PO Box 301 | Sumterville, Florida 33585-0301 | 352.793.3801

February 29, 2016

Ms. Carlotta S. Stauffer
Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

VIA: Electronic Filing

RE: SECO Energy Report to the Florida Public Service Commission Pursuant to Rule 25-6.0343, F.A.C. Calendar Year 2015

Dear Ms. Stauffer:

The attached report is being submitted by SECO Energy, pursuant to the Florida Public Service Commission Rule 25-6.0343, FAC for calendar year 2015.

This report details our storm hardening initiatives as they relate to construction standards, inspection cycles, and vegetation management for calendar year 2015.

As you will see, SECO Energy was able to inspect all its electrical facilities according to the prescribed cycle and met its vegetation management target for cycle trimming.

SECO Energy places a high degree of emphasis on these programs and realizes the positive impact that they make on the reliability of our electric system.

Sincerely,

Kenneth M. Lacasse
Manager of System Reliability
SECO Energy
Office Direct: (352)-569-9869

SECO Energy Report to the Florida Public Service Commission Pursuant to Rule 25-6.0343, F.A.C. Calendar Year 2015

1. Introduction

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2. Number of meters served in calendar year 2015

192,480 active meters were served by SECO Energy in calendar year 2015, as of December 31, 2015.

3. Standards of Construction

National Electric Safety Code Compliance

SECO Energy's (SECO) 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 2015, SECO used Transformer Maintenance Services ("TMS") to inspect its underground facilities. They inspected 19.3% of SECO's underground facilities, equating

to 10,956 pieces of equipment. As a result of this inspection, 263 underground facilities were replaced or retired, including 38 pad-mounted transformers, 26 switching cabinets, and 199 secondary enclosures. In addition, maintenance was performed at 496 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 which is monitored each month.

4. Facility Inspections

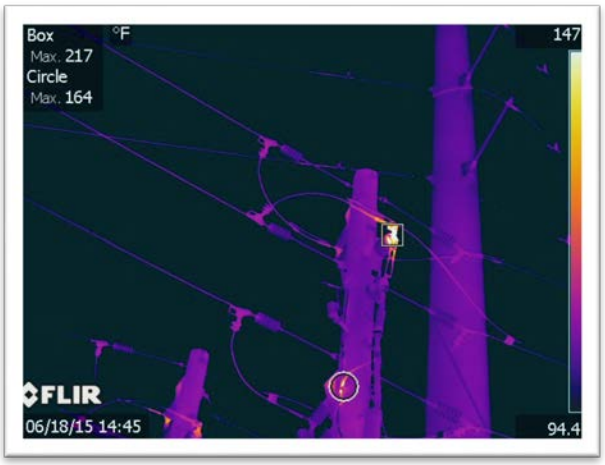
a. Describe the utility's policies, guidelines, practices, and procedures for inspecting transmission and distribution lines, poles, and structures including, but not limited to, pole inspection cycles and the pole selection process.

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. 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 2015, SECO used Midwest Pole Inspections, LLC to perform ground-line and visual inspections of 197 transmission poles. This represented 16.5% of the transmission poles on the SECO electrical system. There were 25 wooden transmission poles (approximately 12.7%) that failed inspection. Eighteen (18) of the 25-poles were either replaced with spun-concrete poles, retired, or the pole top was cut in order to utilize as a distribution pole. Due to construction delays, 6 of the 25 poles were not replaced by the date of this report. However, they will be replaced by May 30, 2016. Additionally, one (1) pole of the 25-poles is scheduled for retirement in 2016. A new transmission line is being built that will replace the line section of this pole. Construction of the new line section will be complete by June 30, 2016. The details are in section "d" below.

SECO performs annual visual and infrared inspections for SECO owned transmission lines and bi-annual inspections for Seminole Electric Cooperative ("SECI") owned transmission lines. 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 15 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 Duke Energy Florida Inc. (DEF), Florida Power & Light, Inc. ("FPL"), and Tampa Electric Company, Inc. ("TECO"), as described in FPSC Docket No. 080219-EI dated August 7, 2008.

For the 2015 inspection cycle, SECO used Midwest Pole Inspections, LLC ("Midwest") and Osmose Utilities Services, Inc. ("Osmose") to perform a ground-line inspection of its distribution facilities. In accordance with the ground-line inspection criteria described above, Midwest and Osmose inspected 10,005 distribution poles in 2015, representing 7.3% of the distribution poles on the SECO electrical system. SECO personnel performed visual inspections on 18,661 poles. There were 3,803 distribution poles identified during the inspection process that required remediation or replacement. This represented a failure rate of approximately 20.4%. In addition, maintenance was performed at 2,757 locations, including items such as the replacement of cross-arms and pole

bonds. Of the 3,803 poles identified for remediation / replacement all but 2-poles were replaced. Those two poles are in a remote location

b. *Describe the number and percentage of transmission and distribution inspections planned and completed for 2015.*

Year	System	# of Structures – Planned Inspections	% of Total Structures	# of Structures – Actual Inspected	% Complete vs. Planned
2015	Transmission	197	16.5%	197	100%
2015	Distribution Overhead	18,661	13.6%	18,661	100%
2015	Distribution Underground	10,956	19.3%	10,956	100%

c. *Describe the number and percentage of transmission poles and structures and distribution poles failing inspection in 2015 and the reason for the failure.*

Year	System	# Failed	% Failed	Cause
2015	Transmission	0	0%	Ground Rot
2015	Transmission	25	12.7%	Top Deterioration
2015	Distribution	27	0.1%	Ground Rot
2015	Distribution	3,803	20.4%	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 2015, including a description of the remediation taken.*

SECO completed 72% of its transmission pole remediation as of February 22, 2016. The transmission line section from SECO's Dilly Lake substation to the Howey substation contains 6 of the remaining 7 poles identified for replacement. These replacements have been delayed because of some very difficult soil conditions that caused significant construction delays. This has extended the project completion date to April 30, 2016. The remaining pole will be retired when a new transmission line is constructed. That construction is scheduled for completion by June 1, 2016. The pole will be retired shortly after completion and well before the peak of the 2016 hurricane storm season.

Transmission Poles			
Pole Type and Class	**# Failed**	**# Replaced**	**% Remediation Complete (as of 2/22/16)**
55-1	1	0	0%
60-1	2	1	50%
65-1	3	2	67%
70-1	13	12	92%
75-1	4	1	25%
85-1	2	2	100%
Total	**25**	**18**	**72%**

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 18 transmission poles, they were not necessarily replaced on a one-for-one basis.

SECO completed 99.95% of distribution pole replacements as of February 22, 2016. The 2 remaining poles are part of a line that serves an island. SECO is evaluating the long-term options of providing service to the island. Remediation of these poles will occur in 2016.

Distribution Poles			
Pole Type and Class	**# Failed**	**# Replaced**	**% Remediation Complete (as of 02/22/16)**
20-6	4	4	100%
30-4	1	1	100%
30-5	6	6	100%
30-6	1,232	1,232	100%
35-4	2	2	100%
35-5	121	121	100%
35-6	1,562	1,562	100%
40-3	3	3	100%
40-4	12	12	100%
40-5	728	728	100%
40-6	1	1	100%
45-1	3	3	100%
45-3	17	17	100%
45-4	40	40	100%
45-5	47	47	100%
50-1	1	1	100%
50-3	9	7	78%
50-4	8	8	100%
50-5	1	1	100%
50-6	1	1	100%
55-2	1	1	100%
55-4	1	1	100%
60-3	1	1	100%
65-3	1	1	100%
Total	3,803	3,801	99.95%

5. Vegetation Management

In 2015, SECO continued to utilize its Integrated Vegetation Management program to successfully meet and maintain a three-year trimming cycle. To meet these goals, SECO followed industry-wide best management practices that included various combinations of unit-based tree pruning, tree removals, and herbicide application**.**

In 2015, SECO trimmed 1,651 total circuit miles and removed 19,024 trees in support of its storm-hardening process. The following table is a summary:

Description	Measurement
Distribution line miles "Maintenance Trimmed"	1,651 miles
Distribution line miles cut "Ground-to-Sky" with 15-foot clearance on circuits for system improvement projects	2.5 miles
Transmission line miles cleared "Ground-to-Sky" with 30-foot clearance	21 miles
Total miles trimmed in 2015 (Distribution & Transmission)	1,675 miles
Total miles of herbicide application	1,521miles
Total trees removed in maintenance trimming process	19,024 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 and customer notification. 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: In 2015, NTS trimming crews removed 19,024 trees from distribution circuit easements, representing 22% of the total 85,674 trees that were addressed for line-clearance issues. SECO also removes all tall growing 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 2015 by utilizing four weighted factors:

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

SECO has begun to coordinate its vegetation management program with the pole inspection program. Using this methodology, the overall reliability of the circuits are improved and the impact to the customer is minimized since both the pole inspections and replacements are performed within the same 12-month period as the tree trimming.

Herbicide Program: SECO utilized EDKO, LLC as its herbicide applicator to treat brush units in areas that were trimmed by NTS in 2014 and part of 2015 (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 for the removal of vegetation growing in close proximity to its conductors. During 2015, SECO purchased 643 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 2015:

Tree Planting Guidelines: Proper tree selection and planting guidelines are provided to members of the public through SECO's website, newsletters, and public events. In 2015, SECO was awarded the National Arbor Day Foundation's prestigious "Tree Line USA" designation for the ninth consecutive year.

Danger Tree Removal / Hazard Mitigation: In 2015, SECO trimmed or removed 1,950 trees located adjacent to 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 2016, 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 2016, 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.

2016 Vegetation Plan

SECO will continue to utilize its unit-based trimming practices to meet its cycle trimming goals for 2016. Circuits are prioritized based on date last trimmed, 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 2016 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 remaining untreated circuit miles trimmed in 2015 and a portion of the miles to be trimmed in 2016. An estimated 1,500 miles of underbrush is scheduled for herbicide application by EDKO, LLC 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 100% of routine scheduled maintenance. They are responsible for making contact with the customer and explaining the need to trim and/or remove trees within close proximity to the power lines. SECO provides the latest technology so that ACRT is able to plan work efficiently and accurately. SECO also utilizes its own internal workforce of ISA certified arborists to audit 100% of completed maintenance work to ensure quality tree trimming and work plans.

Trimming Activities

All SECO tree-trimming work is performed by NTS, based on computerized work plans created 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.

Report on Collaborative Research for Hurricane Hardening

Provided by

The Public Utility Research Center
University of Florida

To the

Utility Sponsor Steering Committee

February 2016

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). The third extension of this MOU was recently approved by the Research Collaboration Partners and now extends through December 31, 2018.

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 2015.

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 the University of Wisconsin and North Carolina State University 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 developed a deterministic model, rather than a probabilistic one, 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 increasingly severe storms on greater interest in storm preparedness. PURC researchers discussed the collaborative effort in Florida with the engineering departments of the state regulators in Connecticut, New York, and New Jersey, and regulators in Jamaica, Grenada, Curacao, Samoa, and the Philippines. 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.

PURC researchers continue to utilize the insight gained through the hurricane hardening research to contribute to the debate on undergrounding in the popular press, and reinforce the state of Florida as a thought leader in this area. PURC Director of Energy Studies Ted Kury was asked to contribute an article to the second quarter issue of *Utility Horizons* describing the modeling methodology for assessing the undergrounding of power lines. The essay also provided a link to an *Electricity Journal* article by Kury and Lynne Holt, another PURC researcher, which discusses Florida's cooperative approach and holds it up as a "best practice" in regulation. In addition, Kury has conducted interviews for the general press on the costs and benefits of underground power lines.

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.