

Citizens' Electric Company
2022 Summer Readiness Overview
5/27/2022

Summary

Citizens' Electric Company's approved 2022 inspection and maintenance plan is well underway. This plan was designed to help ensure that system facilities remain in good condition and ready for the storm season.

A. Reliability Enhancement Program

a. Enhanced Vegetation Management

Since 2012, Citizens' Electric has been investing increasing resources to identify and remove off right-of-way hazard trees. Vegetation management personnel—both internal and contracted—as well as field staff have been trained to identify trees of concern and report them for consideration as hazard tree removals.

Citizens' Electric was recently recognized for the twentieth consecutive year as a “Tree Line USA” utility. This award from the National Arbor Day Foundation recognizes the Company for using nationally approved trimming techniques and procedures in its vegetation management program.

b. Storm Hardening

The Company is entering the 2022 storm season with its annual tree trimming under way and two of its three major system improvement projects already complete.

The Company has further continued its efforts to replace porcelain hardware—namely cutouts—system wide. As these components continue to age, the likelihood of outages increases. Sufficient inventory of new cutouts has been maintained in spite of increasing lead times and crews will continue to replace porcelain both proactively and incidentally until the overhaul is complete.

c. Fuses/Reclosers/Automatic Switches

The company is currently in the process of completing scheduled recloser inspections for 2022, scheduled maintenance on reclosers has been discontinued in favor a newly implemented replacement program. Reclosers with the highest number of operations or other known maintenance needs will be prioritized for earliest replacement.

d. Smart Grid

The Company is in its final year of a five-year project to replace all remaining first-generation smart meters. Planned exchanges for 2022 are on schedule. Additionally, crews have combined grouped meter replacements with porcelain cutout replacements, minimizing total scheduled customer interruptions. Replacing these meters will provide many benefits, including faster, more-reliable communications. This will help operations staff more quickly assess outages, dispatch repair crews, verify restorations, monitor voltage quality and identify areas of load growth.

All smart grid systems, including AMR infrastructure, Outage Management System, GIS Mapping and associated online and telephone customer service systems are fully operational and ready for processing outage transactions.

e. Conservation Voltage Reduction (CVR) Activity

Citizens' Electric does not utilize substation voltage regulation equipment. As a result, the Company does not currently have a Conservation Voltage Reduction (CVR) program.

B. Preventative Maintenance Programs

a. Capacitor Inspections

The Company currently has 22 capacitor locations in service. In accordance with its approved inspection and maintenance plan, all locations will be inspected during 2022 and are available as needed. All 22 total locations have been inspected already.

b. Vegetation Management

Nearly all of the Company's routine vegetation work is completed by contractors. Typically, this work is conducted during the early spring and summer months. This allows the Company to better respond to any unexpected "hot spots" that may require attention during the growing season. This schedule also helps ensure that contract crews will be present during the bulk of the summer storm season so they can be quickly deployed for restoration work if needed.

This year's contract has been awarded and trimming work is in progress. As discussed above, the Company will continue its aggressive program of maintenance and danger tree removals again this year, as well as expanding clearances.

As trimming is completed, the Company's inspector closely monitors work performed to ensure it is done in accordance with contract specifications and to verify that all work included in the contract is completed. Daily work reports are received from the contractor. These reports include a listing of work performed by each crew on a particular day. Reports are reviewed by the Company's inspector to verify overall contract completion.

As an additional performance measure, the Company's Vegetation Management Coordinator monitors all tree-related outages to help identify and respond to emerging trends as quickly as possible, and to assess the Company's overall vegetation program effectiveness.

c. Substation Inspections

All monthly substation inspections have been completed on schedule. Any issues requiring attention have been addressed.

d. Aerial Patrols

The Company does not own any transmission facilities and does not conduct any aerial patrols of its distribution facilities. A pilot of aerial drone patrols is currently under consideration.

e. Infrared Inspections

Infrared inspections are performed on all three-phase primary overhead line sections each year and all single-phase line sections on a three-year cycle. To date, approximately 40% of this year's inspections have been completed. The Company tracks progress electronically and expects to complete 100% of these inspections by year-end. Any issues found have been addressed.

C. Capacity Planning

The Company provides load forecasts and works closely with its transmission provider and System Operator to ensure continued transmission capacity availability. Long-range plans for additional substation or transmission facilities are refined periodically as load forecast trends are adjusted. System and feeder loading patterns and circuit voltage profiles are analyzed to ensure adequate capacity at all points on the Company's distribution system.

D. 2021/2022 Storm Update and Lessons Learned

2021 proved a more challenging year for storms and outages than 2020. Several severe storms affected the same area over the summer of 2021, creating a unique tree hazard, as discussed below.

Learnings and Notable Successes:

- A storm damaged an off-right-of-way area of trees well outside the normal trimming scope. This damage, however, led to a 'domino' effect over a series of similar storms, eventually bringing down trees that struck a three-phase line. This highlights the need for continued vigilance even in areas where annual trimming has been completed. The circumstances were reviewed with crews as a future improvement opportunity.
- Pro-active monitoring of mobile application by crews continues to reduce response times and increase effectiveness of restorations.

E. 2022 Summer Readiness

a. Capacity Additions

Crews completed two system improvement projects aimed at increasing capacity in 2022. The first was a 3,600ft reconductoring project on one of the Company's major three-phase tie lines. The second upgraded 5,300ft of neutral conductor to improve voltage during peak load and transfers in the western extent of the Company's service area.

b. Transmission Preparedness

The Company does not own any transmission facilities. However, it provides load forecasts and works closely with its transmission provider to ensure continued transmission capacity availability.

c. Event Preparedness

Lessons learned from the 2021 events have been discussed with staff—office and field—and storm preparedness and response topics are frequently covered in morning briefings as well as safety and staff meetings. All potential severe weather forecasts are communicated to the line staff to encourage quick and complete responses to callouts.

d. Training

Line personnel are continually trained on updates to the mobile application—which has exceeded expectations for its use and effectiveness during major events. A briefing and training for office staff on storm response and training will be delivered in June. All line personnel training is up to date in accordance with Company training plans and OSHA requirements.

e. Personnel

As with many electric utilities, Citizens’ must address the pressures of an aging workforce. It is expected that within the next 10 years, 7 of Citizens’ current 17 employees will retire. Five will be in the operations area.

Citizens’ Electric’s management team has been entrusted by the shareholders, customers and the Public Utility Commission to provide safe and reliable service at a fair cost. To address this core responsibility and the potentially negative impact from failure to plan, management has adopted a long-term and methodical transition strategy that will prevent a lapse in experience and job knowledge that is so necessary to effectively operate the Company. In 2021, two linemen were added to the staff, one being a planned hire to accommodate a future retirement and the other filling an unexpected vacancy. The next operations hire is planned for 2023.

It typically takes up to seven years to fully develop a journeyman lineman. While no retirement announcements are currently pending 60% of the line crew is considered as “approaching” retirement age. Incorporating additional apprentices in a timely manner will ensure there is an adequate supply of knowledge and skills available to provide a safe and proficient workforce.

F. Storm Response

a. Outage Restoration Strategy

Citizens’ Electric employs a restoration strategy which aims to restore customers in the most efficient way possible. Ensuring the safety of the public and the Company’s employees is the first priority. Crews are first dispatched to trouble locations that will restore service to the largest number of customers in the shortest amount of time, with priority given to incidents that will restore service to critical public infrastructure. Next, outages affecting individuals or small groups of customers are restored.

b. Communications and Outreach

In addition to providing timely information through traditional methods such as newsletters, newspaper articles, and direct employee contact, the Company utilizes social media including Facebook and Twitter.

The Company continues to encourage its customers to utilize the online and mobile portal called ‘SmartHub.’ Customers frequently report outages and communicate concerns via SmartHub, and much of the feedback received following events is the result of direct replies to SmartHub notifications, an encouraging sign that many customers are looking to it as their primary source of information regarding outage restoration.

Customers can also monitor restorations via the Company’s online outage map, which is updated real time from OMS.

Due to the COVID-19 pandemic, the Company was unable to host any electric safety trailer demonstrations during the past year. Demonstrations for the coming year will be scheduled as opportunities arise and the Company will use these as opportunities to educate on electric safety as well as storm response and preparedness.

The Company maintains effective information exchange with county EMA officials and coordinates response to local emergencies as needed.

c. Outage Restoration and Storm Response Best Practice Implemented and/or Identified for Future Implementation

The Company participates in various statewide and national industry organizations, including the PA Best Practices Team. It will continue monitoring the findings and recommendations of these groups and will implement them where appropriate.

G. ASAI (Average Service Availability Index)

a. Small EDCs provide ASAI for one of the worst circuits.

The worst performing circuit during 2021 was the Rt. 45 circuit, fed from the Saint Mary Street substation. It had an annualized ASAI of 0.999849. This circuit is the Company’s most populous. There are no known issues unique to this circuit, but the Company will continue monitoring to identify opportunities to improve availability.

Conclusion

The Company believes it is ready and well-positioned for the coming summer storm season. Through the application of the above initiatives, safety, reliability and customer satisfaction will be maintained throughout 2022.