City of Ocala Electric Utility
Report to the Florida Public Service Commission Pursuant to Rule 25-6.0343, F.A.C.
Calendar Year 2015

1) Introduction

a) Ocala FL/ City of Ocala Electric Utility

b) 1805 NE 30th Ave, Bldg. 400, Ocala, FL 34470

c) David Anderson, Regulatory Manager, Office: (352) 351-6693, Fax: (352) 351-6630

2) Number of meters served in calendar year 2015

City of Ocala Electric Utility has a total electric service territory of 162 sq. miles and serves a total of 53,921 active billing electric customer meters.

Customer Break down:

Residential Customers	41,529
General Service Customers	10,324
General Service Demand Customers	2,068

3) Standards of Construction

a) National Electric Safety Code Compliance

City of Ocala Electric Utility standards, policies, guidelines, practices and procedures comply with the NESC. For electric facilities constructed on or after February 1, 2012, the 2012 NESC applies. Electric facilities constructed prior to February 1, 2012 are governed by the NESC edition in effect at the time of their construction. On December 18, 2007, the City of Ocala passed an ordinance requiring all electrical facilities for new developments to be designed and installed using underground construction methods. This ordinance will help lessen exposure to wind damage, and speed restoration efforts after future storm events.

b) Extreme Wind Loading Standards

City of Ocala Electric Utility standards, policies, guidelines, practices and procedures comply with the extreme wind loading standards of the NESC for:

a. New Construction.

b. Expansion, rebuild, or relocation of existing facilities.

The City of Ocala passed an ordinance on December 18, 2007 requiring electric distribution facilities for new developments to be underground. This ordinance will help lessen exposure to wind damage, and speed restoration efforts after future storm events.

c) Flooding and Storm Surges

Ocala is located 80 miles from the west coast of Florida and is not subject to storm surge and has limited exposure to flooding. Both the City of Ocala and Marion County require new developments to provide water retainage for 100 year, 24 hour events. The previous standard was a 10 year, 24 hour event. City of Ocala Electric Utility practices do not allow poles and underground equipment within retention areas, swales or other flood prone areas. Where flooding occurs, Ocala evaluates the facilities for relocation to less flood prone areas.

City of Ocala Electric Utility is also participating in the Public Utility Research Center's (PURC) study on the conversion of overhead electric facilities to underground and the effectiveness of undergrounding facilities in preventing storm damage and outages through the Florida Municipal Electric Association.

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

Electric construction standards, policies, guidelines, practices, and procedures at the City of Ocala Electric Utility provides for placement of new and replacement distribution facilities so as to facilitate safe and efficient access for installation and maintenance. Our policy is to install all new overhead and underground facilities adjacent to right-or-way or paved areas to allow for access.

e) Attachments by Others

City of Ocala Electric Utility requires attachment agreements with all third-party attachees on its poles and requires permits for all new attachments. The permits include information for City of Ocala Electric Utility to evaluate the impact of the attachment on pole loading. City of Ocala Electric Utility is evaluating all new pole attachments for their impact to pole loading and compliance with the NESC. In addition, as part of our pole inspection cycle, City of Ocala Electric Utility evaluates the impact of third party attachments as part of that inspection.

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.

Our policy and primary purpose is to be consistent with the Florida Public Service Commission's rules for wood pole inspections and to provide pole restoration where it is economically feasible. Currently we support an eight-year inspection cycle of our system. Our guidelines are selected on geographical areas based on the age of our poles. Practices

and Procedures include Above-Ground Inspection, Excavation, Sounding, Boring, Chipping, Internal Treatment, and Evaluation of each pole to determine remaining strength and reject criteria along with pole loading estimates.

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

2015 represents the first year in Ocala's second 8-year inspection cycle. The following two tables show distribution and transmission poles inspected by year for the current 8 year inspection cycle. Once 100% of the transmission poles have been inspected in the current cycle, the transmission poles will not be inspected again until the start of our next 8 year inspection cycle (2023).

Distribution level poles include all poles that have only electric-purpose attachments of less than 35kV phase-to-ground voltage (i.e. distribution primary, secondary, service drops, lighting, and guying). Any pole with attachments above 35kV, are classified as transmission poles.

Ocala Electric Utility has distribution level poles made of wood, concrete, steel, and composite materials. However, inspections are conducted only for wood poles.

YEAR	TOTAL NUMBER OF WOOD **DISTRIBUTION** POLES[1]	WOOD POLES INSPECTED	% OF TOTAL WOOD **DISTRIBUTION** POLES INSPECTED	TOTAL NUMBER OF *Non-WOOD* DISTRIBUTION POLES IN SYSTEM
2015	31,575	4,977	15.7%	6,512
2016				
2017				
2018				
2019				
2020				
2021				
2022				
TOTALS		4,977	15.7%	N/A

[1] The total number of poles and inspection percentages change each year based on system growth and shrinkage.

YEAR	TOTAL NUMBER OF WOOD **TRANSMISSION** POLES	WOOD POLES INSPECTED	% OF TOTAL WOOD **TRANSMISSION** POLES INSPECTED	TOTAL NUMBER OF *Non-WOOD* TRANSMISSION POLES IN SYSTEM
2015	498	498[2]	100 %	763

[2] All wood transmission poles have now been inspected in the first year of this cycle. Many of the transmission poles requiring replacement, were replaced this year with other

pole type materials (concrete, composite, or steel).

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

The following two tables show rejection rates and reason for failure for distribution and transmission poles.

YEAR	NUMBER OF **DISTRIBUTION** WOOD POLES REJECTED[3]	REJECT % (Reject ÷ Total Yr. Insp.)	REASON FOR FAILURE
2015	165	3.3 %	Shell Rot
2015	147	3.0 %	Decayed Top
2015	24	0.5 %	Split top
2015	14	0.3 %	Woodpecker Holes
2015	1	0.0 %	Exposed Pocket
2016			
2017			
2018			
2019			
2020			
2021			
2022			
TOTALS[4]	351	7.0 %	

[3] Rejected poles include poles identified for mitigation by bracing, pole replacement or other field actions as necessary to assure pole integrity sufficient with storm hardening standards.

[4] Totals are based on total Rejections to-date in this cycle and total Inspections to-date in this cycle.

YEAR	NUMBER OF **TRANSMISSION** WOOD POLES REJECTED[3]	REJECT % (Reject ÷ Total Yr. Insp.)	REASON FOR FAILURE
2015	5	1.0 %	Shell Rot
2015	6	1.2 %	Decayed Top
2015	2	0.4 %	Split top
2015	37	7.4 %	Woodpecker Holes
2015	1	0.2 %	Exposed Pocket
2015	1	0.2 %	Ground Line Decay
TOTALS[4]	**52**	**10.4 %**	

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.

The following tables show distribution poles braced and replaced, and transmission poles braced and replaced. Poles remediated by bracing are not counted in the rejection numbers, since they still meet the standards with the immediate bracing applied.

	DISTRIBUTION WOOD POLES	
YEAR	# / % BRACED[5] (% = Braced ÷ Total Yr. Insp.)	# / % REPLACED[6] (% = Total Yr. Repl. ÷ Total Yr. Insp.)
2015	40 / 0.8 %	351 / 7.1 %
2016		
2017		
2018		
2019		
2020		
2021		
2022		
TOTALS	**40 / 0.8 %**	**351 / 7.1 %**

[5] Bracing occurs at the time of inspection, if required.

[6] The replacement data represents poles identified for replacement in that inspection year, actual engineering and construction work may be completed in a following year.

	TRANSMISSION WOOD POLES	
YEAR	# / % BRACED[5] (% = Braced ÷ Total Yr. Insp.)	# / % REPLACED[6] (% = Total Yr. Repl. ÷ Total Yr. Insp.)
2015	3 / 0.6 %	52 / 10.4%
TOTALS	**3 / 0.6 %**	**3 / 0.6 %**

The rejection data represents poles identified in a given inspection year. In order to complete inspection work ahead of the 8 year cycle, and to allow for needed remediation time, Ocala Electric Utility may complete inspections ahead of the 8-year cycle end date.

Poles that have been identified for replacement are then engineered as work orders. Work order engineering may span calendar years, and may not occur in the same year as the inspection. Ocala Electric Utility is reporting total engineered pole replacement work orders released for construction, within the calendar year. NOTE – Some work orders may include

multiple identified pole replacements, if they are adjacent to each other. So total work orders numbers likely will not equal the actual total number of poles identified for replacement.

YEAR	POLE REPLACEMENT WORK ORDERS ENGINEERING COMPLETED
2015	68
2016	
2017	
2018	
2019	
2020	
2021	
2022	
TOTALS	68

Work order construction for a given replacement pole(s), may occur in a following year, after inspection, and may depend on other operational factors. Transmission pole replacements are given the highest priority.

YEAR	POLE REPLACEMENT WORK ORDERS CONSTRUCTION COMPLETED[7]
2015	128
2016	
2017	
2018	
2019	
2020	
2021	
2022	
TOTALS	128

[7] Construction completion may represent work engineered and started in a previous calendar year. This may be due to material acquisition time, access limitations, coordination with other attachees or utilities, customer needs, or in some cases line outage scheduling.

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.

The City of Ocala Electric Utility is required by the Florida Reliability Coordinating Council (FRCC) to submit an annual Transmission Vegetation Management Plan (TMVP), which must provide specific allowable distances, work methods, practices, and an annual work schedule for all transmission over 200kV.

A staff Utility Arborist is employed to plan and coordinate the work schedule and make contact with adjacent property owners when problem and hazard trees are identified along the 13 mile 230kV Transmission easement corridor, and over the Distribution System.

The work set forth in the work schedule is completed using a combination of manual, machinery, and chemical control methods performed by professional contractors and/or the City of Ocala's four (4) man in-house Tree crew.

The Utility's in-house Tree Crew performs most new construction clearing and tree related emergency response work required by the Utility. Additionally they perform demand work including pruning or removal of problem and hazard trees, customer requests, hotspot work, and routine vegetation maintenance.

A professional tree company is contracted primarily to perform routine vegetation maintenance over approximately one third of the entire distribution system annually. The contract contains Specifications set forth to ensure quality tree work and designated clearances as discussed during FMEA Storm Hardening research meetings.

Ocala Electric Utility applies annually for Tree Line USA designation, which has been awarded for the past 13 years by the Arbor Day Foundation and Florida Forest Service.

Designation is based on the Utility following guidelines set forth in ANSI A300, and includes requirements for annual crew training, quality pruning and integrated vegetation management, as well as participating in a tree planting program, an Arbor Day celebration, and providing customer education.

All pruning is required to conform to the guidelines set forth in the ISA's Best Management Practices "Utility Pruning of Trees" and the ANSI A300 Standards, and is overseen by an ISA Certified Arborist/ Utility Specialist on staff who provides information and guidance to Utility personnel, plans and participates in the Arbor Day Festival, and oversees line clearance operations as well as providing education and training to utility tree crews.

The City's Tree Ordinance (included in the City of Ocala Land Development Regulations) contains wording requiring specific planting distances from utility lines that depend on species natural growth habits. The City Planning Department uses these as a guide when approving site development plans.

In 2006 the Utility renewed its' affiliation with the American Public Power Association and committed to budget for a "Remove and Replace" tree voucher program.
The program addresses problem and hazard trees on property adjacent to utility easements by

providing removal services, and rewarding customers who cooperate with replacement vouchers and educational materials as an incentive.

In 2007, and again in 2009, FMEA and the Public Utility Research Center University of Florida held a vegetation management conference for the purpose of developing a guideline for "Best Practices in Vegetation Management". City of Ocala Electric Utility staff Utility Arborist participated in the conferences and possesses copies of these reports, which are used to continually improve the vegetation management practices at the City of Ocala Electric Utility.

In 2011 it was noted that many of tree related outages were caused by overhanging limbs, which had clearance, but broke off onto the lines. In response contract tree crews were instructed to reduce or remove all accessible overhanging limbs, and wording to that end was added to the Tree Trimming Contract that was put out to bid in February 2012.

As overhang is reduced and problem and hazard trees mitigated, tree related outages will inevitably become less problematic during afternoon storms and high wind events; as new plantings are thoughtfully planned, and proper pruning practices applied the overall health of the tree canopy near the lines will gradually improve, so that damage during future major storms should be greatly reduced.

In 2013, Ocala Electric Utility launched a plan to reclaim the utility's easements in areas that had become problematic for a variety of reasons from access issues to canopy road designation. The new plan is being executed with the cooperation of local authorities in the interest of improving the reliability of electrical service system wide.

Recent storm outage numbers appear to indicate some success, and should continue to improve as the plan is carried out over the entire system.

b) Describe the quantity, level, and scope of vegetation management planned and completed for transmission and distribution facilities in 2015.

The Utility consists of approximately 1000 miles of lines; 766 miles are overhead primary, 84 miles transmission lines include 69kV that is mostly contiguous with under-built primary, and 13 miles of designated 230kV easement. Approximately one third of the system is scheduled for trimming annually.

In 2011 over 6 miles of the 13 mile 230kV transmission easement was cleared to new construction clearances as well as over 200 miles of primary/ 69kV transmission lines.

The annual work schedule for 2013 included a combination of trimming, mowing, and herbicide. Approximately 5 miles, or 1/3rd of the 230kV easement, and over 200 miles of primary/69kV lines were cleared.

In 2014, the 13 miles of 230kV transmission easement was maintained/cleared to the new construction clearances established in 2011. This included mowing of the entire 13 mile easement, as well as preventive chemical treating of identified areas of concern throughout the 230kV easement. Over 200 miles of primary/69kV lines were also cleared as part of the 3-year vegetation management cycle.

The annual work plan for 2015 included clearing 1/3rd of both distribution and transmission system as described above, which is in line with the best management practices for utility line clearance. Ocala Electric Utility has continued to further implement use of chemical side trimming as an integral part of a program to reduce growth rates of vegetation into the transmission and sub-transmission lines.

The Public Utility Research Center has held two vegetation management workshops in 2007 and 2009. Through FMEA, City of Ocala Electric Utility, has a copy of their reports and will use the information to continually improve vegetation management practices. We will participate in future best-practice workshops if there is interest.

6. Storm Hardening Research

City of Ocala Electric Utility 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 is providing the FPSC with a report of research activities. For further information, contact Barry Moline, Executive Director, FMEA, 850-224-3314, ext.1, or bmoline@publicpower.com.