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February 26, 2024

Penelope Buys
Florida Public Service Commission
2540 Shumard Oak Blvd.
Tallahassee, FL 32399

Storm Hardening Report for Kissimmee Utility Authority pursuant to Rule 25-6.0343, FAC

Dear Ms. Buys:

Pursuant to Rule 25-6.0343, Florida Administrative Code, attached is the Storm Hardening Report for 2023 for Kissimmee Utility Authority.

Please contact me with any questions you may have.

Sincerely,

Larry Mattern
Vice President – Operations

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Kissimmee, FL 34741
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Kissimmee Utility Authority (KUA)
Report to the Florida Public Service Commission
Pursuant to Rule 25-6.0343, F.A.C.
Calendar Year 2023

1) Introduction

This report is filed in response to the above referenced rule for:

- a) Kissimmee Utility Authority (KUA)
- b) 1701 West Carroll Street
Kissimmee, Florida 34741
- c) Contact information:
Larry Mattern
Vice President –Operations
Phone: (407) 933-7777 Ext. 6801
Email: lmattern@kua.com

2) Number of meters served in calendar year 2023

During calendar year 2023, KUA served an average of 93,000 meters.

3) Standards of Construction

a) National Electric Safety Code Compliance

Construction standards, policies, guidelines, practices, and procedures at the Kissimmee Utility Authority comply with the National Electrical Safety Code (ANSI C-2) [NESC]. For electrical facilities constructed on or after January 1, 2023, the 2023 NESC applies. The edition of the NESC in effect at the time of the facility's initial construction governs electrical facilities constructed prior to January 1, 2023.

b) Extreme Wind Loading Standards

Construction standards, policies, guidelines, practices, and procedures at the Kissimmee Utility Authority are guided by the extreme wind loading standards as specified by <http://windspeed.atcouncil.org/> as recommended by the NESC for:

- a) New construction.

- b) Major planned work, including expansion, rebuild, or relocation of existing facilities, assigned on or after December 10, 2006.
- c) Targeted critical infrastructure facilities and major thoroughfares.

c) Flooding and Storm Surges

Electrical construction standards, policies, guidelines, practices, and procedures at the Kissimmee Utility Authority address the effects of flooding and storm surges on underground distribution facilities and supporting overhead facilities. New construction is designed to follow the surveyed grade of the property so as to not be installed in areas that are prone to flooding. Any facilities that are found through inspection to be in a flooded area or have been flooded through an actual event are scheduled for mitigating action to raise or relocate said facilities.

d) Safe and Efficient Access of New and Replacement Distribution Facilities

Electrical construction standards, policies, guidelines, practices, and procedures at the Kissimmee Utility Authority provide for placement of new and replacement distribution facilities so as to facilitate safe and efficient access for installation and maintenance. Wherever new facilities are placed (i.e. front, back or side of property), all facilities are installed so that Kissimmee Utility Authority's facilities are accessible by its crews and vehicles to ensure proper maintenance/repair is performed as expeditiously and safely as possible. Kissimmee Utility Authority decides on a case-by-case basis whether existing facilities need to be relocated. If it is determined that facilities need to be relocated, they will be placed in the safest, most accessible area available.

e) Attachments by Others

Electrical construction standards, policies, guidelines, practices, and procedures at the Kissimmee Utility Authority include written safety, pole reliability, pole loading capacity, and engineering standards and procedures for attachments by others to the utility's electric transmission and distribution poles. We inspect these attachments on a 8 year cycle.

4. Facility Inspections

- a) Describe the utility's policies, guidelines, practices, and procedures for inspecting transmission and distribution lines, poles, and structures including, but not limited to, pole inspection cycles and pole selection process.

KUA has a comprehensive inspection program for transmission and distribution lines, poles and structures. KUA outsources the pole inspection program to an experienced pole inspection company. Inspections utilize a sound and bore method for all wood poles. The base of the pole is exposed to 18 inches (where feasible) below ground line to inspect for indications of decay. All decay will be removed where possible, from 18 inches below ground line to 3 inches above ground line. If any voids of internal decay pockets are found, a preservative is applied. Internal pole treatment utilizing MITC-Fume fumigant is also applied where necessary. During the pole inspection, visual inspections are also performed to identify problem areas such as cracks, splitting, woodpecker damage, obvious decay, missing ground wire molding, ground wire repair and missing guy guards. Rejected poles are classified as “priority” and “non-priority” rejects. Priority rejects are replaced immediately. Non-priority rejects are scheduled to be replaced as soon as possible. All inspection/treatment and follow up remediation is documented and tracked in a facility inspection database and through the GIS system. Any wood poles that are a part of the main line distribution system that are identified as rejects, are replaced with either concrete or ductile iron steel poles.

KUA’s inspection guidelines, practices and procedures are summarized as follows:

Transmission System:

KUA’s current guidelines, practices and procedures include inspection of all wood transmission poles every 3 years. The pole inspection process includes sound and bore and ground-line excavation and treatment. KUA contracts for visual drone inspections of transmission lines on an eight-year cycle.

During the pole inspection process, facilities are also visually inspected for any signs of broken grounds, broken or damaged guy wire, missing guy wire covers and other problems that can be seen via a visual inspection. Infrared scans are also conducted 3 times a year on all substation transmission facilities that are part of the Bulk Electric System (BES) as defined by NERC. Infrared scans are conducted 2 times a year on substation transmission facilities that are not part of the BES. Vegetation inspections of all transmission lines are conducted on an annual basis. During this process, visual inspections of transmission circuits are conducted for potential problem areas.

Distribution System:

KUA currently targets for the inspection of all wood distribution poles on an eight-year cycle. KUA currently outsources pole inspections to an experienced contractor. Pole inspections include sound and bore and ground-line excavation and treatment. During pole inspections, facilities are also inspected for problems such as missing grounds, broken guy wires, missing guy guards and other problems that can be spotted via visual inspection.

Infrared scanning of all main distribution feeders is conducted on an annual basis. Scans of major feeder equipment (main riser poles, main bridging switches, select pad mount

switching equipment) are conducted 2 times a year. Infrared technology assists in locating potential problem areas such as bad connectors, bad insulators and other potential faulty or failing equipment. The scanning process also provides for visual contact with all distribution feeders on an annual basis. KUA also currently targets a more thorough visual inspection of all distribution facilities on an eight-year cycle. Outage data for all distribution feeders is also evaluated on a regular basis. Detailed component by component inspections are conducted on feeders experiencing higher than normal outage incidents.

b) Describe the number and percentage of transmission and distribution inspections planned and completed for 2023.

Transmission

KUA conducts inspection of all wooden transmission poles every 3 years. Visual inspection of all transmission circuits are conducted semi-annually during transmission vegetation management inspections. All of KUA’s transmission circuits were inspected through this process during 2023. These inspections look for problem areas such as clearance issues, broken or tracking insulators, broke grounds, woodpecker holes, etc. KUA contracts for visual drone inspections of transmission lines on an eight-year cycle. In 2023, drone inspection was performed on 220 structures and 11.2 miles of transmission line.

Distribution

KUA targets inspection of distribution poles on an eight-year cycle. KUA is currently on target to meet its targeted eight-year cycle. A total of 1545 distribution poles were actually inspected during calendar year 2023. During the pole inspection process, the pole is also inspected for obvious maintenance issues such as damaged grounds, missing guy guards, slack guys, vegetation issues, attachment issues, etc.

The distribution system visual inspection is also performed on an eight-year cycle. KUA’s distribution system currently consists of approximately 1118 miles of distribution circuits.

| Activity | Qty. Planned | Percentage Planned | Qty. Completed | Percentage Completed |
|------------------|--------------|--------------------|----------------|----------------------|
| Pole Inspections | 1928 | 12.5% | 1545 | 10.02% |

c) Describe the number and percentage of transmission poles and structures and distribution poles failing inspection in 2023 and the reason for the failure.

Transmission:

KUA conducts inspection of transmission poles every 3 years. Wooden transmission pole inspections were performed in 2023. Visual inspections did not identify any new failures. Drone inspection in 2023 identified the need to remediate infrastructure at 16 poles (7.27% of 220 inspected poles). One concrete pole requires replacement due to spalling at the top of the pole (0.45% of 220 inspected poles); two concrete poles require banding and patching due to spalling at the top of the pole (1.36% of 220 inspected poles).

Distribution:

Of the 1545 distribution poles that were inspected, 11 were classified as rejects. Reason for failures are given below. The rejected poles were not classified as a priority reject requiring immediate action.

| Reason for Failure | Number of Failures | Percentage of Inspected |
|---------------------------|---------------------------|--------------------------------|
| Mechanical Damage | 0 | 0.0% |
| Decayed Top | 0 | 0.0% |
| Exposed Pocket | 0 | 0.0% |
| Shell Rot | 10 | 0.065% |
| Enclosed Pocket | 0 | 0.0% |
| Woodpecker Holes | 1 | 0.065% |
| TOTAL | 11 | 0.015% |

- d) Describe the number and percentage of transmission poles and structures and distribution poles, by pole type and class of structure, replaced or for which remediation was taken after inspection in 2023, including a description of the remediation taken.

General

KUA pole inspections are typically conducted during the first quarter of the calendar year. Any required remediation, except for priority rejects, is typically completed during the calendar year or as dictated by system constraints.

Transmission:

Remediation of transmission infrastructure identified during the 2023 drone inspections has not been completed. Insulator material acquisition and FAA permit submission is in process. A consulting engineer has been contracted to provide permanent banding and repair requirements for two poles and temporary repair and stabilization for one pole; and

to provide design and bid documents for replacement of one pole.

Distribution:

The 2023 inspection resulted in 11 poles failing inspection. 10 of the poles were identified as restorable rejects and are only recommended for repairs and 1 was identified as a non-restorable reject. KUA's approach is to replace the poles rather than temporary repairs. The 11 poles identified are scheduled for replacement.

5. Vegetation Management

- a) **Describe the utility's policies, guidelines, practices, and procedures for vegetation management, including programs addressing appropriate planting, landscaping, and problem tree removal practices for vegetation management outside of road right-of-ways or easements, and an explanation as to why the utility believes its vegetation management practices are sufficient.**

All KUA construction is planned in order to ensure adequate right-of-way widths are obtained. KUA only constructs new distribution circuits on front lots and the majority of new distribution lines are constructed with dedicated utility easements. This helps to minimize the planting of vegetation near electric infrastructure. Thirdly, local ordinances dictate that all new distribution construction be constructed underground. While KUA believes our vegetation management program is sufficient, we also recognize that vegetation management is an ongoing process and improvements can be made with the ability to gather and analyze data. We continue to implement improvements in the electronic and graphical tracking of vegetation management in order to facilitate the oversight of the program.

Transmission

KUA has a written Transmission Vegetation Management Plan (TVMP) that details our policies, procedures and practices for transmission line vegetation management. KUA's TVMP has been found to be in full compliance with the applicable North American Electric Reliability Corporation (NERC) reliability standards.

KUA's TVMPP calls for an annual inspection of all transmission lines for potential vegetation problems. However, in practice an inspection is performed on a semi-annual basis. Any problem areas identified during this inspection are scheduled for remediation based on the severity of the problem. A vegetation work plan is prepared as a result of the inspection. The work plan identifies the location, type and scheduled date for any required remediation. Inspection and remediation is planned each year in order to complete any required work prior to the next hurricane season.

Distribution

KUA guidelines currently target a vegetation inspection/trim cycle on the overhead distribution system on a three-year cycle. This anticipates an average annual growth of 2.5 feet. Vegetation near distribution facilities are trimmed to maintain a minimum of 10 feet clearance for energized conductors. In addition, we utilize our outage analysis system to categorize outages, including those attributable to vegetation. Analysis of this data is also performed to target potential problem areas. We have recently converted the contract with our vegetation management contractor to a line- mile basis. This requires the contractor to inspect trim (if necessary) 33% of our distribution circuits annually.

b) Describe the quantity, level, and scope of vegetation management planned and completed for transmission and distribution facilities in 2023.

Transmission

During calendar year 2023, vegetation inspections were performed on all transmission circuits. All required remediation identified during the inspection was also completed during 2023.

Distribution

During calendar year 2023, our goal of a three-year cycle for inspection/trimming of the distribution system was accomplished. We target 33.3% (105.36 miles) of circuits per year. During 2023 we inspected/trimmed 35.68% (102.79 miles) of distribution circuits.

6. Storm Hardening Research

Kissimmee Utility Authority is a member of the Florida Municipal Electric Association (FMEA), which is participating with all of Florida's electric utilities in storm hardening research through the Public Utility Research Center at the University of Florida. Under separate cover, FMEA will provide the FPSC with a report of research activities. For further information, contact Amy Zubaly, Executive Director, FMEA, 850-224-3314, ext.1, or azubaly@flpublicpower.com.