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April 26, 2023

Ms. Rosemary Chiavetta
Pennsylvania Public Utility Commission
PO Box 3265
Harrisburg, PA 17105-3265

RE: Docket No. M-2023-3039027 – Annual Reliability Report

Dear Secretary Chiavetta,

Enclosed please find the 2023 Annual Reliability Report for Citizens' Electric Company. Please contact me at 570-522-6143 or andersonp@citizenselectric.com if I can answer any questions.

Best Regards,

A handwritten signature in black ink that reads "Patrick F. Anderson".

Patrick F. Anderson
Senior Director of Engineering & Operations

cc: Dan Searfoorce (via email)
John Van Zant (via email)
Harry Bidelspach (via email)

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Citizens' Electric Company
Annual Electric Service Reliability Report
2023

Prepared by Patrick F. Anderson
Senior Director of Engineering & Operations
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4/26/2024

§ 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.

Citizens' Electric Company experienced very slight increases in SAIFI and SAIDI in 2023 while CAIDI remained lower than the previous two years. Weather events including off right-of-way trees, and outages caused by vehicle accidents played a significant part in the increase throughout the year. In 2022, the Company experienced 29 outages from outside the right-of-way trees; in 2023, the number dropped by more than half to thirteen as a result of the company's direct communication with customers targeting danger and hazard trees outside the right-of-way. The total CMI was most impacted by the increase in vehicle-related outages.

Citizens' Electric was again recognized in 2023 as a "Tree Line USA" utility. This award from the National Arbor Day Foundation recognized the Company for the 21st consecutive year for its use of nationally approved trimming techniques and procedures in its vegetation management program. The Company continues to partner with the Penn State Extension for its annual educational session. This event provides education not only for Company employees, but also the current vegetation management contractor, and local municipal road and public works crews. Topics covered include directional pruning techniques, 'Right Tree in the Right Place' planning, and updates on current and expected threats to Pennsylvania forests. By inviting local municipalities, we encourage cooperative relationships, as well as garner the mutual benefits of consistent vegetation management practices throughout the area.

The Company continues to participate in and gather information from various industry best practices groups. These groups include members from diverse utility groups such as the Pennsylvania Rural Electric Association, the Energy Association of Pennsylvania, and the National Rural Electric Cooperative Association. The Company will continue to implement best practices defined by these groups as appropriate.

Citizens' Electric Company does not own or maintain any transmission facilities.

Current Maintenance Program		
Program	Description	Cycle
Infrared Inspection	All substation equipment biennially, and 1/3 of all overhead lines each year.	3 years
Vegetation Management	Each year, all primary lines are visually inspected. This comprehensive field inspection allows us to identify areas that require trimming. We maintain a 4-year trimming cycle, but all areas are inspected annually to help identify unexpected “hot spots.” All areas needing attention are trimmed by the end of the 3 rd quarter.	Annual
Visual Line Inspection	All distribution lines and pole hardware are visually inspected during preparation of tree trimming contract. Line sections receiving infrared inspection are also inspected visually during that process.	Annual
Padmount Equipment Inspection	Padmounted equipment is visually inspected to identify and correct any developing problems or safety concerns.	4 Years
3Ø Padmount Transformer Oil Test	Insulating oil is tested from every 3Ø padmounted transformer on our system, and all substation power transformers.	Annual
Line Equipment Inspection	All air switches, circuit tie switches, capacitors, regulators, and reclosers are visually inspected. Where applicable, proper operation of control equipment is verified and counter readings are recorded.	Annual
Pole Inspection and Treatment	Poles are inspected and treated at the ground line. External and/or internal decay inhibitors are applied where appropriate.	10 Years
Danger & Reject Pole Replacements	Replace condemned poles identified during pole inspection.	As needed, annually
Substation Equipment Inspection	Entire station is visually inspected. Equipment batteries are tested, communications equipment operation is verified, fans are tested, various gauge and counter readings are recorded. An infrared inspection is performed on all equipment twice a year.	Monthly
Recloser Maintenance	Change oil, check and adjust mechanism, check contacts, test operation; <i>Recloser replacement program commenced in 2022. Recloser maintenance program is a voluntary initiative managed in parallel with the Company’s approved I&M plan.</i>	N/A

§ 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.

Date	Time	Duration (Minutes)	Customers Affected	Cause
4/1/23	16:13	302	801	At approximately 1600 hours on 4/1/23, a rainstorm with high gusts of winds reaching 50 mph caused several trees to fall from outside the right-of-way onto a section of three-phase line. The largest outage was caused by a fallen tree off right-of-way and interrupted 532 customers for two hours and thirteen minutes. The remaining four outages were all caused by trees off right-of-way.

The Company has continued efforts towards approaching property owners for rights to remove hazard trees in the areas where faults have occurred in the past. There are two circuits that have sustained multiple outages with off right-of-way trees and the company has been successful recently in obtaining those permissions in continuing to clear hazard trees away from the three-phase lines.

§ 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. If MAIFI values are provided, the number of customer momentary interruptions shall also be reported.

Prior 3 Years Reliability Indices							
Year	SAIFI	SAIDI	CAIDI	Avg # of Customers Served	# of Interruptions	# of Customers Interrupted	Customer Interruption Minutes
2023	0.32	29.0	89.8	7,139	42	2,309	207,294
2022	0.27	27.5	100.5	7,103	62	1,947	195,608
2021	0.27	25.6	94.1	7,075	61	1,926	181,274

§ 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 Analysis by Cause				
Outage Cause	Number of Interruptions	% of Interruptions	Number of Customers Affected	Customer Interruption Minutes
Off R/W Trees	13	31%	960	106,790
On R/W Trees	0	0%	0	0
Animal	9	21%	52	3,398
Weather	4	10%	101	15,946
Equipment	9	21%	34	3,665
Vehicle	5	12%	624	61,196
Other	2	5%	538	16,299
Total	42		2,309	207,294

Trees were again the most impactful cause of outages in 2023, accounting for 31% of total outages. However, this dropped from 47% from 2022. All tree-related outages were attributed to off right-of-way trees and accounted for half of the total CMI of 2023.

The company continues to emphasize hazard tree identification and removal with employees, tree contractors and customers. The Company continues to build its system to standards that typically exceed the NESC and to monitor industry best-practices regarding storm-hardening. New equipment, techniques and trends will be evaluated for their benefit to reliability.

§ 57.195(b)(6) - A comparison of established transmission and distribution inspection and maintenance goals/objectives versus actual results achieved during the year being reported on. Explanations of any variances shall be included.

Program	Goal	Completed	Comment
Infrared Inspection	Substation and 1/3 of all overhead lines	100%	Substation, all three-phase and 1/3 of single-phase line inspected.
Vegetation Management	Entire System (9 circuits), as needed	100%	9 circuits inspected, trimmed as needed.
Visual Line Inspection	Entire System (9 circuits)	100%	9 circuits inspected.
Padmount Equipment Inspection	177	100%	177 locations inspected. *
3Ø Padmount Transformer Oil Test	45	100%	45 transformers tested. *
Line Equipment Inspection	159	100%	163 locations inspected. * <ul style="list-style-type: none"> • 22 Capacitors • 47 Reclosers • 12 Regulators • 82 Switches
Pole Inspection and Treatment	777	100%	777 Poles Inspected. *
Danger and Reject Pole Replacement	“Danger” poles identified: 1 “Reject” poles identified: 17	100%	1 “danger” poles replaced. 17 “reject” poles replaced.
Substation Equipment Inspection	12 Monthly Inspections	100%	12 inspections completed.
Recloser Maintenance		0%	Program discontinued. <i>Recloser replacement program commencing in 2022. Recloser maintenance program is a voluntary initiative managed in parallel with the Company’s approved I&M plan.</i>

* *Quantity revised to reflect equipment in service at time of inspection.*

§ 57.195(b)(7) - A comparison of budgeted versus actual transmission and distribution operation and maintenance expenses for the year being reported on in total and detailed by the EDC's own functional account code or FERC account code as available. Explanations of any variances 10% or greater shall be included.

Program	Budget \$	Actual \$	Comment
Infrared Inspection		7,285	Not budgeted individually. 100% completed.
Vegetation Management	187,815	180,123	100% of planned work completed.
Visual Line Inspection			Not budgeted individually, included in Vegetation Management accounting. 100% completed.
Padmount Equipment Inspection		7,659	Not budgeted individually. 100% completed.
3Ø Padmount Transformer Oil Test		6,108	Not budgeted individually. 100% Completed.
Line Equipment Inspection		36,586	Not budgeted individually. 100% completed.
Pole Inspection and Treatment	36,000	38,335	100% completed.
Substation Equipment Inspection		8,446	Not budgeted individually. 100% completed.
Total		284,542	

§ 57.195(b)(8) - A comparison of budgeted versus actual transmission and distribution capital expenditures for the year being reported on in total and detailed by the EDC's own functional account code or FERC account code as available. Explanations of any variances 10% or greater shall be included.

Project	Budget Amount \$	Actual Expenditures \$	Variance \$	Comment
General Construction	1,178,280	983,179	195,101	This line item is heavily influenced by customer driven work. When customer work does not materialize as expected, manhours are reallocated to mix of capital and O&M work as necessary.
Transformers	88,158	187,381	(99,223)	Significant cost increases and customer-driven work.
Meters	192,599	144,149	48,450	Fewer necessary meters ordered than initially expected. Remaining proactive changeouts being ordered in 2024.
Young Rd Reconductor	12,112	16,413	(4,301)	Inflated material costs and excessive lead time for padmount transformer impacted total spend.
Terrace & Meadow Reconductor	40,556	44,579	(4,023)	Inflated contractor costs beyond those expected, as well as vacuum excavation to accommodate unmarked customer sewer lines increased costs.
Three Phase Recloser Pilot	37,223	45,904	(8,681)	Material cost increase from original quote, additional site visits requiring traffic control and equipment setup for programming troubleshooting and settings.
Single Phase Recloser Replacements	58,780	89,265	(30,485)	Material cost increase from original quote, additional site visits requiring traffic control and equipment setup for programming troubleshooting and settings.
Total	1,607,708	1,510,870	96,838	

§ 57.195(b)(9) - Quantified transmission and distribution inspection and maintenance goals/objectives for the current calendar year detailed by system area (that is, transmission, substation and distribution).

Program	Goal
Infrared Inspection	Substation and 3 circuits
Vegetation Management	Entire System (9 circuits), as needed
Visual Line Inspection	Entire System (9 circuits)
Padmount Equipment Inspection	187 Locations
3Ø Padmount Transformer Oil Test	45 Transformers
Line Equipment Inspection	163 Locations
Pole Inspection and Treatment	759 Poles
Danger and Reject Poles	To be determined from pole inspections
Substation Equipment Inspection	12 Monthly Inspections
Recloser Maintenance	N/A (program discontinued)

All goals are in the substation and distribution areas. The Company does not own or operate any transmission facilities.

§ 57.195(b)(10) - Budgeted transmission and distribution operation and maintenance expenses for the current year in total and detailed by the EDC's own functional account code or FERC account code as available.

(These items are not budgeted by FERC account.)

Program	Budget \$	Comment
Infrared Inspection	N/A	Not budgeted individually
Vegetation Management	187,815	
Visual Line Inspection	N/A	Not budgeted individually
Padmount Transformer Inspection	N/A	Not budgeted individually
3Ø Padmount Transformer Oil Test	N/A	Not budgeted individually
Line Equipment Inspection	N/A	Not budgeted individually
Pole Inspection and Treatment	39,000	
Danger and Reject Poles	N/A	Not budgeted individually
Substation Equipment Inspection	N/A	Not budgeted individually
Recloser Maintenance	N/A	Not budgeted individually
Total	\$226,815*	*Only includes Vegetation Management and Pole Inspection Programs

§ 57.195(b)(11) - Budgeted transmission and distribution capital expenditures for the current year in total and detailed by the EDC's own functional account code or FERC account code as available.

(These items are not budgeted by FERC account.)

Project	Budget Amount \$
General Construction	1,190,021
Transformers	125,046
Meters	89,335
Pheasant Ridge Rd and James Rd Reconductor	115,213
Creekside Ln UG Boring	26,028
Three Phase Substation Recloser Pilot	38,057
Single Phase Recloser Replacements	72,919
Total	1,656,619

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

No significant changes.