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1640 West Jefferson Street
Quincy, Florida
32351-5679

February 4, 2019

Ms. Penelope Buys
Florida Public Service Commission

Re: PSC Storm Hardening Report for Talquin Electric Cooperative

Dear Ms. Buys:

Attached is the PSC Storm Hardening Report for Talquin Electric Cooperative pursuant to Rule 25-6.0343, F.A.C. for calendar year 2018.

If you have any questions regarding our submission, please feel free to contact me at (850)627-1679 or email me at tony.guillen@talquinelectric.com

Sincerely,

A handwritten signature in black ink that reads "Tony Guillen, Jr." with a stylized flourish at the end.

Tony Guillen, Jr
Director of Engineering & Operations
Talquin Electric Cooperative
Talquin Water & Wastewater
1640 West Jefferson Street
Quincy, FL 32351-2134

**Talquin Electric Cooperative
Report to the Florida Public Service Commission
Pursuant to Rule 25-6.0343, F.A.C.
Calendar Year 2018**

1) Introduction

- 1) Name of cooperative – Talquin Electric Cooperative, Inc.
- 2) Address, street, city, zip – 1640 W. Jefferson Street, Quincy, Florida 32351-5679
- 3) Contact information: Mike Grice
Engineering Supervisor
Phone # 850-627-7651
Fax # 850-627-2553
Email: mike.grice@talquinelectric.com

2) Number of active meters served in calendar year 2018: 54,296

3) Standards of Construction

a) National Electric Safety Code Compliance & Rural Utilities Services Standards

Construction standards, policies, guidelines, practices, and procedures at the Talquin Electric Cooperative comply with the National Electrical Safety Code (ANSI C-2) [NESC]. For electrical facilities constructed on or after August 1, 2016, the 2017 NESC applies. Electrical facilities constructed prior to August 1, 2016, are governed by the edition of the NESC in effect at the time of the facility's initial construction.

b) Extreme Wind Loading Standards

Construction standards, policies, guidelines, practices, and procedures at the Talquin Electric Cooperative are guided by the extreme wind loading standards specified by Figure 250-2(d) of the 2017 edition of the NESC for:

- 1) New construction.
- 2) 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.

d) Flooding and Storm Surges

Only a very, very small percentage of Talquin Electric Cooperative's service area includes areas subject to storm surge. Talquin evaluated our standards, policies, guidelines, practices and procedures that address the effects of flooding and storm surges on underground facilities and supporting overhead facilities. Some measures have already been made including the installation of grounding sleeves to further secure underground switching cabinets. Talquin has used anchoring systems to further strengthen our pad-mount transformers. The anchoring system did not perform as well expected during Hurricane Michael. A revised method for anchoring surface structures on underground systems will be implemented on future installations.

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

Electrical construction standards, policies, guidelines, practices, and procedures at the Talquin Electric Cooperative 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 Talquin Electric Cooperative's facilities are accessible by its crews and vehicles to ensure proper maintenance/repair is performed as expeditiously and safely as possible. Talquin obtains easements for all newly constructed lines that give Talquin the right for ingress and egress in order to maintain our power lines. Talquin Electric Cooperative 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, based on Talquin's ability to secure easements from the property owners.

f) Services

New electric secondary services are installed underground after December 1, 2017 in effort to reduce vegetation management requirements along with post-storm restoration requirements. Existing secondary services are eligible, at the discretion of the consumer, to be converted from overhead to underground at no-charge from Talquin Electric.

g) Attachments by Others

Talquin Electric is in the process of updating our pole attachment agreements between Talquin Electric and third-party attachee to include language which specifies that the attachee, not the cooperative, has the burden to pay the cost for assessing pole strength and NESC compliance and be certified by an engineer before they attach to the pole. After the attachment has been made, the third-party's engineer will certify that the work has been inspected and built according to the NESC standards. Talquin Electric and the third-party attachee will jointly inspect these attachments on a regular basis within a five (5) year cycle.

4) Facility Inspections

- a) Talquin Electric Cooperative inspects the transmission lines annually checking the pole, hardware and conductors. An outside pole-treating contractor inspects distribution & transmission poles each year. Since 2007 and beyond, poles have been and will continue to be inspected on an eight-year rotation.
- b) Talquin Electric Cooperative inspected 8304 distribution poles in 2018.
- c) There were 276 distribution poles rejected for a total of 3.32% of the distribution poles inspected. The priority poles were replaced with new poles and the rejected poles are being inspected and repaired if possible or replaced if not.
- d) When replacing 30 class 7 poles, Talquin is installing stronger 35 class 6 poles for service and guy poles as the minimum standard. Since approximately 1990 Talquin has been replacing 35 class 6 poles with 40 class 4 poles as the minimum for distribution poles.
- e) In approximately 1990, Talquin increased its minimum wire size from #4 ACSR to a stronger #2 ACSR conductor to help withstand falling debris during storms.
- f) Talquin has an independent engineering consulting firm to perform inspections to insure Codes are met on its new and existing line construction on a quarterly basis.
- g) Talquin performs monthly inspections on its substation facilities to insure that any needed maintenance is performed. Talquin performs infrared inspections annually at its substations and selective lines to insure that any weak connections are detected and repaired before outages occur. Oil samples of all substation equipment are analyzed annually. Doble testing is performed on substation transformers on a three year rotation to detect and replace any failing components.
- h) In the past, Talquin has hired a helicopter contractor to ride its transmission lines to detect any problems that could not be detected from the ground. This contractor is available on an as need basis for future inspections and storm restoration.

5) Vegetation Management

- a) Talquin Electric Cooperative maintains its right of ways by mechanical cutting, herbicide applications and mowing. Talquin utilizes a variety of contractors and some in-house crews to maintain its rights of way. The Cooperative uses the RUS bulletin for right of way maintenance and local governmental rules to perform this clearance. Talquin Electric Cooperative has a right of way budget of \$4,750,000 for 2019 with the goal of accomplishing its trimming cycle's goals to minimize outages to our members and harden our system from storm damage.
- b) Talquin Electric Cooperative performed right of way maintenance on 559 miles of distribution lines and 9.15 miles of transmission lines in 2018, which represents a total of 19.0% of Talquin's overhead distribution lines and 16% of the transmission system. The routine

maintenance was in addition to responding to 1468 non-routine requests for tree maintenance. In addition to standard vegetation management, a contractor was utilized for post-storm trimming of high risk trees and limbs following Hurricane Michael.

- c) A major goal of Talquin Electric goal is to improve vegetation management practices so that vegetation related outages are reduced, vegetation clearing for post-storm restoration is reduced, and vegetation management is more cost-effective. This is also the goal of the University of Florida's Public Utility Research Center (PURC). 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. The PURC research group held a vegetation management conference in the past which Talquin employees attended. Talquin Electric Cooperative employees gained useful information from this conference as experiences and lessons learned were shared by all participants. The Talquin employees learned new vegetation management techniques for implementation. Recently Talquin has studied the PURC Report on Collaborative Research for Hurricane Hardening which summarizes the research efforts of the utilities for wind and hurricane data evaluations. Talquin is constantly taking the necessary measures to strengthen our system in preparation for the high winds that are associated with hurricanes and tropical storms.
- d) Talquin Electric Cooperative continues to strive to improve vegetation management. The technique of selective vegetation management allows Talquin Electric Cooperative to target areas of vegetation problems. ACRT (Assessment Consulting Representation Training) Planners are going to be working to assess the entire Talquin system to plan Right of Way clearing for 2019. They are all ISA Certified Foresters.

Talquin made a significant investment in mapping and automated metering infrastructure (AMI) to improve power reliability. Talquin completely GPS/mapped the electrical system and installed an AMI remote metering system to improve storm response, reliability, monitor power quality, and power restoration efforts. Talquin's mapping and AMI systems are tied to an outage management system to enable quicker outage restoration times. Newly constructed tie lines are designed to handle switching to help eliminate outages for planned work, as well as reduce the outage times during storm restoration efforts.

Talquin maintains a comprehensive Emergency Response Plan and conducts annual storm restoration exercises prior to hurricane season to insure proper response and refresher training for its employees. Employees have pre-assigned duties for storm assessment and restoration activities. Talquin Electric maintains a storm stock of materials and supplies to insure availability during storms.