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Matilda Sanders

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Sent: Thursday, July 06, 2006 1:40 PM
To: Filings@psc.state.fl.us
Subject: 060077-Embarq's Revised Wood Pole Inspection and Reporting Plan
Attachments: 060077 Embarq's revised wood pole inspection and reporting plan.PDF

Filed on behalf of:

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Docket No. 060077

Title of filing: 060077-Embarq's Revised Wood Pole Inspection and Reporting Plan

Filed on behalf of Embarq

9 pages

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July 6, 2006

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

RE: Docket No. 060077-TL

Dear Ms. Baýo:

Enclosed for filing on behalf of Embarq Florida, Inc. is Embarq's Revised Wood Pole Inspection and Reporting Plan, provided via e-mail to Beth Salak on June 30, 2006.

Copies have been served as per the attached Certificate of Service.

If you have any questions, please do not hesitate to call me at 850/599-1560.

Sincerely,

Susan S. Masterton

Enclosure

Susan S. Masterton
COUNSEL
LAW AND EXTERNAL AFFAIRS- REGULATORY
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CERTIFICATE OF SERVICE
DOCKET NO. 060077-TL

I HEREBY CERTIFY that a true and correct copy of the foregoing was served by electronic and U.S. mail this 6th day of July, 2006 to the following:

Florida Public Service Commission
Adam Teitzman
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850

Florida Public Service Commission
Carl Vinson/ Lisa Harvey/ Richard Moses
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850

Verizon Florida Inc.
Mr. David Christian
106 East College Avenue
Tallahassee, FL 32301-7748

Office of Public Counsel
Harold McLean/ Charles Beck
c/o The Florida Legislature
111 W. Madison Street, Room 812
Tallahassee, FL 32399-1400

Susan S. Masterton

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1313 Blair Stone Road
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June 30, 2006

Ms. Beth Salak
Director, Competitive Markets and Enforcement
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Dear Ms. Salak:

Attached is the revised wood pole inspection plan Embarq committed to file at the conclusion of our meeting with Staff on Thursday, June 22, 2006. As a result of the discussion with staff, Embarq has added additional information and specificity with regard to excavation practices, inspection practices and the strength and load assessment plans.

Staff asked Embarq to consider adding some mid-span poles to the base of poles being audited. For all the reasons previously stated, Embarq believes that there is no additional benefit or value to include additional poles that are 30' or less and have no electric attachments into the base of poles to be audited. However, as these poles are found to be in need of bracing or replacement in the course of business as usual, Embarq will document those pole replacements or repairs in the audit records being kept for reporting to the Commission.

If you have any questions concerning the attached revised inspection plan, please let me know. Embarq appreciates the dialogue that has already occurred with staff and looks forward to continued dialogue with the Commission staff and other parties to ensure that Embarq implements a cost-effective pole inspection program.

Sincerely,

Sandy Khazraee

Sandra A. Khazraee
Regulatory Manager

cc: Susan S. Masterton, Embarq

Sandra A. Khazraee
REGULATORY MANAGER
LAW AND EXTERNAL AFFAIRS
Voice: (850) 847-0173
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WOOD POLE INSPECTION AND REPORTING PLAN

Embarq Florida, Inc. (f/k/a Sprint-Florida, Incorporated)

Revised June 30, 2006

Docket No. 060077-TL

1.0 Inspection Methodology

1. Abstract

Embarq Florida, Inc., f/k/a Sprint-Florida, Incorporated (hereinafter "Embarq") maintains approximately 38,800 wood poles within its service area. Within this population of poles, 9,673 are considered to be higher risk. These poles are 35' or taller and carry electrical circuits greater than 750 volts to ground. The remaining 29,127 poles are less than 35' in height, and carry telecommunication circuits. Both groups combined accounted for a placement (new and replacement for all purposes) rate of less than one-half of one percent during the unprecedented hurricane seasons of 2004 and 2005. Thus, these lower risk poles accounted for a failure rate of significantly less than one-half of one percent during the hurricane seasons. This data clearly illustrates that Embarq is in a distinctly different situation than that of the power industry for the majority of its poles. However, the 35' and taller poles are more akin to the power industry poles.

Embarq will inspect its poles that meet the selection criteria of higher risk poles in an 8-year cycle. All other Embarq-owned poles will continue to be inspected in the normal course of business. Poles found to be defective or not of sufficient strength to carry the imposed load, will be documented and reported; Embarq will take remedial action on those poles using an established process, i.e. the Irregular Plant Condition process.

If Embarq's analysis of the inspection results indicate that a geographic area experiences more decay due to environmental influences or bug infestation, Embarq will implement a cost-effective remediation plan, which may include the utilization of industry approved bracing or trussing.

1.2 Pole Selection Criteria

Class 5 poles of 30 and 35 feet are the standard for telecommunications poles. These poles are stronger than required for attachment loads imposed by communications and lower voltage attachments. Poles that carry only communication facilities and poles with communications and electric circuits less than or equal to 750 volts to ground have less potential to fall or break. A class 5 pole has a breaking load of 1900 lbs 2' from the top of the pole. A 30-foot class 5 pole has a more consistent circumference from the base to the top of the pole than a taller pole. With the added strength of support strands, the chances of these poles failing and creating a hazard are greatly reduced.

Taller poles with higher voltage power lines have more potential to fall or break due to the weight and size of the attachments and higher wind resistance at the weaker (narrower) top of the taller poles. Poles 35 feet or higher lose their consistency in circumference as a normal physics plant equation. The greater the height, the more reduced the circumference and greater potential for failure at heights exceeding 30 feet, i.e., poles that carry electrical attachments such as cross-arms and transformers.

Embarq will place all poles over 30 feet with and without the specified electrical attachments reaching the age of 10 years into the program and these poles will be inspected on an 8-year cycle. Poles over 30 feet without electrical attachments are not considered higher risk but will be included in the proposed inspection plan for simplicity of defining the plan.

Poles will be listed in order of priority with poles carrying electric distribution circuits greater than 750 volts being priority 1 and telephone poles 30 feet and shorter and carrying only low voltage telephone cable, cable television and possibly an electric company drop as priority 2.

During inspections of Embarq poles which carry electric distribution facilities, load calculations will be performed to determine whether the poles are structurally sound and capable of maintaining the current imposed loads. Poles failing acceptable load calculation parameters as defined by ANSI 05.1 and NESC standards will be corrected within 90 days unless an immediate safety hazard exists. Since the NESC does not provide pole load requirements for Grade N construction, load calculations will not be performed on "priority 2" poles as part of the inspection procedure.

Going forward Embarq will enhance its load calculation program based on the data provided by the attaching entity to illustrate cumulative load and ensure that higher risk "priority 1" poles, i.e., 35 feet and taller carrying electric distribution facilities exceeding 750 volts are not overstressed. Embarq is analyzing several load calculation software programs including the Osmose O-Calc and Linesoft pole load calculation software in order to choose one to use as its standard product.

2.0 Pole Inspection Methodology

Embarq Florida owns and maintains approximately 38,800 poles within the boundaries of its Florida service areas. Embarq will inspect poles that meet the selected criteria, as identified in section 1.2 and will collect data essential for reporting and remediation consistent with Order No PSC-06-0168-PAA-TL. Additionally, in the unlikely event that there are poles 30 feet or less that carry electric circuits greater than 750 Volts to Ground, these poles will be included in the 8-year inspection cycle. Poles 35 feet and greater reaching 10 years of age will be included in the inspection schedule in their 11th year. The following are the specifics of the pole inspection plan Embarq proposes to implement.

2.1 Conduct visual inspections in conjunction with sound and prod technique to determine if decay or bug infestation is present. A pole that as a result of a prod test reflects surface decay greater than two inches into the pole will be excavated, bored and tested.

2.2 Excavate around the pole to a depth of 18 inches and bore the pole at a 45 degree angle to determine interior structural integrity. Embarq may utilize the Resistograph device as an alternative to typical industry boring with large drill bit or another technology if such technology is approved by the Commission and proves to be more reliable, is less insidious and is more cost effective than the standard industry bore methodology.

2.3 Record results, and update Embarq's engineering work order (EWO) and facility systems

2.4 Place an inspection tag on each pole delineating the date of the inspection

2.5 Report defective poles to engineering for structural bracing or replacement as dictated by the inspection

2.6 Provide a summary of the pole inspection results to the FPSC on an annual basis with the first report to be filed on March 1, 2007.

3.0 Pole Inspection Requirements per the NESC

Embarq will fully comply with Rule 25-4.036, Florida Administrative Code (F.A.C.), Design and Construction of Plant and the 2002 Edition of the National Electrical Safety Code (IEEE C2-2002) and the National Electrical Code (NFPA 70-2005), pertaining to the construction of telecommunications facilities. Embarq agrees that compliance with these codes and accepted good practice is necessary to ensure, as far as reasonably possible, continuity of service, uniformity in the quality of service furnished and the safety of persons and property.

3.1. The NESC rules regarding pole strength and loadings, including deterioration, only apply to grades B and C construction. In addition, specific rules apply to poles exceeding 35 feet in height.

3.1.1 Sections 25 and 26 provide rules that apply to wind loading requirements and speak specifically to grades B and C construction. Rule 250 – 2 (c), (d), and (e) are coastal hurricane maps that indicate the winds are calculated at a 10 meter /33 foot height. Since the majority of the Embarq poles are 30 feet or shorter, those poles are excluded from NESC load requirements; however, if an Embarq pole carries electric company circuits that exceed 750 volts to ground, those poles will be included in the inspection schedule.

4. Specific Pole Data Accumulation

Embarq will utilize the following methods to ensure the selected poles are inspected over an 8-year timeframe:

4.1 Implement a schedule of pole inventories by wire center

4.2 Conduct mutual inspections with electric companies as the agreements between the parties dictate

4.3 Utilize a contracted work force to perform pole inspections to complement Embarq trained technicians

4.4 Record data for each pole inspected

4.5 Pole specific data will include

4.5.1 Number of poles inspected by size and class

4.5.2 Number of poles passing test

4.5.3 Number of poles failing inspection/ reasons for failure

4.5.4 Number of poles requiring a change in inspection cycle

4.5.5 Number of poles replaced, braced or trussed as a result of the inspection/reason for replacement.

4.5.6 Number of poles exceeding acceptable load limits

4.5.7 Number of poles with an estimated pole life less than 8 years

4.5.8 Number of poles replaced not associated with inspection program and reason for replacement

Embarq will record the data associated with each pole inspected and will maintain a database from which an annual summary report can be generated to monitor and track the progress, effectiveness and cost of the inspection program.

5. Compliance

Embarq will ensure compliance through internal processes as follows:

5.1 Periodic quality assurance of the contractor or company employees performing the pole inspections and the quality of the data captured

5.2 Quarterly progress reports to Network Services operation Director Engineering

5.3 Ensure resources are maintained to meet annual pole inspection requirements

6. Poles Inspected During Normal Course of Business

Poles found to be unsafe by technicians during normal course of business in compliance with Embarq Practice 010-100-009 Climbing Equipment, Climbing Safety, Testing Poles and Working On Poles will be tagged per Embarq Irregular Plant Conditions Practice 010-100-024 Tagging and reporting Unsafe Equipment and Conditions, will be reported to the local supervisor and engineering manager for immediate remediation.

Pole failures occur as a result of various causes. Before climbing a pole or testing it for safe climbing conditions, the technician will make a visual check for excessive rake or unexplained leaning of a pole; bent, loose, or missing pole steps; the presence and distribution of large knots; climber gaff splinters; unauthorized signs, aerials, clotheslines; nearby interfering tree growth; and excessively tight or excessively slack drop or line wires on one side of pole.

Before climbing, technicians must test poles using any two of the following methods in a manner that will provide the greatest structural results.

1) Pike Pole Test: The pike pole test is applied by making a vigorous effort to rock the pole back and forth in a direction at right angles to that of the line by pushing the pole with a 12' or longer pike pole. If practicable, the pike pole is to be held at an angle of about 45 degrees. Caution must be exercised to not rock the pole so hard as to cause cables, drops, etc., or power lines to swing together. If it is found impractical to rock the pole without causing the wires to swing together, the pole must be given a steady push with the pike pole, applying as heavy a push as possible. If the pole withstands such a push, it must also be subjected to the prod and sounding test before being climbed.

2) Prod Test: (exploring the pole for rot at the ground level or below.) A long shank screwdriver (5 in. minimum) or test prod must be used. Apply pressure at ground level to pole by pushing prod into pole. For further determination, remove 6 inches or more dirt at base of poles and reapply inward pressure to pole by prod below ground level.

3) Hammer Test: Rap the pole sharply with a hammer weighing about 3 pounds, starting near the ground line and continuing upwards circumferentially around the pole to a height of approximately 6 feet. The hammer will produce a clear sound and rebound sharply when striking sound wood. Decay pockets will be indicated by a dull sound and/or a less pronounced hammer rebound. When decay pockets are indicated, the pole shall be considered unsafe.

4) Hand Line Test: The hand line method consists of applying a series of pulls to a pole with the objective of rocking the pole back and forth. Attach a rope to the pole at such a height that the pull must be applied at right angles to the direction of the line and at an angle of about 45 degrees with the pole. The same use limitations and precautions applying to the pike pole test, apply also to this method of testing. In attaching the rope to the pole, the pole must not be climbed, but the rope must be thrown over a fixed attachment, such as a pole step or a cross arm or a loop made at the base of the pole and moved into position by means of a convenient tool, such as a wire raising tool.

Poles found to be in an unsafe condition will be given immediate remedial action, e.g. trussing, bracing or replacement, within 10 business days.

7. Strength Assessments and Load Calculations

The strength and loading requirements specified in National Electrical Safety Code (NESC) Sections 25 and 26, only apply to Grade B and C construction, not Grade N 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. Sections 224 and 242 state the only time the communication facilities become a Grade B construction is when the communication facilities are higher than the electric circuits or the communications facilities are placed in the supply space on the pole. Embarq owned poles where electric supply cables or components do not exceed 750 volts are subject to NESC rules for Grade N construction.

Embarq owned poles that carry electric supply cables or components that exceed 750 volts (Priority 1) are subject to NESC rules for Grade B and C construction. Therefore, strength assessments will be conducted utilizing strength assessment software. Loading calculations will be performed for Embarq attachments on priority 1 poles.

New poles placed in service will be put into one of the two categories, either a Priority 1 or Priority 2 depending on the grade of construction. Poles that are added or replaced or changed due to the addition or removal of power distribution attachments exceeding 750 volts will be assigned either a Priority 1 or a Priority 2 status based on the new characteristics and inspected accordingly.