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November 6, 2018

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

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

RE: UGI Utilities Inc. Quarterly Electric System Reliability Report
12 Months Ending September 30, 2018
Docket Nos. M-2016-2522508

Dear Secretary Chiavetta:

Enclosed, please find the cover letter for UGI Utilities, Inc., Quarterly Electric System Reliability Report for the 12-month period ending September 30, 2018 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



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

610-796-3400

VIA FEDERAL EXPRESS

October 31, 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: Quarterly Electric System Reliability Report
12 Months Ending September 30, 2018
Docket Nos. M-2016-2522508**

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 Quarterly System Reliability Report. This report contains SAIDI, SAIFI, and CAIDI results on a 12-month rolling basis for the period ending September 30, 2018 along with the raw data from the same period. Also included is a breakdown of outages by cause for the 12 months ending September 30, 2018. The actual statistics for SAIDI and CAIDI are favorable to the standard adopted for UGI.

The Office of Consumer Advocate, the Office of Small Business Advocate, the Bureau of Audits, and the Bureau of Technical Utility Services are each being 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
System Reliability Report:
Quarterly Update**

November 1, 2018

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

§ 57.195(e)(1) – A description of each major event that occurred during the preceding quarter, including the time and duration of the event, the number of customers affected, the cause of the event and any modified procedures adopted in order to avoid or minimize the impact of similar events in the future.

Event

On July 25th, 2018, from 18:07 until July 26th, 2018 at 01:18, Hunlock 66kV Bus was tripped out, resulting in the outage of both the Hunlock and Koonsville distribution substations, with a total customer outage of 9,761 customer (15.5%) of the 62,771 UGI customer base, due to the following reason:

During a heavy rain event, which resulted in flash flooding in the vicinity of the Hunlock and Koonsville Substations, an off-right-of-way tree came in contact with the Hunlock-Koonsville section of the Hunlock-Berwick 66kV line. The fault caused the 66kV Circuit Breaker (CB) 42 at Hunlock to lock out. PPL's Hunlock CB at Berwick was out of service (being replaced) so that source was unavailable. Following normal procedures, the UGI System Operator sectionalized the line (location of fault was not known at the time), opening a 66kV switch at Koonsville Substation and tested the line again closing CB 42. The manual reclose of CB 42 incorrectly caused the Hunlock 66kV Bus to lock out (as opposed to an expected trip of CB 42 due to the permanent fault on the transmission line) due to the operation of the failed/stuck breaker relay on CB 42. This resulted in the outage the Hunlock Substation in addition to the Koonsville Substation. After crews investigated the situation at Hunlock Substation, CB 42 was opened and the Hunlock 66kV bus was energized allowing the Hunlock transformer and corresponding customers to be restored. The remaining customers off the Koonsville substation were restored via distribution switching.

UGI Utilities has taken the following steps to minimize this event from reoccurring:

- UGI investigated the operation of the failed/stuck breaker relay on CB 42. The relay and CB 42 were both tested. It was determined that both the relay, and the breaker were operating correctly and that the coordination with the other protection schemes was correct.
- UGI has purchased and will be installing 66kV directional fault detectors at the sectionalizing point on the Hunlock-Berwick 66kV line. These devices will allow field crews to quickly identify which section of the line the fault occurred and prevent reclosing into a fault.

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

§ 57.195(e)(2) – Rolling 12-month reliability index values (SAIFI, CAIDI, SAIDI and if available, MAIFI) for the EDC’s service territory for the preceding quarter. The report shall include the data used in calculating the indices, namely the average number of customers served, the number of sustained customer interruptions, the number of customers affected and the customer minutes of interruption.

The 12 month rolling reliability results for UGI’s service area are as follows:

	SAIDI	SAIFI	CAIDI
12-Month Standard	256	1.12	228
12-Month Benchmark	140	0.83	169
12 months Ended Sep 30, 2018	221	1.21	183

SAIDI: System Average Interruption Duration Index
SAIFI: System Average Interruption Frequency Index
CAIDI: Customer Average Interruption Duration Index

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

Raw Data: October 2017 – September 2018

Month	SI	TCI	TCB	TMCI
Oct-2017	36	4,568	63,634	312,749
Nov-2017	25	1,186	63,549	323,967
Dec-2017	17	584	63,528	80,312
Jan-2018	35	3,397	63,491	676,409
Feb-2018	12	116	63,352	16,175
Mar-2018	91	3,991	63,311	2,916,858
Apr-2018	52	4,494	63,226	1,050,570
May-2018	90	10,269	63,098	2,430,214
Jun-2018	47	7,643	63,023	560,989
Jul-2018	79	26,392	62,999	2,726,606
Aug-2018	32	6,696	63,864	754,177
Sep-2018	39	7,043	62,771	2,103,222
TOTAL	555	76,379	63,237 *	13,952,348

* 12-month arithmetic average

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

SAIDI

The SAIDI value for the 12 months ending September 2018 is 221. This result is 47% higher than results reported through June 2018.

SAIFI

The 12-month rolling SAIFI index increased 70% from 0.71 in our last quarterly report to 1.21 for the period ending September 2018, which exceeds the 12-month standard.

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

CAIDI

The CAIDI result of 183 for the 12-month reporting period ending September 2018 is down 14% from our last report.

SAIDI and CAIDI values fall below their respective standard levels. UGI believes the changes in reliability results compared with the previous reporting periods are due to the natural variation of the events in each period and do not indicate any trends. It is always important to note, however, that weather conditions can have considerable impact on these values as is the case in this report, which reflects an increased number of outages and corresponding durations that resulted from several significant weather events in the last seven months including the several spring nor'easters, a May 15, 2018 severe thunderstorm and abnormally high rainfall throughout the summer months which resulted in flash flooding and persistently saturated ground conditions. Ultimately these persistent weather conditions resulted in an increase in tree related outages as compared to 2017.

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

§57.195(e)(5)–Rolling 12 month breakdown and analysis of outage causes during the preceding quarter, including the number and percentage of service outages, the number of customers interrupted, and the 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: October 2017 – September 2018

Cause	% of Total Incidents	Number of Interruptions	Customers Interrupted	Minutes Interrupted
Animal	12.25%	68	803	64,630
Company Agent	0.72%	4	340	2,581
Construction Error	0.00%	0	0	0
Customer Problem	0.36%	2	688	68,712
Dig In	0.18%	1	3	420
Equipment Failure	20.18%	112	22,921	1,909,243
Lightning	3.42%	19	821	97,647
Motor Vehicle	4.68%	26	8,308	1,644,952
Other	1.08%	6	16	1,962
Public	0.90%	5	4,322	177,600
Structure Fire	0.00%	0	0	0
Trees	38.92%	216	20,407	6,317,812
Unknown	3.42%	19	2,164	325,505
Weather Related	3.76%	21	10,895	1,784,753
Weather/Snow	0.18%	1	75	27,750
Weather/Ice	0.18%	1	18	1,962
Weather/Wind	9.73%	54	4,598	1,526,819
TOTAL	100.00%	555	76,379	13,952,348

Proposed Solutions to Identified Problems:

UGI has identified and is addressing an increased number of danger trees resulting from the decline of the Pennsylvania ash tree. This species has been impacted by the Emerald Ash Borer throughout the UGI service territory. UGI has added an additional vegetation crew to assist with an increased number of danger tree removals.

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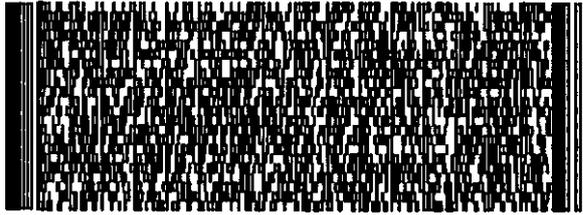
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PENNSYLVANIA PUBLIC UTILITY COMMISS
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COMMONWEALTH KEYSTONE BUILDING
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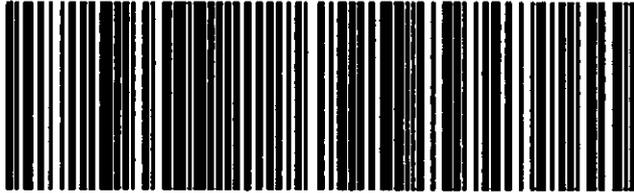
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