weather Related	0.28%	1	204	19,176
Weather/Snow	1.14%	4	103	12,420
Weather/Ice	0.85%	3	90	32,525
Weather/Wind	3.99%	14	1,339	125,278
TOTAL	100.00%	351	31,395	4,105,869

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. As mentioned above UGI has added additional vegetation resources to address increased danger tree removals.

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§ 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 2017 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.

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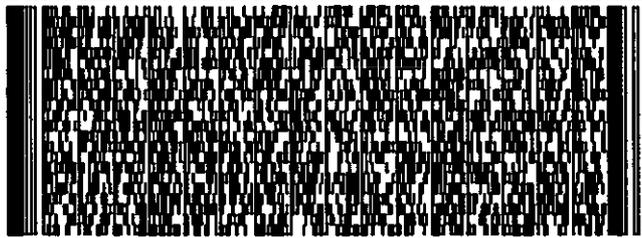
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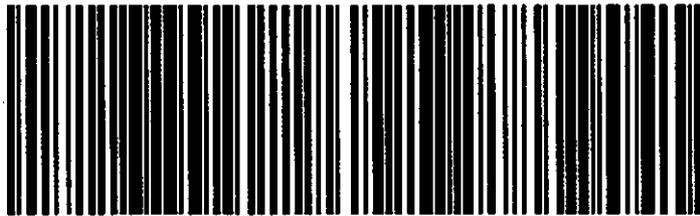
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