Sumter Electric Cooperative, Inc. (SECO) Report to the Florida Public Service Commission Pursuant to Rule 25-6.0343, F.A.C. Calendar Year 2013

1. Introduction

Sumter Electric Cooperative, Inc. (SECO)
P.O. Box 301
330 South US Highway 301
Sumterville, FL 33585-0301

John LaSelva, Director of Reliability & Operations
352-569-9530 (Office)
352-793-2348 (Fax)
john.laselva@secoenergy.com

Ben Brickhouse, Director of Engineering
352-569-9550 (Office)
352-793-2563 (Fax)
ben.brickhouse@secoenergy.com

2. Number of meters served in calendar year 2013

183,266 active meters were served by SECO in calendar year 2013, as of December 31, 2013.

3. Standards of Construction

National Electric Safety Code Compliance

SECO's design and construction standards, policies, and procedures comply with Rural Utilities Service ("RUS") guidelines and the National Electrical Safety Code (ANSI C-2) ("NESC"). Electrical facilities constructed prior to February 1, 2012 are governed by the edition of the NESC that was in effect at the time of the facility's initial construction. However, for electrical facilities constructed on or after February 1, 2012, the 2012 NESC applies.

Extreme Wind Loading Standards

SECO's transmission facility design is guided by extreme-loading standards on a system-wide basis, and its distribution facilities are designed to withstand 110 mph winds, in accordance with the 2012 NESC. The system is evaluated continuously for immediate storm hardening and system upgrade needs.

Flooding and Storm Surges

Although SECO serves a coastal county (Citrus), its closest facility to the coastline is 14 miles inland; therefore, storm surge is not a concern. SECO began a voluntary eight-year inspection of its underground facilities in 2007. In 2013, SECO used Transformer Maintenance Services ("TMS") to inspect its underground facilities. They inspected 9.2% of SECO's underground facilities, equating to

4,910 pieces of equipment. As a result of this inspection, 243 underground facilities were replaced or retired, including 76 pad-mount transformers, 15 cabinets, and 152 secondary enclosures. In addition, maintenance was performed at 885 locations, including items such as the replacement of lightning arresters, secondary covers, and leveling around equipment.

Safe and Efficient Access of New and Replacement Distribution Facilities

Electrical construction standards and SECO policies dictate the placement of distribution facilities to allow for the safest and most efficient access during installation and maintenance. SECO installs electrical facilities on the front of lots, except in cases where prohibited by land covenants. Wherever new facilities are placed (i.e. front, back or side of property), they are installed for accessibility by crews and vehicles to ensure proper maintenance/repair is performed as safely and expeditiously as possible. If it is determined that facilities need to be relocated, they will be placed in the safest, most accessible area available.

Attachments by Others

SECO has developed a standardized process to manage requests from companies who express interest in attaching to SECO poles. Following a formal application review and a thorough field investigation, SECO enters into a binding contractual agreement with the requestor. Submission of a permit application from an attachment company is required in order to attach to a SECO pole. This permit application is reviewed by SECO personnel and then verified in the field to ensure that code requirements are met prior to attachment. SECO expedites the transfer of attachments and the removal of old poles so that they are completed in a timely manner; all pole replacements and code violations are logged and tracked in a database throughout the year.

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 the pole selection process.

SECO inspects its transmission facilities, substation facilities, and distribution facilities on regular cycles in order to maintain a safe and reliable electrical system. The transmission facilities are of utmost importance, because they serve the majority of members per line. In 2010, SECO implemented a policy to complete ground-line and visual inspections of all transmission facilities on a five-year cycle. The ground-line inspection includes sounding and boring tests, as well as excavation of all poles for treatment, per RUS Bulletin 1730B-121.

In 2013, SECO used Osmose Utility Services, Inc. to perform ground-line and visual inspections of 292 transmission poles. This represented 22% of the transmission poles on the SECO electrical system. There were 179 wooden transmission poles (approximately 61.3 %) that failed inspection; 172 of these poles were either replaced with spun-concrete poles, retired, or the pole top was cut in order to utilize as a distribution pole. Remediation of the remaining 7 poles is currently pending litigation (see Appendix A: Addendum effective February 8, 2013).

In 2010, SECO began a bi-annual infrared inspection of all transmission lines in lieu of an annual visual inspection by SECO's power provider, Seminole Electric Cooperative ("SECI"). In 2011, SECO

implemented a program to visually and thermographically inspect Duke Energy Florida ("DEF") transmission lines that caused outages to SECO during the previous year.

SECO conducts visual and thermographic inspections at every substation monthly. This method helps to quickly diagnose and resolve issues, thereby preventing potential substation outages to thousands of members.

As illustrated by the infrared photos of a distribution pole (right) and a substation (below), this proactive approach allows SECO to detect hotspots and identify devices before they fail in order to minimize service interruptions to its members.

In 2007, SECO began performing ground-line and visual inspections of all distribution poles on an 8-year cycle. This ground-line inspection includes sound and boring tests, as well as the excavation of all poles for treatment per RUS Bulletin 1730B-121. SECO inspects all Chromated Copper Arsenate ("CCA") poles in excess of 16 years of age, as well as all non-CCA poles on an eight-year cycle. In 2008, SECO modified its inspection process to selectively bore and excavate CCA-preserved poles under the age of 16 years. This is similar to the CCA inspection process followed by DEF, Florida Power & Light, Inc. ("FPL"), and Tampa Electric Company, Inc. ("TECO"), as described in FPSC Docket No. 080219-EI dated August 7, 2008.

In 2013, SECO used Midwest Pole Inspections, LLC ("Midwest") to inspect its distribution facilities. In accordance with the criteria described above, Midwest inspected 18,572 distribution poles in 2013, representing 13.5% of the distribution poles on the SECO electrical system. There were 3,237 distribution poles identified during the inspection process that required remediation or replacement. This represented a failure rate of approximately 17.4%. In addition, maintenance was performed at 1,663 locations, including items such as the replacement of cross-arms, poles bonds, and frayed conductor.

b. Describe the number and percentage of transmission and distribution inspections planned and completed for 2013.

Year	System	# of Structures – Planned Inspections	% of Total Structures	# of Structures – Actual Inspected	% Complete vs. Planned
2013	Transmission	292	22%	292	100%
2013	Distribution Overhead	18,572	13.5%	18,572	100%
2013	Distribution Underground	4,910	9.2%	4,910	100%

c. Describe the number and percentage of transmission poles and structures and distribution poles failing inspection in 2013 and the reason for the failure.

Year	System	# Failed	% Failed	Cause
2013	Transmission	1	0.3%	Ground Rot
2013	Transmission	178	61%	Top Deterioration
2013	Distribution	56	0.3%	Ground Rot
2013	Distribution	3,181	17.1%	Top Deterioration

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 2013, including a description of the remediation taken.

SECO completed 96% of its transmission pole remediation (172 poles including replacements) as of February 20, 2014. Remediation on the remaining 7 poles (4%) is currently pending litigation.

Transmission Poles					
Pole Type and Class	# Failed	# Replaced	# Retired	# Pole Top Cut	% Remediation Complete (as of 02/20/14)
20-6	1		1		100%
30-4	2		2		100%
30-5	1		1		100%
30-6	2		2		100%
35-5	1		1		100%
45-1	1		1		100%
60-1	1	1			100%
70-1	124	92	7	18	94.4%
75-1	38	19	5	14	100%
80-1	7	6		1	100%
85-1	1	1			100%
Total	**179**	**119**	**20**	**33**	**96%**

SECO replaces all wooden transmission poles that failed inspection with spun-concrete poles. This allows for longer span length and requires fewer poles. While remediation occurred on all (172) transmission poles, they were not necessarily replaced on a one-for-one basis.

SECO completed all distribution pole remediation (including replacements) as of January 17, 2014.

Distribution Poles				
Pole Type and Class	# Failed	# Replaced	# Retired	% Remediation Complete (as of 01/17/14)
20-6	1	1		100%
25-6	1	1		100%
25-7	2	2		100%
25-8	1	1		100%
30-4	1	1		100%
30-5	3	3		100%
30-6	842	763	79	100%
30-7	3	3		100%
35-4	2	2		100%
35-5	87	80	7	100%
35-6	1294	1238	56	100%
40-1	1	1		100%
40-3	6	6		100%
40-4	35	35		100%
40-5	821	800	21	100%
40-6	1	1		100%
45-3	15	15		100%
45-4	47	45	2	100%
45-5	43	43		100%
50-3	4	4		100%
50-4	16	16		100%
55-1	1	1		100%
55-3	6	6		100%
60-2	1	1		100%
60-3	2	2		100%
65-3	1	1		100%
Total	**3,237**	**3,072**	**165**	**100%**

5. Vegetation Management

SECO achieved its Vegetation Management program objectives by completing a three-year trimming cycle on all transmission, feeder, and lateral circuits. To meet these goals, SECO followed industry-wide best practices that included various combinations of unit-based tree pruning, tree removals, and herbicide application.

In 2013, SECO trimmed 1,707 total circuit miles and removed 29,667 trees in support of its storm-hardening process. The following table is a summary:

Description	Measurement
Distribution line miles "Maintenance Trimmed"	1,707 miles
Distribution line miles cut "Ground-to-Sky" with 15-foot clearance on circuits for system improvement projects	43 miles
Transmission line miles cleared "Ground-to-Sky" with 30-foot clearance	45 miles
Total miles trimmed in 2013 (Distribution & Transmission)	1,795 miles
Total miles of herbicide application	2,595 miles
Total trees removed in maintenance trimming process	29,667 trees

Specifications and Procedures

SECO practices the following Vegetation Management program guidelines:

Trimming Clearances: SECO utilizes a 15-foot minimum clearance trimming standard in order to maintain a three-year trim cycle. Slow-growth species and ornamentals encountered in residential landscaped areas are trimmed to no less than 10 feet.

Pruning Practices: SECO requires all Vegetation Management contractors to follow the ANSI-A 300 industry standards, utilizing directional pruning methods as often as practical. Adherence to these standards allows trees to remain healthy after pruning, while reducing re-growth and crown failures that can cause storm-related reliability issues.

New Construction / System Upgrade Trimming: SECO maintains a "Ground-to-Sky" trimming policy for all circuits that are newly constructed or significantly upgraded. These circuits are trimmed to a 15-foot clearance with all underbrush being removed.

Work Planning: SECO uses Utility Arborist Resource Group, Inc. ("ACRT") to perform all work planning, customer notification, and post-work inspection. Once ACRT provides the completed work plans, SECO then issues them to a single-source contractor, Nelson Tree Service ("NTS"), to complete the trimming.

Unit Price Contracting: NTS is compensated on a per-unit basis to perform all overhead line clearance work on the SECO system. This allows SECO to accurately track the type of work being performed.

Vegetation Removal: SECO targets the removal of trees that fall within the 4"-10" diameter at breast height (DBH) range. In 2013, NTS trimming crews removed 29,667 trees from distribution circuit easements, representing 32% of the total 93,741 trees that were addressed for line-clearance issues. SECO also removes all brush underneath its conductors, preventing future tree growth and providing better access for restoration crews during major storm events.

Circuit Prioritization: SECO's Vegetation Management staff determined the order of cut for 2013 by utilizing three weighted factors:

- Last date trimmed
- Number of members served by each circuit
- Total tree-related outages on each circuit

Herbicide Program: SECO utilized EDKO, LLC as its herbicide applicator to treat brush units that were trimmed by NTS in 2012 and part of 2013 (in accordance with all local, state, and federal regulations).

Tree Replacement Program: SECO's tree replacement program provides "utility-friendly" trees to customers who allow the removal of vegetation growing in close proximity to its conductors. During 2013, SECO purchased 1,242 trees for members in exchange for these strategic removals.

Program Enhancements

In addition to meeting its trimming cycle mileage goals, SECO focused on addressing the following issues for continued success in 2013:

Tree Planting Guidelines: SECO has consistently exceeded strict requirements to maintain quality tree care practices and develop programs that educate both employees and members of the public. Proper tree selection and planting guidelines were communicated to its customers through SECO's website, direct mailings, and public events. In 2013, SECO was awarded the National Arbor Day Foundation's prestigious "Tree Line USA" designation for the seventh consecutive year.

Danger Tree Removal / Hazard Mitigation: In 2013, SECO removed 707 danger trees located outside of road right-of-ways and easements that posed an imminent threat to system reliability. ACRT arborists and SECO line inspection personnel identified dead, leaning, or diseased trees with the potential to fall on distribution facilities throughout SECO's service territories. Once located, these defective trees were removed by NTS trimming crews within 30 days.

Obstacles/Opportunities Ahead

In 2014, SECO will face challenges outlined below:

Green Initiatives: Local ordinances and legislation can limit access and in some cases, virtually prohibit trimming from occurring. This increases costs for tree-caused outages and lengthens restoration times.

Natural Disasters / Hurricanes: With an active storm season predicted for 2014, any hurricane and tropical storm activity within the continental United States could negatively impact production levels for crews performing cycle trimming on SECO distribution circuits.

2014 Vegetation Plan

SECO will continue to utilize its unit-based trimming practices to meet its cycle trimming goals for 2014. Circuits are prioritized based on date of trimming, customers impacted, and the number of tree-related outages. This method will enable SECO to maintain a three-year clearance trimming cycle.

The successful identification and removal of dead, diseased, and unstable trees located within falling distance of energized circuits will remain a priority for SECO's 2014 Vegetation Management program. While it is uncertain how many of these trees exist, it is clear that the removal of these hazards will mitigate damages during moderate to extreme weather events.

Herbicide application will also continue on all circuit miles trimmed in 2013. An estimated 1,560 miles of underbrush is scheduled for herbicide application by EDKO, LLC through October 2014, prior to this year's dormant season.

SECO has clearly demonstrated the highest level of commitment to storm-harden its system through a comprehensive easement-reclamation effort. As new obstacles to this innovative approach emerge, SECO will continue to analyze its policies and procedures and identify future improvement opportunities.

6. Vegetation Program Segments

Planning and Auditing Activities

SECO utilizes the services of ACRT to plan and audit 100% of all tree-trimming activities. They are responsible for initiating all member contact as well as inspecting the quality of tree-trimming work completed. SECO provides the latest technology so that ACRT is able to plan and audit work efficiently and accurately.

Trimming Activities

All SECO tree-trimming work is performed by NTS, based on computerized work plans developed by ACRT. NTS utilizes state-of-the-art equipment to achieve optimal efficiencies while ensuring that trimming activities pose minimal impact to SECO members.

Tree Replacement Program

Customers who choose to remove landscape trees located within SECO easements may qualify for “utility-friendly” replacement trees.

Herbicide Activities

SECO’s herbicide application contractor, EDKO, LLC utilizes low-volume backpack sprayers and larger scale vehicle-mounted equipment to apply select herbicide within easements and right-of-way.

IN THE CIRCUIT COURT OF THE FIFTH JUDICIAL CIRCUIT IN AND FOR LAKE COUNTY, FLORIDA

STEVEN M. PRANGER and AMY S. PRANGER,

Plaintiffs,

vs.

SUMTER ELECTRIC COOPERATIVE, INC., a Florida corporation,

Defendant.

CASE NO.: 2013-CA-450

ORDER GRANTING PLAINTIFF'S EMERGENCY VERIFIED MOTION FOR TEMPORARY INJUNCTIVE RELIEF

THIS ACTION came on before the Court on Plaintiff's Emergency Verified Motion for Temporary Injunctive Relief (the "Motion"). The Court, after having reviewed the file and being otherwise fully advised in the premises, finds as follows:

1. The Motion is hereby GRANTED.

2. Defendant, SUMTER ELECTRIC COOPERATIVE, INC. is hereby enjoined until further order of this Court from (i) entering the Property, as defined in the Motion, and (ii) removing or cutting down the Christmas Trees, as defined in the Motion.

3. BOND IN THE AMOUNT OF $2000.00 IS ORDERED.

DONE AND ORDERED in Chambers, at Tavares, Lake County, Florida, this 8 day of February, 2013.

The Honorable Don F. Briggs
Circuit Judge

Copies to:
Mya M. Hatchette and Tracy M. de Lemos, Winderweedle, Haines, Ward & Woodman, P.A., 329 Park Avenue North, Second Floor, Winter Park, Florida 32789.

Report on Collaborative Research for Hurricane Hardening

Provided by

The Public Utility Research Center
University of Florida

To the

Utility Sponsor Steering Committee

February 2014

I. Introduction

The Florida Public Service Commission (FPSC) issued Order No. PSC-06-00351-PAA-EI on April 25, 2006 (Order 06-0351) directing each investor-owned electric utility (IOU) to establish a plan that increases collaborative research to further the development of storm resilient electric utility infrastructure and technologies that reduce storm restoration costs and outages to customers. This order directed IOUs to solicit participation from municipal electric utilities and rural electric cooperatives in addition to available educational and research organizations. As a means of accomplishing this task, the IOUs joined with the municipal electric utilities and rural electric cooperatives in the state (collectively referred to as the Project Sponsors) to form a Steering Committee of representatives from each utility and entered into a Memorandum of Understanding (MOU) with the University of Florida's Public Utility Research Center (PURC). This MOU was recently extended by the Research Collaboration Partners through December 31, 2015.

PURC manages the work flow and communications, develops work plans, serves as a subject matter expert, conducts research, facilitates the hiring of experts, coordinates with research vendors, advises the Project Sponsors, and provides reports for Project activities. The collaborative research has focused on undergrounding, vegetation management, hurricane-wind speeds at granular levels, and improved materials for distribution facilities.

This report provides an update on the activities of the Steering Committee since the previous report dated February 2013.

II. Undergrounding

The collaborative research on undergrounding has been focused on understanding the existing research on the economics and effects of hardening strategies, including undergrounding, so that informed decisions can be made about undergrounding policies and specific undergrounding projects.

The collaborative has refined the computer model developed by Quanta Technologies and there has been a collective effort to learn more about the function and functionality of the computer code. PURC and the Project Sponsors have worked to fill information gaps for model inputs and significant efforts have been invested in the area of forensics data collection. Since the state has not been affected by any hurricanes since the database software was completed, there is currently no data. Therefore, future efforts to refine the undergrounding model will occur when such data becomes available.

In addition, PURC has worked with doctoral and master's candidates in the University of Florida Department of Civil and Coastal Engineering to assess some of the inter-relationships between wind speed and other environmental factors on utility equipment damage. PURC has also been contacted by engineering researchers at other universities with an interest in the model, though no additional relationships have been established. In addition to universities, PURC was contacted by researchers at the Argonne National Laboratory who expressed interest in modeling the effects of storm damage. The researchers ultimately chose to develop a deterministic model, but did use many of the factors that the Collaborative have attempted to quantify. Every researcher that contacts PURC cites the model as the only non-proprietary model of its kind.

The research discussed in last year's report on the relationship between wind speed and rainfall is still under review by the engineering press. Further results of this and related research can likely be used to further refine the model.

III. Wind Data Collection

The Project Sponsors entered into a wind monitoring agreement with WeatherFlow, Inc., in 2007. Under the agreement, Florida Sponsors agreed to provide WeatherFlow with access to their properties and to allow WeatherFlow to install, maintain and operate portions of their wind monitoring network facilities on utility-owned properties under certain conditions in exchange for access to wind monitoring data generated by WeatherFlow's wind monitoring network in Florida. WeatherFlow's Florida wind monitoring network includes 50 permanent wind monitoring stations around the coast of Florida, including one or more stations located on utility-owned property. The wind monitoring agreement expired in early 2012; however, the wind, temperature, and barometric pressure data being collected at these stations is being made available to the Project Sponsors on a complimentary basis.

IV. Public Outreach

In last year's report we discussed the impact of Hurricane Sandy on greater interest in storm

preparedness. PURC researchers discussed the collaborative effort in Florida with the engineering departments of the state regulators in Pennsylvania, Maryland, New York, and New Jersey. While all of the regulators and policymakers showed great interest in the genesis of the collaborative effort, and the results of that effort, they have not, at this point, shown further interest in participating in the research effort.

On April 15, 2013, the *Wall Street Journal* published a special section entitled 'Big Issues: Energy' which featured authors promulgating the "Yes" or "No" position to various questions surrounding the energy industry. One of those questions was "Should Utilities Be Required to Bury Power Lines to Protect Them?", and the editors of the *Journal* asked PURC Director of Energy Studies Ted Kury to contribute the "No" position. In October, Kury and Dr. Roger Anderson of Columbia University (who had provided the "Yes" position), revisited their print debate as the keynote session of the 2013 EEI/NRECA Utility Siting Workshop in Richmond, Virginia.

V. Conclusion

In response to the FPSC's Order 06-0351, IOUs, municipal electric utilities, and rural electric cooperatives joined together and retained PURC to coordinate research on electric infrastructure hardening. The steering committee has taken steps to extend the research collaboration MOU so that the industry will be in a position to focus its research efforts on undergrounding research, granular wind research and vegetation management when significant storm activity affects the state.