

Matilda Sanders

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Sent: Friday, June 23, 2006 2:29 PM  
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Subject: Docket No. 060077-TL Clarifications to Verizon's Pole Inspection and Maintenance Plan  
  
Attachments: Dkt. No. 060077 TL - Clarifications to Verizon's Pole Inspection and Maintenance Plan.pdf



Dkt. No.  
177 TL - Clarif

The attached filing is submitted in Docket No. 060077-TL on behalf of Verizon Florida Inc. by

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The attached .pdf document contains 10 pages - transmittal letter (2 pages) and attachments (8 pages).

(See attached file: Dkt. No. 060077 TL - Clarifications to Verizon's Pole Inspection and Maintenance Plan.pdf)

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FPSC-COMMISSION CLERK

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June 23, 2006

Ms. Blanca Bayo, Director  
Division of the Commission Clerk  
and Administrative Services  
Florida Public Service Commission  
2540 Shumard Oak Boulevard  
Tallahassee, FL 32399-0850

Re: Docket No. 060077-TL - Clarifications to Verizon's Pole Inspection and Maintenance Plan

Dear Ms. Bayo:

Verizon Florida Inc. (Verizon) hereby submits further written clarifications to Verizon's Wood Pole Inspection Plan filed with the Commission on April 3, 2006. These clarifications complement Verizon's responses to Commission Staff's questions filed on May 9, 2006.

1. **Testing<sup>1</sup> of "Remote" Grade N Poles:** Commission Staff expressed concern that Verizon technicians may not be dispatched to some Grade N, Priority 2 poles that do not have termination points or terminal equipment (e.g. mid-span poles) during the course of performing normal work activities creating a potential for these poles to go untested for an undetermined period of time. Verizon reiterates that it maintains a safe, reliable network and that these poles are tested during plant replacement and/or maintenance operations.

In an effort to assist Commission Staff in collecting study data<sup>2</sup> faster than may otherwise occur, Verizon will identify and test this limited sub-set of Grade N poles on an 8-year cycle<sup>3</sup> using business as usual testing procedures<sup>4</sup>.

<sup>1</sup> "Testing" refers to work that Verizon performs during the normal course of business per OSHA and Verizon standards (See footnote 4).

<sup>2</sup> "Study data" is defined as information collected for Public Service Commission study purposes through work performed by Verizon beyond what is required by the NESC and/or Verizon's testing methods and procedures performed during the normal course of business.

<sup>3</sup> Verizon's Wood Pole Inspection Plan filed April 3, 2006 with subsequent modifications and clarifications outlines how scheduled inspections of Grade B and C poles that are subject to NESC loading and strength requirements will be conducted and that Grade N poles are not subject to specific NESC strength and loading requirements and are tested using Verizon's methods and procedures used during the normal course of business (See footnote 4).

<sup>4</sup> See Revised Attachment A - "Verizon FL Routine (BAU) Technician Pre-Work Pole Testing Procedures and Escalation (Validation) Process" for Verizon's testing methods and procedures performed during the normal course of business.

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2. **Coastal and Inland Pole Study** - Commission Staff is interested in collecting study data on poles located in coastal environments and poles that are located approximately 5 miles inland. Verizon understands that Staff plans to analyze this data to determine if there are notable differences in pole conditions based on proximity to coastal elements. Verizon indicated this information will be available from inspection data collected for Grade B and C poles located in coastal and inland areas. Staff requested that Verizon also provide information on a percentage of its Grade N poles located in coastal and inland environments for study purposes.

In an effort to assist Commission Staff in collecting study data, Verizon will provide test results for a statistically valid sample of Grade N poles located in coastal and inland environments with the understanding that this is not required by the NESC, that this is a one-time data collection effort, and that these poles are not part of the 8-year inspection requirements ordered by the Commission.

3. **Verizon's Current Pole Testing Methods and Procedures** – Verizon revised its pole testing methods and procedures performed during the normal course of business as requested by Commission Staff. The revisions clarify the testing process flow and add a new path for a Verizon Supervisor to request Resistograph inspection of a Priority 2 pole in the event Sound and Prod tests performed are not conclusive (see Revised Attachment A, "Verizon FL Routine (BAU) Technician Pre-Work Pole Testing Procedures and Escalation (Validation) Process". This revision replaces Attachment A contained in "Verizon's Inspection and Reporting Plan for Wood Utility Poles" filed with the Commission on April 3, 2006.
4. **Pole Inspection Categories** – Attached are revised pole inspection category descriptions which reflect previous discussions and clarifications made with Staff. This revision replaces Section 1.2 of "Verizon's Inspection and Reporting Plan for Wood Utility Poles" filed with the Commission on April 3, 2006.

If you require additional information, please do not hesitate to contact me.

Sincerely,

*David M. Christian* <sup>DM</sup>

David M. Christian  
Vice President  
Regulatory Affairs Florida

Attachments

**REVISED ATTACHMENT A**  
**(Amended for Clarification)**

**VERIZON FL ROUTINE (BAU) TECHNICIAN PRE-WORK POLE TESTING  
PROCEDURES AND ESCALATION (VALIDATION) PROCESS.**

This document supersedes 2004-00453-OSP for VZ FL only.

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**1.0 MANDATORY TECHNICIAN PRE-WORK POLE INSPECTION PROCEDURES  
(Required prior to all work on poles using any means / tools for access)**

**OSHA 1910.268(n)(4)**

***Unsafe poles or structures.*** Poles or structures determined to be unsafe by test or observation may not be climbed until made safe by guying, bracing or other adequate means. Poles determined to be unsafe to climb shall, until they are made safe, be tagged in a conspicuous place to alert and warn all employees of the unsafe condition.

Review:

- Document number 2001-00514-OSP for Chemical Cautions and Inspection Tag related information.

<http://i.verizon.com/engplng/PublishedDocuments/Flash/0100514.pdf>

- Document number 2002-00923-OSP for Pole Treatment Precautions

<http://i.verizon.com/engplng/PublishedDocuments/Flash/0200923.pdf>

## 1.1 VISUAL INSPECTION

Perform Visual Inspection.

Visual Hazard Conditions To Observe:

- (a) Excessive rake or unexplained leaning of a pole.  
This may be due to a failure of the pole at or below ground-line.
- (b) Insufficient depth of setting. This may be due to erosion of the earth around the pole as a result of heavy rainfall, flood water, road widening, etc. and would affect the stability of the pole. The depth of setting can frequently be checked by reference to the brand which is present on most poles at a distance of ten feet (measured to the bottom of the brand) from the butt of the pole. Do not rely upon the brand mark to determine the depth of setting.
- (d) Evidence of collision damage if the pole is at an exposed location along a highway.
- (e) Presence of fungus growth in checks or protruding from the pole surface or on areas near ground-line where the wood appears water-soaked in contrast to surrounding wood. These symptoms usually indicate a condition of advanced decay in the interior of the pole.
- (f) Presence of termite or carpenter ant infestation, evidenced by mud Channels or debris in the checks, wood dust at the base of the pole, or movement of ants when the pole is stuck with a hammer or other tool.
- (g) Bent, loose, improperly spaced or missing pole steps.  
Review 2004-00454-OSP for Verizon Pole Step Requirements.
- (h) Wide seasoning checks which could result in loosening of pole steps or a climbing hazard.
- (i) Evidence of compression wood indicated by short horizontal cracks along one side of the surface of the pole, or by curling of short sections out away from the pole surface.

- (j) Presence and distribution of large knots, excessive knot clusters, climber gaff splinters, unauthorized signs, other aerial attachments, private property customer attachments (clotheslines), and nearby interfering tree growth.
- (k) Presence of large stones, ground irregularities, and debris at the base of the pole.
- (k) Presence of conduits or vertical runs on pole which might interfere with use of pole steps or climbing.
- (m) Broken wires in adjacent span.
- (n) Excessively tight or excessively slack drop or line wires on one side of pole.
- (o) Contact or insufficient separation between telephone and power wires or other plant on the pole, or in the span or spans adjacent to the pole.
- (p) Woodpecker holes.
- (q) Evidence of lightning or fire damage.
- (r) Presence of markings or pole tags placed by others to indicate an unsafe pole or pole to be replaced.

## 1.2 PHYSICAL TEST

### 1.2.1 SOUNDING TEST

The Sounding test consists of applying blows with a hammer, such as a drilling hammer, or the back of a hand axe, to the pole surface completely around the pole from points close to the ground-line to as high as can conveniently be reached. The presence of a hollow heart condition or advanced internal decay can usually be recognized by the characteristic hollow or dull sound resulting from the blows on the wood. Wet surfaces due to recent rains, wet interior near the ground-line due to high soil moisture, wide checks, or shakes in the pole near the surface may change the sound of a solid pole. Care must be taken not to mistake the altered sound due to these causes for the sound associated with internal decay.

A pole free from decay usually sounds clear and the hammer usually rebounds noticeably when the pole is struck sharply and squarely.

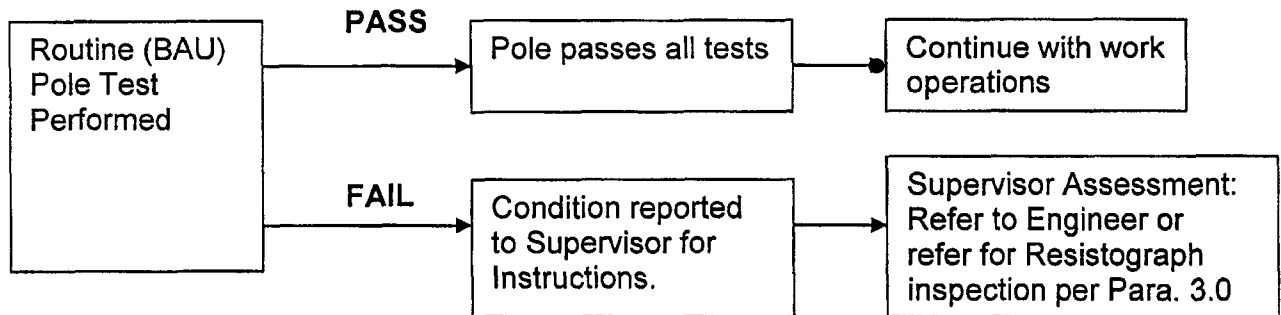
### 1.2.2 PROD TEST

Prod the pole as near the ground line as possible using a pole prod or a screwdriver with a blade at least 5 inches long. Prod as close to the ground-line as practicable at an angle of approximately 45 degrees around the pole. The presence of general sapwood decay or decay pockets will usually be evident from this test.

If substantial decay is encountered, the pole shall be considered unsafe.

## 2.0 Defect Reporting

Defects found will include the condition report to the Technician's supervisor for review. Verizon FL Supervisors will assess the defects reported and follow routine reporting to Engineering for replacement or have further assessment performed by Inspectors using Resistograph and D-Calc technology.



## 2.1 Tagging Defective Poles.

Poles found to be unsafe shall be marked immediately with a B or C Pole Tag by the technician / craftsman. The unsafe condition should be reported promptly to a supervisor or Engineer.

If the pole has been broken, resulting in an unsafe condition and requiring immediate attention, steps shall be taken to warn passers-by or traffic away from the location until a safe condition can be restored.

Place one tag on the road side of the pole just below the pole number, if the pole is numbered, or at approximately 6 feet above ground-line if the pole is not numbered. Place another tag at approximately the same height on the field side of the pole. If the pole is defective in the ground-line section, place the tags so that the arrow points downward. If the pole is defective in the upper portion, place the tags so that the arrow points upward. If, however, the pole is defective in both the ground-line section and in the upper portion place a double set of tags, one set with the arrow pointing downward and the other set with the arrow pointing upward. Attach the tags with Pole Tag Nails.

## 2.2 Tag Description

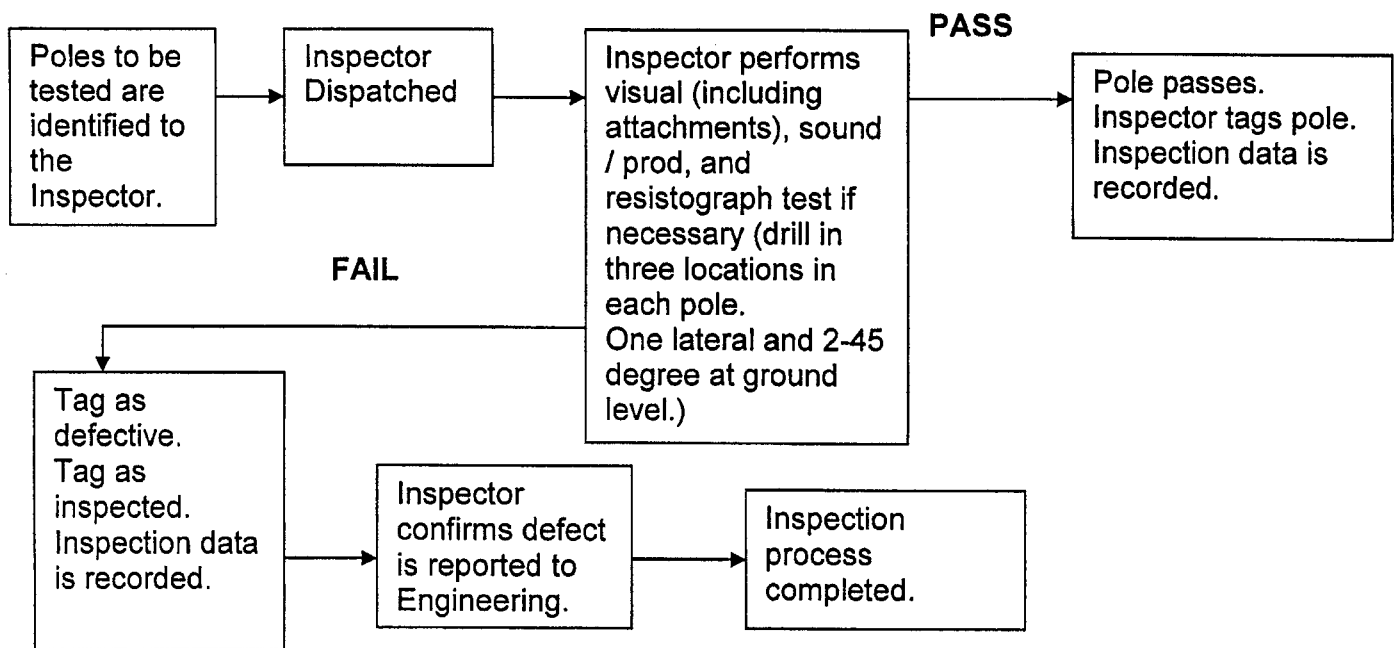
The B Pole Tag has a white arrow on a red background. It is intended for marking defective poles which do not require immediate replacement, that is, defective poles which are not yet considered dangerous.

The C Pole Tag is similar to the B Pole Tag except that an "X" inscribed in a circle is imposed on the shaft of the arrow. This tag is intended for marking poles which are in a dangerous condition and require immediate replacement.

### 3.0 RESISTOGRAPH TEST (TO BE PERFORMED BY QUALIFIED VERIZON INSPECTORS)

The "Resistograph decay detection instrument should be set against the utility pole drilling 90 degrees (straight across at ground level!). Use of the 45 degree adapter attachment will be performed at two 45 degree angles. See 3.1

#### 3.1 Resistograph Test Flow Chart



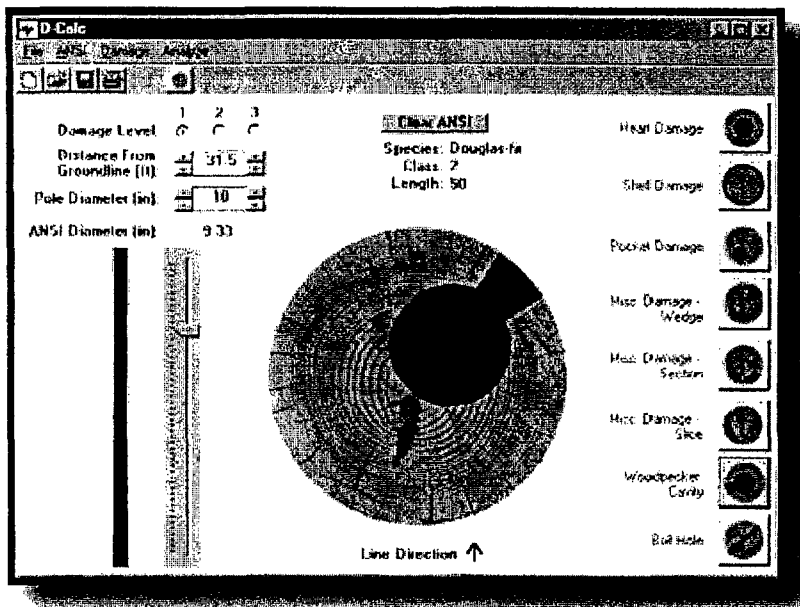
#### 3.2 D-CALC EVALUATION DESCRIPTION

- D-Calc is very versatile software program and allows the user to calculate the remaining strength ("section modulus") of a degraded pole, relative to the original pole strength, based upon knowledge of the shape, location and extent of the internal or external damaged areas.
- Depending upon the geometry of the deteriorated portions, D-Calc avoids the need for complex calculations that would be beyond the capability of most engineers or inspectors.
- In contrast to the traditional boring method, the Resistograph is more likely to detect a problematic area, which may then be appropriately indicated as a void or pocket to D-Calc.



- The Resistograph data may be temporarily stored (paper or electronically) until subsequently accessed by the engineer for further evaluation via D-Calc.
- In general, the use of the D-Calc software in combination with the data obtained from the Resistograph equipment appears to represent the best available means of meeting the basic intent of the NESC (as specified for Grade B and C construction).
- Pass / Fail would be determined by ANSI 05.1 reference tables and or reported to Verizon Engineering for evaluation.

### D-CALC SAMPLE DISPLAY

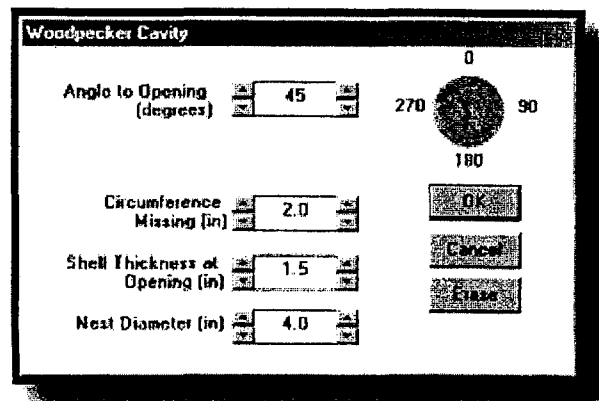


### FEATURES:

- ◆ Simple data entry
- Graphic display of damage
- ◆ Optimized for pen computers
- Built-in ANSI 05.1\*\* reference tables

### OUTPUT:

- ◆ Percent remaining strength based on user-defined modulus of rupture (MOR) and actual and ANSI dimensions
- Pole properties including: section modulus, moment of inertia and area



## 1.2 POLE INSPECTION SELECTION CRITERIA

Verizon will place poles in the following two basic categories for inspection purposes<sup>1</sup>:

### **Priority 1** - Scheduled inspections performed on an 8-year Cycle

- Verizon-owned poles where electric supply cables or components exceed 750 volts and/or have communications cables crossing railroad tracks or limited-access highways. Poles in this category are subject to NESC rules for Grade B and C construction<sup>2</sup>.
- Visual, Sound and Prod tests will be performed and strength assessments done if required using the Resistograph and strength assessment software. Loading calculations will be performed for Verizon attachments.

### **Priority 2** - Testing performed during the normal course of business or routine work activities following Verizon's documented testing methods and procedures.

- Verizon-owned poles where electric supply cables or components do not exceed 750 volts and do not have communications cables crossing railroad tracks or limited-access highways. Poles in this category are subject to NESC rules for Grade N construction.
- Visual, Sound and Prod tests will be performed during the normal course of business or routine work activities. Strength

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<sup>1</sup> New Poles or Poles in Transition: New poles placed will be assigned either a Priority 1 or Priority 2 status based on their characteristics and inspected accordingly. Poles that undergo a transition due to the addition or removal of power attachments will be assigned either a Priority 1 or a Priority 2 status based on their new attachment characteristics and inspected accordingly.

<sup>2</sup> The strength and loading requirements in NESC Section 25 and most of Section 26, including those concerning pole deterioration, only apply to Grade B and Grade C construction. The NESC does not provide specific loading requirements for Grade N Construction. NESC pole strength requirements for communication poles are based on the grades of construction specified in Section 24 of the NESC, Table 242-1 "Grades of Construction for Supply Conductors Alone, at Crossing, or on the Same Structures with Other Conductors" or Table 242-2 "Grades of Construction for Communication Conductors Alone or in Upper Position of Crossing on Joint Poles." These tables provide that only Grade N construction is typically required for communication-only poles. Exceptions include joint use poles where electric supply cables exceed 750 volts and communication cables crossing railroad tracks and limited-access highways.

assessments will be done using the Resistograph on an exception basis if ordered by a Verizon Supervisor.

### **Experimental Plan - PSC Study Data**<sup>3</sup>

Verizon will collect study data for the Public Service Commission for study purposes outlined below. Study data will be collected through work performed by Verizon beyond what is required by the NESC and/or Verizon's testing<sup>4</sup> methods and procedures performed during the normal course of business.

- **Testing of "Remote" Grade N Poles** - In an effort to assist the Commission in collecting study data faster than may otherwise occur, Verizon will identify and place this limited sub-set of Grade N, Priority 2 poles on an 8-year cycle. These poles will remain classified as Priority 2 and will remain subject to Priority 2 testing procedures with the exception that they will initially have a scheduled inspection timetable to accelerate data collection for study purposes.
- **Coastal and Inland Pole Study** - In an effort to assist the Commission in collecting study data, Verizon will provide test results for a statistically valid sample of Grade N, Priority 2 poles located in coastal and inland environments with the understanding that this is not required by the NESC, this is a one-time data collection effort and that these poles are not part of the 8-year inspection requirements ordered by the Commission. This study data collected for Grade N poles will augment data collected through inspections of coastal and inland Grade B and C poles.

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<sup>3</sup> "Study data" is defined as information collected for Public Service Commission study purposes through work performed by Verizon beyond what is required by the NESC and/or Verizon's testing methods and procedures performed during the normal course of business.

<sup>4</sup> "Testing" refers to work that Verizon performs during the normal course of business per OSHA and Verizon standards. See Revised Attachment A - "Verizon FL Routine (BAU) Technician Pre-Work Pole Testing Procedures and Escalation (Validation) Process" for Verizon's testing methods and procedures performed during the normal course of business.