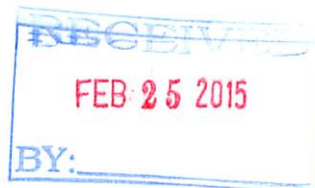




T & D Department  
P.O. Box 1389 3455 Airport West Dr.  
Vero Beach, FL 32961-1389  
Telephone: (772) 978-5400 Fax: (772) 770-2230

February 24, 2015



**Tom Ballinger, Director**  
**Division of Engineering**  
**Florida Public Service Commission**  
**2540 Shumard Oak Blvd.**  
**Tallahassee, Florida 32399-0850**

Dear Mr. Ballinger,

Enclosed is the City of Vero Beach System Hardening Report pursuant to rule 25-6.0343, F.A.C. for 2014. I have also attached a spreadsheet listing the poles that were replaced. If you have any questions, please contact me.

Sincerely,

Ted Fletcher  
Director Electric T & D  
Email: [tfletcher@covb.org](mailto:tfletcher@covb.org)

**City of Vero Beach  
System Hardening Report to the Florida Public Service  
Commission Pursuant to Rule 25-6.0343, F.A.C.  
Calendar Year 2014**

**1) Introduction**

- a) City of Vero Beach
- b) 3455 Airport Dr. West  
P.O. Box 1389  
Vero Beach, FL 32961-1389
- c) Contact information: Name, title, phone, fax, email  
Ted Fletcher  
Director Electric T & D  
Phone: 772-978-5466  
Fax: 772-770-2230  
Email: tfletcher@covb.org

**2) Number of customers served in calendar year 2014**

**Accounts:**

Residential – 28,645  
Commercial – 5,583  
Industrial – 1

Total            34,329

There are also 492 Outdoor unmetered lighting accounts.

**3) Standards of Construction**

**a) National Electric Safety Code Compliance**

Construction standards, policies, guidelines, practices, and procedures at the City of Vero Beach comply with the National Electrical Safety Code (ANSI C-2) [NESC]. For electrical facilities constructed on or after February 1, 2012, the 2012 NESC applies. The edition of the NESC in effect at the time of the facility's initial construction governs electrical facilities constructed prior to February 1, 2007.

**b) Extreme Wind Loading Standards**

In 2005 the construction standards, policies, guidelines, practices, and procedures at the City of Vero Beach were revised and as a result are guided by the extreme wind loading standards specified by Figure 250-2(d) of the 2002 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; and 3) targeted critical infrastructure facilities and major thoroughfares. Plans are being made to make any changes necessary based on the 2007 NESC.

**c) Flooding and Storm Surges**

Electrical construction standards, policies, guidelines, practices, and procedures at the City of Vero Beach address the effects of flooding and storm surges on underground distribution facilities and supporting overhead facilities. All facilities are installed a minimum of 8 inches above the roadway and grading is required to prevent erosion.

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

Electrical construction standards, policies, guidelines, practices, and procedures at the City of Vero Beach provide for placement of new and replacement distribution facilities so as to facilitate safe and efficient access for installation and maintenance. All new facilities are installed on the roadway for easy access. Right-of-ways are maintained to existing overhead back lot lines as much as possible. Overhead back lot lines are replaced by underground lines in high-risk areas. Remote control equipment is also available for hard to reach areas.

**e) Attachments by Others**

Electrical construction standards, policies, guidelines, practices, and procedures at the City of Vero Beach include written safety, pole reliability, and pole loading capacity, and engineering standards and procedures for attachments by others to the utility's electric transmission and distribution poles. They use, number, size, elevation of attachment and wind loading are all taken into consideration when determining the strength of the pole.

**4. Facility Inspections**

**a) Policies, guidelines, practice, and procedures for inspecting transmission and distribution lines, poles, and structures.**

- The City of Vero Beach has 41.5 miles of transmission lines that are mostly on road or canal right-of-way. The transmission lines are driven and visually inspected once every 2 to 3 months.

A complete inventory of the electric system was taken in 2009. The results of the inventory showed that the overhead distribution system is made up of approximately 10,600 electric utility poles. The count showed that approximately 2,900 of the poles are owned by AT&T/Bellsouth with the City of Vero Beach owning the rest. The poles are inspected once every 5 years. Plans are to inspect 2,000 to 2,500 poles per year. Last year all of the AT&T/Bellsouth poles were inspected by an outside firm contracted by AT&T/Bellsouth. The City of Vero Beach contracts a four-person line crew to inspect and repair or replace anything that doesn't meet current NESC standards including poles and hardware. The crew is given a GIS map printout with instructions to inspect everything in the map area. The condition of the poles and equipment is marked on the map including the estimated life expectancy of the poles not failing inspection. The poles are inspected using the sound and bore method with some excavation. Normally the poles are sounded and bored at ground line unless the pole is over 20 years old or looks

weathered, then some excavation around the pole is performed for further inspection. All poles and equipment failing inspection are replaced within two weeks. AT&T/Bellsouth is notified when one of their poles fails inspection and they usually replace them within 90 days.

- b) Number and percentage of transmission and distribution inspections planned and completed for 2014.
- The transmission system was inspected once in 2014 with no poles failing inspection. We currently have approximately 700 square concrete, 65 steel, 125-spun concrete, 65 wooden, and 5 round hybrid concrete/steel poles. Any additions or replacements will be either spun concrete or round hybrid poles.

The City of Vero Beach initiated an inspection program of the electric system in September 2006. Prior to this date complete records were not kept. In 2014 approximately 12.5% (1320 poles) of the distribution system had been inspected and repairs made. The entire system will be inspected and repairs made within 8 years.

- c) Describe the number and percentage of transmission poles and structures and distribution poles failing inspection and the reason for the failure.
- There were no transmission pole or structure failures in 2014. Three square concrete poles were found to have a vertical hairline crack at the base in a 2008. An outside contractor inspected the poles and determined that the cracks were not due to wind or load stress but possibly from lightning. All three poles were repaired in 2009.
  - 1320 distribution poles were inspected with 15 failures or 0.5%. There were no poles replaced by AT&T/Bellsouth due to ground rot. Sixteen poles were replaced by the City of Vero Beach, of which 17 were from ground rot, and none were hit by a vehicle.
- 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, including a description of the remediation taken.
- There were no transmission poles or structure failures in 2014.
  - The distribution system had One 30 Class-5 wood poles failed from ground line rot. They were replaced with a 30 Class-5 wood poles. One 35' class 5 wood pole failed from ground line rot and was replaced with 1, 35' class 5 wood pole. Eleven 40-4 wood poles failed from ground line rot. All were replaced with 40' class 4 poles. Two 45' class 4 wood poles failed from ground line rot. All were replaced by 45' class 4 wood poles and. AT&T/Bellsouth replaced 7- 45' class 3 poles for road widening project. In every case the same size and type of pole was used to replace the old pole. The remaining poles were owned and replaced by the City of Vero Beach and the following criteria were used. Once a pole fails inspection it is replaced with a steel or concrete pole if it can easily be reached by a bucket truck from the road or a parking lot. If it is in a back lot line and cannot be reached easily by a bucket truck a wood pole is used.

## 5. Vegetation Management

- a) The City of Vero Beach has always attempted to maintain a three-year vegetation management cycle. In December 2004 the City adopted the Tree Line USA approach to trimming trees. Now when tree limbs get within 3 feet of the neutral or 5 feet of the primary it is cut back to the trunk or main limb. This usually leaves about a 10 feet clearance after initial trimming. The City has also started topping trees that are in the right-of-way at the customer's request in an effort to help them remove the trees. With this trimming policy the City has been able to maintain proper clearance with two 3-man crews. In 2014 the dispatch center received approximately 8 calls per week from customers requesting tree trimming.
- b) Describe the quantity, level, and scope of vegetation management planned and completed for transmission and distribution facilities.
  - The City of Vero Beach has approximately 40 square miles of service territory. This territory is broken down into a grid system of 60 blocks of equal size. The tree crews are given one block to trim at a time and this block is mark off as it is completed. The goal is to complete all 60 blocks every three years. We also have our transmission lines mowed every six months.

	A	B	C	D
	ADDRESS	ACTION	MATERIAL	TRBDESC
	2635 ST LUCIE AVE	INSTALLED NEW POLE (1/7/14)	NOT	WIRE DOWN: PHONE LINES
	1928 US 1	REPLACED POLE	40' WOOD	REPLACE POLE
	1807 20TH AVE	CHANGE OUT POLE	30' POLE	POLE LEANING ON HOUSE/REPLACEMENT REQD
	37TH ST & US 1	C/O POLE	NOT	MAINTENANCE
	JOHNS ISLAND	SET NEW POLE	40 FT POLE	ROTTEN POLE
	18TH ST & 34TH AVE	CHANGED OUT POLE	NOT	CHANGED OUT ROTTEN POLE
	8TH ST AND 10TH CT	REPLACE POLE	NOT	VEHICLE HIT A POLE - 736 NEEDED A TROUBLE # TO MAKE REPAIRS TO POLE
	41ST ST W OF IR BLVD	RELOCATING POLE	NOT	RELOCATING POLE
1	2425 53 AVE	CHANGED OUT 30 FOOT POLE		REPORT OF ROTTING POWER POLE IN FRONT OF PROPERTY NEXT TO DRIVEWAY
1	21ST ST & IR BLVD	CHANGE OUT POLE	NONE	OT: ASSISTED NIGHTMAN WITH POLE & WIRES DOWN
2	SILVER SHORES RD & TRADEWINDS DR	CHANGE OUT POLE	2 - CROSS	DAMAGED / LEANING POLE
3	1536 SMUGGLERS COVE	CHANGE OUT POLE	NONE	REPORT OF ROTTEN POLE - HOLD OPEN FOR ETA ON POLE REPLACEMENT.
4	1646 INDIAN BAY DRIVE	CHANGE OUT POLE	NONE	REPORT OF LEANING LIGHTPOLE
5	1515 INDIAN BAY DRIVE	CHANGE OUT POLE	NONE	REPORT OF LEANING LIGHTPOLE
6	330 8TH COURT	RELOCATING POLE	NONE	PARTIAL POWER
7	1150 OLD DIXIE	RELOCATING POLE	20' WOOD	SECONDARY & SERVICE POLE DOWN
8	4810 BETHEL CREEK DR	RELOCATING POLE	NONE	WIRE DOWN - ATT
9				