State of Florida

Public Service Commission

CAPITAL CIRCLE OFFICE CENTER • 2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FLORIDA 32399-0850

-M-E-M-O-R-A-N-D-U-M-

DATE: July 30, 2018

TO: Carlotta S. Stauffer, Commission Clerk, Office of Commission Clerk

FROM: Samantha Cibula , Office of the General Counsel SMC.

RE: Docket Nos. 20060172-EU and 20060173-EU

Please file the attached materials in the docket file listed above.

Thank you.

Attachment

Larry

TOM LEE
President

ALLAN G. BENSE
Speaker

THE FLORIDA LEGISLATURE

JOINT ADMINISTRATIVE PROCEDURES COMMITTEE

Representative Ellyn Setnor Bogdanoff, Chair
Senator Michael S. "Mike" Bennett, Vice-Chair
Senator Nancy Argenziano
Senator Larcenia J. Bullard
Representative Susan K. Goldstein
Representative Matthew J. "Matt" Meadows

F. SCOTT BOYD
EXECUTIVE DIRECTOR
AND GENERAL COUNSEL
Room 120, Holland Building
Tallahassee, Florida 32399-1300
Telephone (850) 488-9110

July 27, 2006

Mr. Larry Harris
Florida Public Service Commission
2540 Shumard Oak Blvd.
Tallahassee, Florida 32399-0862

RE: Florida Public Service Commission Rule Chapter 25-6

Dear Mr. Harris:

According to our records, the above referenced rules were noticed in the Florida Administrative Weekly on **July 7, 2006**. To date we have not received the rules and supporting documents.

Pursuant to §120.54(3), F.S., this Committee is to receive the rules and supporting documents each time a rule is noticed in the Florida Administrative Weekly. The 21-day time period provided for in §120.54(3)(a)4., F.S., does not start until the rule and supporting documents are received by the Committee.

If you have any questions, please do not hesitate to contact us.

Sincerely,

F. Scott Boyd

F. Scott Boyd
Executive Director
and General Counsel

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JUL 28 2006
FLORIDA PUBLIC SERVICE COMMISSION
OFFICE OF THE GENERAL COUNSEL

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SB:CR:C\WORD\JR\25-6MISSINGRULELTR.DOC.

TOM LEE
President

ALLAN G. BENSE
Speaker

THE FLORIDA LEGISLATURE

JOINT ADMINISTRATIVE PROCEDURES COMMITTEE

F. SCOTT BOYD
EXECUTIVE DIRECTOR
AND GENERAL COUNSEL
Room 120, Holland Building
Tallahassee, Florida 32399-1300
Telephone (850) 488-9110

September 19, 2006

Mr. Larry Harris
Associate General Counsel
Public Service Commission
Capital Circle Office Center
2540 Shumard Oak Boulevard
Tallahassee, Florida 23299-0850

Re: Public Service Commission Rule Chapter 25-6

Dear Mr. Harris:

I have completed a review of Chapter 25-6 and as we discussed, prepared the following comments for your consideration and response.

25-6.034
(4): A rule can not cite to an "applicable edition" of a document unless that document has been incorporated by reference.

(4)(b): Likewise, the "applicable edition" of the document would need to be incorporated by reference in order to be effective under the rule.

(5) and (6): The phrase "to the extent reasonably practical, feasible, and cost effective" is vague and should be explained.

25-6.0341
The phrase "to the extent reasonably practical, feasible, and cost effective" is vague and should be explained.

25-6.0342
(1): The "applicable edition" of the National Electric Safety Code (ANSI C-2) should be incorporated by reference.

COMMISSIONERS:
LISA POLAK EDGAR, CHAIRMAN
J. TERRY DEASON
ISILIO ARRIAGA
MATTHEW M. CARTER II
KATRINA J. TEW

STATE OF FLORIDA

OFFICE OF THE GENERAL COUNSEL
MICHAEL G. COOKE
GENERAL COUNSEL
(850) 413-6199

Public Service Commission

October 30, 2006

Mr. John Rosner, Esquire
Joint Administrative Procedures Committee
Room 120, Holland Building
Tallahassee, FL 32399-1300

Re: Chapters 2006-80 and 2006-230, Laws of Florida

Dear Mr. Rosner:

In response to your October 27, 2006, inquiry regarding the Public Service Commission's rulemaking to implement the provisions of Chapters 2006-80 and 2006-230, Laws of Florida, the Commission currently has two rulemaking dockets underway to adopt the rules required by these laws.

The Commission is scheduled to propose Rule 25-4.084, Florida Administrative Code, on December 19, 2006, which is shortly beyond 180 days from the date Chapter 2006-80, Laws of Florida, became effective. I note, however, that Section 120.54(1)(b), Florida Statutes, applies only to agencies of the executive branch, not to agencies of the legislative branch such as the Commission.

Section 44, Chapter 2006-230, Laws of Florida, requires the Commission to "establish, by rule" a cost recovery mechanism within 6 months after enactment, which is December 18, 2006. The Commission currently plans to propose a rule on November 21, 2006.

Please contact me if I can be of further assistance.

Sincerely yours,

Michael G. Cooke
General Counsel

MGC/ctm
cc: Christiana Moore
Larry Harris

20060172-EU

STATE OF FLORIDA

Public Service Commission

November 7, 2006

Mr. John Rosner
Chief Attorney
Joint Administrative Procedures Committee
Room 120, Holland Building
Tallahassee, FL 32399-1300

Re: PSC Rule 25-6.0343, FAC

Dear Mr. Rosner:

Thank you for taking the time to speak with me regarding your concerns with incorporation of the National Electric Safety Code (NESC) into Rule 25-6.0343, Municipal Electric Utility and Rural Electric Cooperative Reporting Requirements. To satisfy your concerns, we will be making the following technical change to the rule when it is filed for adoption:

Paragraph 3(a), the first sentence will read: Comply, at a minimum, with the National Electric Safety Code (ANSI C-2) [NESC], incorporated by reference in Rule 25-6.0345, F.A.C.

Thank you for your time and assistance. If I can provide any further information, please do not hesitate to contact me at 413-6076 or lharris@psc.state.fl.us.

Sincerely,

Larry D. Harris
Associate General Counsel

TOM LEE
President

ALLAN G. BENSE
Speaker

THE FLORIDA LEGISLATURE
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F. SCOTT BOYD
EXECUTIVE DIRECTOR
AND GENERAL COUNSEL
Room 120, Holland Building
Tallahassee, Florida 32399-1300
Telephone (850) 488-9110

November 20, 2006

Mr. Larry Harris
Associate General Counsel
Public Service Commission
Capital Circle Office Center
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: Public Service Commission Rule Chapter 25-6

Dear Mr. Harris:

Thank you for providing me with the latest copy of chapter 25-6. I have completed a review of the changes and prepared the following comments for your consideration and response.

According to my records, a notice of change has not been filed for the rules under consideration. The rules can not be filed for adoption until after the notice of change has been published.

25-6.034(2)(b)
Does this rule contemplate the utilization of other issues of the NESC? If so, each such edition must be incorporated by reference pursuant to section 120.54(1)(i)1., F.S.

25-6.0342(5)
The rule refers to "other applicable standards imposed by state and federal law." Each such standard should be identified and incorporated by reference in the rule.

I am available at your convenience to discuss the foregoing remarks.

Sincerely,

John Rosner
Chief Attoreny

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25-6.0343
(1)(d), (1)(d)2. and (3)(a).: A rule can not cite to an "applicable edition" of a document unless that document has been incorporated by reference.

(1)(d)1.: It is not necessary to incorporate by reference a document which has already been incorporated in rule 25-6.034(4).

(1)(e) and (1)(f): The phrase "to the extent reasonably practical, feasible, and cost effective" is vague and should be explained.

(2): The phrase "to the extent practical, feasible, and cost effective" is vague and should be explained.

I am available at your convenience to discuss the foregoing comments.

Sincerely,

John Rosner
Chief Attorney

JR:CR:WORD/JOHN/25-6.034LS091906_138300.DOC

COMMISSIONERS:
LISA POLAK EDGAR, CHAIRMAN
J. TERRY DEASON
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KATRINA J. TEW

STATE OF FLORIDA

OFFICE OF THE GENERAL COUNSEL
MICHAEL G. COOKE
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Public Service Commission

October 30, 2006

Mr. John Rosner, Esquire
Joint Administrative Procedures Committee
Room 120, Holland Building
Tallahassee, FL 32399-1300

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Sincerely yours,

Michael G. Cooke
General Counsel

MGC/ctm
cc: Christiana Moore
Larry Harris

20060172-EU

STATE OF FLORIDA

GENERAL COUNSEL
MICHAEL G. COOKE
(850) 413-6248

Public Service Commission

November 7, 2006

Mr. John Rosner
Chief Attorney
Joint Administrative Procedures Committee
Room 120, Holland Building
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Sincerely,

Larry D. Harris
Associate General Counsel

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November 20, 2006

Mr. Larry Harris
Associate General Counsel
Public Service Commission
Capital Circle Office Center
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: Public Service Commission Rule Chapter 25-6

Dear Mr. Harris:

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25-6.0342(5)
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Sincerely,

John Rosner
Chief Attoreny

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R7

STATE OF FLORIDA

GENERAL COUNSEL
MICHAEL G. COOKE
(850) 413-6248

Public Service Commission

December 20, 2006

Mr. John Rosner
Joint Administrative Procedures Committee
Room 120 Holland Building
Tallahassee, FL 32399-1300

Re: Docket No. 060172-EU – Proposed rules governing placement of new electric distribution facilities underground, and conversion of existing overhead distribution facilities to underground facilities, to address effects of extreme weather events.
Docket No. 060173-EU – Proposed amendments to rules regarding overhead electric facilities to allow more stringent construction standards than required by National Electric Safety Code.

Dear Mr. Rosner:

Enclosed is a copy of the Notice of Change. It was inadvertently omitted from our previous correspondence dated December 13, 2006.

Sincerely,

Larry D. Harris
Associate General Counsel

Enclosure

Larry Harris

From: Masterton, Susan S [LTD] [Susan.Masterton@embarq.com]

Sent: Tuesday, October 31, 2006 5:23 PM

To: Larry Harris

Cc: Rehwinkel, Charles J [LTD]; jerry.hendrix@bellsouth.com; dorian.denburg@bellsouth.com; Nancy Sims; james.meza@bellsouth.com; stan.greer@bellsouth.com; jennifer.kay@bellsouth.com; David Christian; de.oroark@verizon.com; Chris McDonald; Michael Gross; gene@penningtonlaw.com; swright@yvlaw.com

Subject: Rule Revisions

Larry, below are suggested revisions to address the concerns discussed this morning with the "shall/may" issue regarding electric utility submission of storm hardening plans. (In the interests of getting this to you quickly, I have only included the subsections that are revised using the draft Dorian provided this morning as a base.) In addition, the changes address the concern expressed that it be clear that attaching entities have standing. Our changes are noted in blue and in all caps.

All of those who attended the meeting this morning (and who are copied on this e-mail) have agreed to the submission of these revisions.

We look forward to hearing from you regarding our suggested changes.

Rule 25-06.0342 Electric Hardening Standards

2) Storm Hardening Plans. Each investor-owned utility [DELETEmayDELETE] SHALL, no later than 90 days after the effective date of this rule, file with the Commission for its approval a detailed storm hardening plan. COMMISSION APPROVAL OF ANY ELECTRIC UTILITY'S PLAN SHALL NOT BE CONSTRUED AS A REQUIREMENT TO HARDEN. Any plan filed shall be updated every three years, unless the Commission, on its own motion or on petition by a substantially affected person, ANY THIRD PARTY ATTACHER, ANY ENTITY WHICH SHARES THE USE OF THE ELECTRIC FACILITIES, or a utility, initiates a proceeding to review and, if appropriate, modify the plans. When filing its plan, or updated or modified plan, the electric utility shall serve all of the parties to this docket and all affected attaching entities with a copy at the same time it files the document with the Commission. [Discuss how attaching entities receive notice if modification is prompted by Commission or other person/utility.] In a proceeding to approve a utility's plan, the Commission shall consider whether the utility's plan meets the desired objectives of enhancing reliability and reducing restoration costs and outage times in a prudent, practical, and cost-effective manner to the affected parties, BASED ON EACH UTILITY'S SPECIFIC CIRCUMSTANCES, INCLUDING BUT NOT LIMITED TO THE UTILITY'S GEOGRAPHY AND ACTUAL STORM DAMAGE AND RESTORATION EXPERIENCE.

(3) Contents of Plan: each utility storm hardening plan shall contain a detailed description of the construction standards, policies, practices, and procedures employed, BASED ON EACH UTILITY'S SPECIFIC CIRCUMSTANCES, INCLUDING BUT NOT LIMITED TO THE UTILITY'S GEOGRAPHY AND ACTUAL STORM DAMAGE AND RESTORATION EXPERIENCE, to enhance the reliability of overhead and underground electrical transmission and distribution facilities in conformance with the provisions of this rule. Each filing shall address, BASED ON EACH UTILITY'S SPECIFIC CIRCUMSTANCES, INCLUDING BUT NOT LIMITED TO THE UTILITY'S GEOGRAPHY AND ACTUAL STORM DAMAGE AND RESTORATION EXPERIENCE, the extent to which the utility's storm hardening plan:

(a) Complies, at a minimum, with the National Electric Safety Code (ANSI C-2) [NESC] that is applicable pursuant to Rule 25-6.034(2), F.A.C.

(b) Adopts [DELETEtheDELETE] STRENGTH STANDARDS WHICH EXCEED THE NESC REQUIREMENTS, INCLUDING BUT NOT LIMITED TO extreme wind loading standards specified by Figure 250-2(d) of the 2007 edition of the NESC for the following distribution facilities:

1. new construction;

2. major planned work, including expansion, rebuild, or relocation of existing facilities, assigned on or after the effective date of this rule; and

3. critical infrastructure facilities and major thoroughfares taking into account political and geographical boundaries and other applicable operational considerations.

(c) Is designed to mitigate damage to underground and supporting overhead transmission and distribution facilities due to flooding and storm surges.

(d) Provides for the placement of new and replacement distribution facilities so as to facilitate safe and efficient access for installation and maintenance pursuant to Rule 25-6.0341, F.A.C.

(4) Deployment Strategy: Each utility storm hardening plan shall explain the systematic approach the utility will follow to achieve the desired objectives of enhancing reliability and reducing restoration costs and outage times associated with extreme weather events, BASED ON EACH UTILITY'S SPECIFIC CIRCUMSTANCES, INCLUDING BUT NOT LIMITED TO THE UTILITY'S GEOGRAPHY AND ACTUAL STORM DAMAGE AND RESTORATION EXPERIENCE. The utility's storm hardening plan shall provide a detailed description of its deployment strategy including, but not limited to the following:

(a) A description of the facilities affected; including technical design specifications, construction standards, and construction methodologies employed.

(b) The communities and areas within the utility's service area where the electric infrastructure improvements, including facilities identified by the utility as critical infrastructure and major thoroughfares pursuant to subparagraph (3)(b)3, are to be made.

(c) The extent to which the electric infrastructure improvements involve joint-use facilities on which third party attachments exist.

(d) An estimate of the costs and benefits to the utility of making the electric infrastructure improvements, including the effect on reducing storm restoration costs and customers outages.

(e) An estimate of the costs and benefits, obtained pursuant to subsection (5) below, to third-party attachers affected by the electric infrastructure improvements, including the effect on reducing storm restoration costs and customers outages realized by the third-party attachers.

Susan S. Masterton, Counsel
Law and External Affairs - Regulatory
Embarq
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State of Florida

Public Service Commission

CAPITAL CIRCLE OFFICE CENTER • 2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FLORIDA 32399-0850

-M-E-M-O-R-A-N-D-U-M-

DATE:	August 31, 2006
TO:	Blanca S. Bayó, Commission Clerk and Administrative Services Director
FROM:	Lawrence D. Harris, Senior Attorney, Office of the General Counsel
RE:	Docket Nos. 060172-EU and 060173-EU

Please file the attached correspondence in the above-mentioned docket files.

LDH
Attachment

State of Florida

Public Service Commission

CAPITAL CIRCLE OFFICE CENTER • 2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FLORIDA 32399-0850

-M-E-M-O-R-A-N-D-U-M-

DATE: August 29, 2006

TO: Office of General Counsel (Moore)

FROM: Division of Economic Regulation (Hewitt)

RE: Revised Statement of Estimated Regulatory Costs for Proposed Amendments to Rule 25-6.034, F.A.C., Standard of Construction; Rule 25-6.0345, F.A.C., Safety Standards for Construction of New Transmission and Distribution Facilities, Rule 25-6.064, F.A.C., Extension of Facilities; Contributions-in-Aid-of-Construction, Rule 25-6.078, F.A.C., Schedule of Charges, and proposed new Rule 25-6.0341, F.A.C., Location of Utility Facilities, Rule 25-6.0342, F.A.C., Third-Party Attachments Standards and Procedures, and Rule 25-6.0343, F.A.C., Standards of Construction – Municipal Electric Utilities and Rural Electric Cooperatives. Docket No. 060172-EU and 060173-EU

SUMMARY OF THE RULE

The above rules contain the requirements for electric utilities to construct their electrical systems to a minimum standard which is installed, maintained, and operated in accordance with generally accepted engineering practices. The rules require that utilities comply with applicable safety standards for transmission and distribution facilities by the National Electric Safety Code (NESC). The rules also contain the procedures for the calculation of contributions-in-aid-of-construction (CIAC) by customers requesting extension of distribution facilities. The rules contain the schedule for charging a differential cost for providing underground service. Finally, the rules contain the requirement that investor-owned utilities (IOUs) file a tariff for deposit amounts for the conversion of overhead electric to underground facilities.

The proposed rule amendments would add specificity to the broad policy of construction standards and require each IOU to establish its own construction standard for overhead and underground electrical transmission and distribution facilities. Each IOU would also have to establish guidelines and procedures for the application of the extreme wind loading standards to (1) new construction, (2) major planned upgrades and relocation of existing facilities, and (3) targeted critical infrastructure and major thoroughfares. Also, the proposed changes would adopt the NESC as the minimum applicable safety standards for transmission and distribution facilities. Rule changes would establish a uniform procedure to calculate amounts due as CIAC. Clarification is made in the rule concerning facility charges on the conversion of underground

electrical distribution facilities requested by applicants. Also a requirement is included that the net present value of operational and storm restoration costs must be used when calculating the cost of construction of underground distribution facilities and new overhead facilities.

A new proposed rule would facilitate and encourage the placement of electric distribution facilities in readily accessible locations such as adjacent to public roads and along front edges of properties. Another proposed rule would require IOUs to establish written procedures for attachments by others to the utility's poles. An additional new proposed rule would require municipal and cooperative electric utilities to establish standards of construction for all overhead and underground electrical transmission and distribution facilities to ensure adequate, reliable, and safe electric service.

Other minor changes are also proposed to clarify CIAC calculations, expand the costs included in determining overhead/underground cost differences, and allow waiver of CIAC in certain circumstances.

ESTIMATED NUMBER OF ENTITIES REQUIRED TO COMPLY AND GENERAL DESCRIPTION OF INDIVIDUALS AFFECTED

The five investor owned electric utilities (IOUs), 18 electric cooperatives, and 34 municipally operated companies would be affected by the proposed rule changes. The electric companies sell electricity to industrial, commercial, and residential customers throughout the state. In addition, cable television companies, incumbent local exchange telephone companies (LECs), as well as any other telecom carriers owning electric utility pole-attached equipment, could be possibly be affected by some of the proposed rule changes. As of June 30, 2006 there were 10 ILECs, 394 competitive LECs, 654 Interexchange Telephone Companies (IXCs), 24 Alternative Access Vendor Services (AAVs), 13 AAVs with CLEC authority, and an unknown number of non-PSC regulated companies which have pole attachments.

RULE IMPLEMENTATION AND ENFORCEMENT COST AND IMPACT ON REVENUES FOR THE AGENCY AND OTHER STATE AND LOCAL GOVERNMENT ENTITIES

There would be some implementation and enforcement costs for the Commission as it monitors compliance with the proposed rule changes. The Commission would benefit by the proposed rule amendments from fewer petitions for storm damage relief. There should be no impact on agency revenues and the costs of administering the rules would be covered by existing staff.

There should be no negative impact on other state and local government entities. Those entities should benefit from the improved electrical transmission and distribution systems.

ESTIMATED TRANSACTIONAL COSTS TO INDIVIDUALS AND ENTITIES

Electric Utilities' Costs

IOUs would have significant transactional costs from the proposed rule changes. The four major IOUs reported estimated costs to implement storm hardening programs for their systems to range between $63 million and $193 million. The cost estimates are based on capital additions to pre-2006 capital budget levels and do not include ongoing operation and maintenance costs. However, the additional costs are relatively minor compared to the hundreds of million dollars in damage caused by storms in the past few years. Other rule changes would have additional costs but estimates are not available at this time.

Municipal (Munis) and cooperative (Co-ops) electrical utilities could also have significant costs that would be similar to the IOUs' costs if they hardened some of their systems to the same standards.

Benefits

The IOUs and others including any utility or resources provider attaching to the poles would benefit from strengthening of their facilities if less damage is incurred and service interruptions are decreased thus lessening lost revenues.

Electric company customers could benefit significantly from the proposed rule changes because the electrical service system should better withstand storms and hurricanes, although the ratepayers may eventually pay for all or some of the additional costs for the upgrades.

Other Affected Parties

Moving the placement of IOU electric distribution facilities to readily accessible locations could possibly impact non-electric companies that attach their equipment on utility poles to the extent the attaching entities must move their facilities as well. These parties fear some combination of higher pole rates, costs to move pole locations with the electrics, the cost if they go underground and possible increases in costs to maintain abandoned poles

Entities with pole attachment interests also filed comments and cost estimates on the proposed rule changes. Although the comments were mainly concerned with the additional costs to implement hardening of the infrastructure, these entities and their customers would also benefit substantially from fewer and shorter outages from downed poles and lines.

Telecommunication Companies' Costs

BellSouth states that it owns approximately 307,459 poles in the state of Florida bearing attachments (lines, transformers, etc.) by electric utilities. BellSouth's lines and facilities are also attached to approximately 756,000 electric utility poles, including those of IOUs, Munis, and Co-ops throughout Florida. BellSouth is concerned that it and other equipment attachers to electric utility poles may have to bear some or all of the costs of hardening or maintain the poles

by itself, moving the aerial lines, or of placing its lines underground if the electric utility removes its facilities. BellSouth indicates that it may face higher pole rental rates with the installation of new, improved poles.

If the electrics installed non-wood poles, such as steel, fiberglass, or concrete, BellSouth estimates that it could spend approximately $55 additionally per attachment. If an electric utility choose to replace existing poles with taller, stronger poles, the cost to BellSouth to transfer its facilities would range from $95 for a simple transfer to $470 for a complex transfer, per pole. A 10% change-out of existing facilities would cost at least an estimated $7,182,000.

If the electric utility moved its facilities from the back of a property to the front, and maybe go underground, BellSouth would have to decide whether to stay on the old pole or move to the front of the property, with the attendant costs of the move. If BellSouth assumed ownership of the abandoned pole, it would cost an estimated $250-$300 per pole along with resulting administrative costs. It would also increase inspection costs by about $30 per pole. Assuming that 10% of the poles were abandoned, it would cost BellSouth between $18,900,000 and $22,680,000, plus any payments made to property owners to secure easements, resources to negotiate easements and new pole attachment agreements, and associated administrative costs.

If BellSouth chose to relocate to a new pole at the front of the property, the estimated cost would be between $25-$40 per foot. For relocating 10% of its aerial cable in a given year, or 18,900,000 feet, it would cost from $472,500,000 to $850,500,000.

BellSouth assumes that there would be some combination of the possible scenarios which would cost at least $500,000,000 at a 10% rate of change per period to achieve.

Embarq estimates that to move its facilities overhead-to-overhead on new electric poles would cost between $110,000 to $170,000 per mile. Embarq asserts that rear-lot lines can serve twice as many homes as front-lot lines. However, in most instances, homes on both sides of the street can be served by one line of poles on either side of the street. In an electric system overhead-to-underground situation, where Embarq also buries its facilities, the construction cost to retire aerial facilities and rebuild with buried facilities is estimated to cost between $190,000 to $260,000 per mile if Embarq has to pay for the trench and $90,000 to $120,000 per mile if the trench is provided by other parties. As far as the proposal to move line from the back of properties to the front, Embarq points out the added complexities of sharing the rights-of-way with water, gas, and sewer lines and the possibility for pole degradation in this area.

Embarq also offered a proposal for lower cost alternatives. First, it calls for the Commission to adopt the National Electrical Safety Code (NESC) but not exceed those construction standards. The NESC is currently followed by pole attachers and maintaining that minimum would not increase costs. Additionally, if the PSC allowed the electric utilities to exceed those standards, they would have the discretion to choose the degree of additional hardening. Embarq says that because the Commission cannot know what the standards will ultimately be, it cannot know the added value of the additional costs any new standards exceeding the NESC may engender.

Embarq also suggests that the Proposed Rule 25-6.0341, F.A.C., concerning the location of electric facilities, would have a lower cost if only applied to the installation of new facilities. However, these lower cost alternatives would not meet the objective of increasing the reliability of the existing electrical distribution system.

Verizon estimates that if it had to place attachments on 10% more poles, its costs would increase by some $20 million, most of which would be one-time engineering and transfer costs, in addition to increased attachment fees. Verizon conducted a feasibility study on Davis Island to convert to underground (UG) and determined the cost to be $4,000 per household.

Time Warner Telecom submitted comments and said that the proposed rule amendments would likely substantially affect its costs but did not provide cost estimates.

The Florida Cable Telecommunications Association (FCTA) filed comments on the proposed rules and pointed out that the electric distribution system is vital to its members' plant and their feed to their customers. FCTA estimates that relocating existing lines cost 1.5 to 2 times the cost of new lines. FCTA estimates it would cost approximately $20,000 per mile for overhead (OH) and $125 to $150 per service drop. UG costs approximately $35,000 to $40,000 per mile for new construction before development. Costs can be $100,000 to $150,000 per mile for established subdivisions because boring under roads and other obstacles costs $9 to $18 per foot.

City and Town Comments

The towns of Palm Beach and Jupiter Island (Towns) filed comments on the proposed rule changes concerning the value of Operation and Maintenance cost savings and storm restoration cost savings in(OH to UG conversions of the electrical system. The City of Fort Lauderdale indicated that its representatives would be presenting testimony at the hearing also. The Towns' comments refer to a study in progress of the life-cycle cost-effectiveness of UG compared to OH distribution facilities. While there are no quantitative cost estimates provided, preliminary results indicate qualitative improvements from an UG conversion of approximately 88 miles by the Brunswick Electric Membership Corporation in North Carolina on a barrier island.

In addition to the studies discussed by the Towns, a recent July 2006 quantitative study by the Edison Electric Institute, "Out of Sight, Out of Mind? A Study on the costs and benefits of undergrounding overhead power lines", addresses the historical performance data for OH/UG lines to evaluate the benefits and costs of placing more of the electric distribution infrastructure underground. The study found that it costs about $1 million per mile on average for undergrounding, or about 10 times the cost to install overhead power lines. The study also found that when compared to overhead power systems, underground systems tend to have fewer power outages, but the outage durations tend to be much longer. It found that UG power systems are not immune from outages due to storms and on net, reliability benefits from UG lines are uncertain and in most instances do not appear to be sufficient to outweigh the high price of installing UG. The report does recognize that there are other substantial benefits from UG lines,

aesthetics being the most significant. When confronted with the high up-front cost of OH/UG conversion, about 75% of the relatively wealthy electricity customers in a Lake Tahoe community in California refused to vote for UG lines. In a small survey of Virginia homeowners, the Virginia State Corporation Commission found that the willingness to pay for UG conversion was about $410 per customer on average. The study concludes that, "The challenge for decision makers is determining who will pay for these projects and who will benefit from them."

IMPACT ON SMALL BUSINESSES, SMALL CITIES, OR SMALL COUNTIES

There should be a net positive impact on small businesses, cities, and counties with improved storm hardened electrical system facilities. The cost of the improvements may be born by ratepayers, stockholders, or some combination along with other pole attachers, depending on the funding means chosen. These costs should be more than offset by the positive economic impact from fewer and shorter electric power outages.

CH:kb
cc: Mary Andrews Bane
Chuck Hill
Bob Trapp
Jim Bremen
Hurd Reeves

BEFORE THE PUBLIC SERVICE COMMISSION

In re: Proposed rules governing placement of new electric distribution facilities underground, and conversion of existing overhead distribution facilities to underground facilities, address effects of extreme weather events.	DOCKET NO. 060172-EU
In re: Proposed amendments to rules regarding overhead electric facilities to allow more stringent construction standards than required by National Electric Safety Code.	DOCKET NO. 060173-EU Filed: August 18, 2006

RESPONSIVE COMMENTS OF M.T. (MICKEY) HARRELSON, CONSULTANT, SUBMITTED ON BEHALF OF THE FLORIDA CABLE TELECOMMUNICATIONS ASSSOCIATION, INC., ON THE AFFIDAVIT OF DR. LAWRENCE M. SLAVIN AND APPENDIX 1 CONCERNING RULE 25-6.034, FLORIDA ADMINSTRATIVE CODE, FILED ON AUGUST 11, 2006, AS PART OF THE INITIAL COMMENTS OF VERIZON FLORIDA INC., CONCERNING PROPOSED AMENDMENTS TO RULES 25-6.034, 25-6.064, 25-6.078, AND 25-6.115

Dr. Slavin is particularly qualified to render opinions on proposed Rule 25-6.034 because of his education and background and his past and present service as a member of the NESC Subcommittee 5.

Dr. Slavin presented in Appendix 1 a thorough and technically oriented explanation of Grades of Construction, Loading requirements for grades B & C and strength requirements. He explained that direct wind forces on poles and lines increase in proportion to the square of the wind speed. The NESC requires applying extreme wind design to structures greater than 60 feet high, not to distribution poles of less height. Applying an extreme wind calculation, in the 150 mph zone, to a distribution pole will require a pole almost 400% as strong as required by the NESC. Even in the 110 mph zone the distribution pole must be 200 % as strong as presently required.

Figure 2 of Dr. Slavin's report illustrates that extremely strong (large diameter) wood poles will be required to provide the design strength which is now provided by the commonly used 40 foot class 4 pole. The results are a minimum class 1 is required. For 110 mph wind design a class H1, 120 mph and 130 mph requires a class H2, 140 mph requires a class H4, and 150 mph requires an H5.

I have checked with a large manufacturer of wood utility poles. The required class 1and H 1 thru H 5 wood poles, indicated in Figure 2, are rare to non-existent in today's supply of wood utility distribution poles. Approximately only one in 30 of the 40 foot poles produced is class 1. H 1 thru H 5 – 40 foot poles must be special ordered. A class H 5 – 40 foot pole is equivalent to the bottom 40 feet of an 80 foot class 1 pole. The volume of wood in a pole increases approximately 15% for each increase in pole class for a given pole length. Prices increase about the same amount (15%) per pole class increase for commonly available poles. The compound increase between a class 4 pole and a class 1 pole is 52%. The increase between class 4 and class H 5 is 306%.

The non-availability of large wood poles together with the high cost of utilizing steel or concrete poles for distribution lines are more reasons to go slowly with implementing Rule 25-6.034.

Dr. Slavin also pointed out that much of the damage to lines on less than 60 foot poles is caused by wind-blown debris rather than the direct effect of the wind.

I have observed that another large factor in pole safety failure is leaning poles. The poles did not break but leaned over to an unsafe angle due to storm forces and soil

too soft to hold the pole upright. Stronger (larger diameter) poles will not solve this problem. Storm guys, if practical, will solve the structure strength and soft soil problem.

Nothing is gained by having extremely strong distribution poles broken by flying trees and other debris or pushed over in soil too soft to resist the force of the wind.

I agree with Dr. Slavin's recommendations in paragraph 5 of Appendix 1 to his affidavit. Do not apply extreme wind design requirements to distribution poles or do so only under very limited, well-defined circumstances.

Submitted by:

Michael T. (Mickey) Harrelson, Consultant
Professional Engineer
P. O. Box 432
McRae, GA 31055

On behalf of the Florida Cable Telecommunications Association

Storm Hardening Workshop

Docket No. 060173

Verizon Florida, Inc.
July 13, 2006

Presentation Overview

- **VERIZON'S NETWORK RELIABILITY**
- **VERIZON'S NEW FIBER NETWORK**
- **COMMENTS ON THE RULES**
- **COST IMPACT**

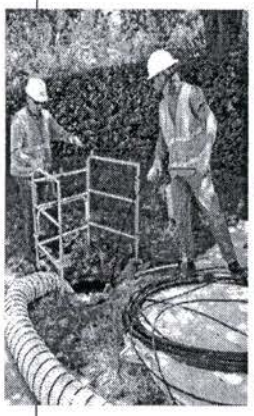
2

VERIZON'S NETWORK RELIABILITY

- Verizon actively maintains its network and invests heavily to ensure network reliability. A substantial portion of Verizon's Florida network already has been placed underground.
- Maintaining a sound, reliable network is critical in today's highly competitive market.
- Verizon is spending hundreds of millions of dollars to install fiber facilities underground.
- Verizon's fiber facilities deliver substantial benefits to consumers while increasing our network's ability to withstand storm conditions.

3

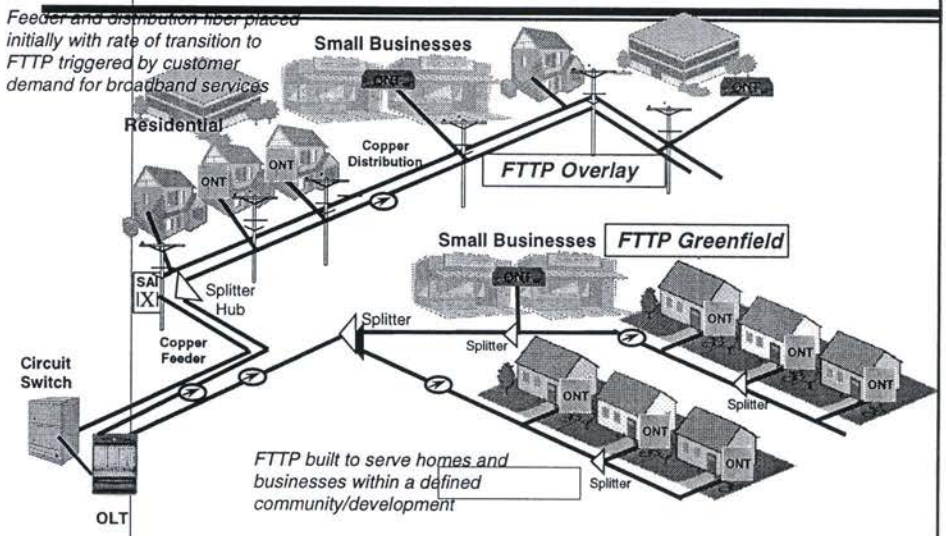
The New Network – Investment & Economic Stimulation



- **Verizon's new network is storm hardened – 99.9% underground.**
- **Verizon has passed 600,000 households to date.**
- **Verizon has placed > 26 million feet of fiber in Florida.**
- **Verizon has made a $550 million investment in FL so far.**
- **Verizon's project is moving ahead full speed.**

4

FTTP Overlay and Greenfield Environments



5

Comment on Rule 25-6.034: Standard of Construction

Issue	Proposed Resolution
Electric utilities given discretion to establish construction standards, which "at a minimum" comply with NESC. Electric utilities required to seek input from attachers, but may implement standards over opposition, subject to PSC review.	**Disputes concerning standards should be resolved by the PSC before they are implemented, not afterward.**
For construction of distribution facilities, electric utilities directed, "to the extent reasonably practical, feasible, and cost-effective," to "be guided by the extreme wind loading standards specified by Figure 250-2(d) of the 2002 edition of the NESC." These standards apparently may be applied to all types of distribution poles, regardless of height. The proposed rule would increase poll costs; applying the proposed standards when not appropriate would increase these costs substantially more.	**The rule should be clarified to specify the pole grades and heights to which it applies.**

6

Comment on Rule 25-6.0341: Location of The Utility's Distribution Facilities

Issue	Proposed Resolution
Electric utilities are not required to provide any specified notice of relocation of facilities to attachers. Although the proposed rule requires electric utilities to seek input from and to the extent practical coordinate the construction with attachers, details are not specified.	**Electric utilities should be required to provide at least 12 month's notice before major relocation projects.**
When an electric utility moves its facilities, third-party attachers as a practical matter often will need to relocate theirs, but no provision is made for compensating third-party attachers for their relocation costs.	**When the applicant compensates the electric utility for relocating its facilities, it also should be required to compensate third-party attachers for their relocation costs.**

7

Comment on Rule 25-6.0342: Third-Party Attachment Standards and Procedures

Issue	Proposed Resolution
Electric utilities given discretion to establish safety, reliability, pole loading capacity and engineering standards and procedures for others' attachments, which "shall meet or exceed" the NESC. Electric utilities required to seek input from attachers, but may implement standards over opposition, subject to PSC review.	**All standards must comply with applicable law and parties' joint use agreements. Disputes concerning standards should be resolved by the appropriate agency with jurisdiction before they are implemented, not afterward.**
Electric utilities could establish unreasonable standards that effectively prevent others from attaching to electric poles.	**All standards must comply with applicable law and parties' joint use agreements. Disputes concerning standards should be resolved by the appropriate agency with jurisdiction before they are implemented, not afterward.**
Electric utilities could apply the standards in a manner that effectively prevents others from attaching to electric poles.	**All standards must be applied in a manner that complies with applicable law and parties' joint use agreements. Disputes concerning application of standards should be resolved by the appropriate agency with jurisdiction on an expedited basis.**

8

PARTIAL COST IMPACT ANALYSIS

Verizon 3rd Party Projected Attachment Costs Due to Storm Hardening Requirements by Florida PSC

Based on Current Florida Attachments of: 397,246

Percent New Poles	Number of New Poles	Attachment Costs	Engineering Costs	Transfer Costs	Totals
10%	39,725	$1,231,463	$8,342,166	$10,328,396	$19,902,025
15%	59,587	$1,847,194	$12,513,249	$15,492,594	$29,853,037
20%	79,449	$2,462,925	$16,684,332	$20,656,792	$39,804,049
25%	99,312	$3,078,657	$20,855,415	$25,820,990	$49,755,062
30%	119,174	$3,694,388	$25,026,498	$30,985,188	$59,706,074
35%	139,036	$4,310,119	$29,197,581	$36,149,386	$69,657,086
40%	158,898	$4,925,850	$33,368,664	$41,313,584	$79,608,098
45%	178,761	$5,541,582	$37,539,747	$46,477,782	$89,559,111
50%	198,623	$6,157,313	$41,710,830	$51,641,980	$99,510,123

9

BellSouth
7/13/06

Florida Public Service Commission

Staff Workshop on Electric Rules

Assumptions

- Each Electric Company will ultimately develop its own construction standards that meet or exceed 2002 NESC guidelines.
- Each Electric Company will develop construction standards that will incorporate (if applicable) extreme wind load conditions for:
    1. New builds construction
    2. Major planned work
    3. Targeted critical infrastructure and major thoroughfares
- Each Electric Company will develop construction standards that will deter damage resulting from flooding and storm surge
- Each Electric Company shall seek input from other entities regarding the development of these standards

Cost of Conversion
Scenario 1 – Aerial to Aerial

- Electric Company abandons rear lot construction and replaces facilities with new, street side aerial facilities. BellSouth elects to remain on existing pole line.
  - Abandoned poles – Estimated Cost of $250-$300/pole
  - Acquisition of new easements
  - Pole inspections increase - Estimated Cost of $25-$30/pole
  - Administration of records change

- Electric Company abandons rear lot construction and replaces facilities with new, street side aerial facilities. BellSouth elects to replace rear lot facility and replace on new street side route.
  - BellSouth projected cost of replacement - Estimated Cost of $25-$40/foot

Cost of Conversion
Scenario 2 – Aerial to Buried

- Electric Company abandons rear lot construction and replaces facilities with new, street side buried/underground facilities. BellSouth elects to remain on existing pole line.
  - Abandoned poles - Estimated Cost of $250-$300/pole
  - Acquiring new easements
  - Pole inspections increase - Estimated Cost of $25-$30/pole
  - Administration of records change

- Electric Company abandons rear lot construction and replaces facilities with new, street side buried/underground facilities. BellSouth elects to replace rear lot facility and replace with buried/underground on new street side route.
  - BellSouth projected cost of conversion - Estimated Cost of $25-$50/foot

Additional Cost Consideration
Any Scenario

- Training on standards
- Facility damages
  - 75% of buried damages occur in street side ROW or utility easements
- Damage prevention
- Renegotiations of Joint Use, CATV and CLEC agreements
- Updates or changes to standards
- Additional manpower requirements
- Use of non-wood poles $50-$60 per pole to attach to non-wood
- Increase in pole rental fees
- Replacing good facilities
- Pole Inspection process
- Recovery of cost
  - BellSouth would not be a 'cost causer'

Exhibit 3
060172/060173

Florida Public Service Commission
Electric Rules Hearing

August 31, 2006

BELLSOUTH®

BellSouth's Costs

$4 Billion +

BELLSOUTH®

Summary of Proposed Rules

- Each Electric Company will ultimately develop its own construction standards that meet or exceed 2002 NESC guidelines.
- Each Electric Company will develop construction standards that will incorporate (if applicable) extreme wind load conditions for:
  - New builds construction
  - Major planned work
  - Targeted critical infrastructure and major thoroughfares
- Each Electric Company will develop construction standards that will deter damage resulting from flooding and storm surge
- Each Electric Company shall seek input, but not be required to accept input, from other entities regarding the development of these standards

Financial Impact

- Electric Company abandons rear lot construction and replaces facilities with new, street side aerial/buried facilities. BellSouth elects to remain on existing pole line.
  - Abandoned poles – Estimated Cost of $250-$300/pole
  - Acquisition of new easements
  - Pole inspections increase - Estimated Cost of $25-$30/pole
  - Administration of records change

✓ ***Range of anticipated cost $18,900,000 - $90,720,000***

- Electric Company abandons rear lot construction and replaces facilities with new, street side aerial/buried facilities. BellSouth elects to replace rear lot facility and replace on new street side route.
  - BellSouth projected cost of replacement - Estimated Cost of $25-$50/foot

✓ ***Range of anticipated cost $472,500,000 - $3,780,000,000***

BELLSOUTH®

Financial Impact

- Pole Transfers Initiated by Pole Replacements
  - Construction standards may include replacing poles for additional height or strength, as defined by each electric company standards

✓ ***Range of anticipated cost $7,182,000 - $142,128,000***

The Proposed Rules:

- **Will result in conversion of existing facilities**
- **Will result in pole replacements**

Range of anticipated cost to BellSouth:
$500 Million - $4 Billion

BELLSOUTH®

(+) Additional Costs

- Increase in pole rental fees
- Facility damages
  - 75% of buried damages occur in street side ROW or utility easements
- Damage prevention
- Renegotiations of Joint Use, CATV and CLEC agreements
  - Cost shifting via Joint Use Agreements
- Updates or changes to standards
- Additional manpower requirements
- Use of non-wood poles
- Replacing good facilities
- Pole Inspection process
- Training on standards

These are real considerations…

But quantifying these costs is difficult due to uncertainty in the standards

BELLSOUTH®

Proposed Rules: Premature and Over Reaching

- Pole Inspection Program delivers data to support subsequent remediation
  - Compliance reporting requirements include
    - Number of poles failing inspection
    - Number of poles requiring minor follow-up
    - Number of poles that were overloaded
    - Number of poles with an estimated pole life of less than 10 years
- Definition of construction standards could invalidate inspection process

Premature and Over Reaching

- Proposed rulemaking uses 2002 version of NESC as a baseline
  - NESC is updated every five years
  - NESC will provide update in 2007
- Proposed rulemaking indicates the revised construction standards would be applicable to:
  - New Builds
  - Conversions
  - Critical Infrastructures
  - Major Thoroughfares

Premature and Over Reaching

Experience from Wilma-

- Poles that snapped were made of concrete as well as various strengths of wood. Some were new….
- Damage to substations contributed significantly to extended, widespread power outages
- Distribution poles damaged or destroyed represented a miniscule portion of the overall network damaged by Wilma

Summary

The questions we must ask are……

- ✓ Are the right resources being directed to the right remedy?
- ✓ Is the price worth the potential benefit?
- ✓ Have we collectively analyzed the problem to address the right things?
- ✓ Are there alternatives that can positively impact the problem – and thus drive the desired consumer benefit – faster, and in a less costly manner?

Summary

- **Yes**, BellSouth suggests there are more efficient solutions that may result in an even more favorable outcome

- We propose a 3-step collaborative approach

Infrastructure Hardening Proposal

Establish Infrastructure Advisory Committee (IAC)

- Purpose – Multi-industry committee dedicated to evaluation and application of overall network hardening
  - Step 1: Priority issues to address
    - Evaluation of existing and proposed Construction and Attachment standards
    - Increasing efficiency of hurricane restoration efforts
    - Identification of specific geographic areas to assess all critical infrastructures and necessary hardening efforts

Timeline – Within 30 days*

* From industry-agreed start date

BELLSOUTH

Infrastructure Hardening Proposal

Infrastructure Advisory Committee (IAC)

- Step 2: Priority issues to address
  - Evaluation of target areas
  - Coordination of pole inspections as 'first strike' data gathering process
  - Communication of hardening projects to provide for consolidated industry coordination
  - How to coordinate longer term hardening efforts

Timeline – Within 60 days*

* From industry-agreed start date

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Infrastructure Hardening Proposal

Infrastructure Advisory Committee (IAC)

- Step 3: Priority issues to address
  - Develop construction standards with all industry participants
  - Develop attachment standards with all industry participants
  - Develop Joint Trench standards for all new construction in a buried facility environment
  - Continuous monitoring of pole inspection data to determine further actions

Timeline – Within 180 days*

* From industry-agreed start date – and within the same timeframe as proposed rules

Exhibit 4
Verizon presentation
060172 & 060173

Outside Plant Consulting Services, Inc.

National Electrical Safety Code
&
Extreme Wind Loads Applied to Distribution Poles

Florida PSC Hearing
August 31, 2006

Dr. Lawrence M. (Larry) Slavin
lslavin@ieee.org
973-983-0813 (voice/fax)

1

Florida PSC Proposed Rule 25-6.034(5)

(Extreme Wind Loading)

2

PSC Proposed Rule 25-6.034(5)

Situation likely would be made worse

- Delayed restoration (more downed poles) following typical storms
- Errors in implementation
- Significantly increased vehicular fatalities and injuries
- Unknown unintended consequences

3

PSC Proposed Rule 25-6.034(5)

Increased costs

- Typical joint-usage distribution application poles required to be 1½ - 4 times present required strength (3 - 8 pole Class sizes)
- Alternatively, correspondingly shorter span lengths -- requiring 1½ - 4 times more poles

4

Change Proposal CP2766
(NESC 2007 Preprint)

- Extends Extreme Wind Loading to structures ≤ 60 ft.
- Much less radical than proposed PSC Rule 25-6.034(5)
- Limits wind pressure* for such structures

* corresponding to wind speeds causing wind-blown debris, branches

5

Change Proposal CP2766
(NESC Subcommittee Decision)

- Rejected by vote of 17 to 7 (1 abstention)
- "CP's 2766, 2673, and 2798 are rejected based on information obtained from public comments. Utility experience has demonstrated that electrical distribution and communication line structures, under 60 ft in height, are damaged during extreme wind events by trees, tree limbs, and other flying debris. Designing structures with heights less than 60 ft for extreme winds will increase pole strengths for distribution systems resulting in large increases in cost and design complexity without commensurate increase in safety. Safety of employees and the public is provided using the current NESC loading requirements."

6

National Electrical Safety Code

(Accredited Standards Committee C2)

7

National Electrical Safety Code (NESC)

- Electrical Supply and Communications Lines
- Outdoor Delivery Lines, Hardware and Equipment (vs. NEC: Indoor/Utilization Wiring)
- Overhead and Underground
- Performance/Safety Code (not Design Code) -- "Basic Provisions for Safety"

8

National Electrical Safety Code (NESC)

Section		
9	**SC 2**	Grounding Methods
10-19	**SC 3**	Electric Supply Stations
20-23	**SC 4**	Overhead Lines - Clearances
24-27	**SC 5**	Overhead Lines - Strength & Loading
30-39	**SC 7**	Underground Lines
40-44	**SC 8**	Work Rules

9

NESC Strength & Loading Review

- NESC 2002
- NESC 2007
  - Accepted Changes
  - Rejected Changes
- PSC Proposed Rule 25-6.034
- Recommendations

10

NESC 2002

11

Section 25
"Loadings for Grades B and C"

- Rule 250B (Combined Ice and Wind Loading)
- Rule 250C (Extreme Wind Loading)

Section 26
"Strength Requirements"

- Rule 261 ("Grades B and C Construction")
- Rule 263 ("Grade N Construction")

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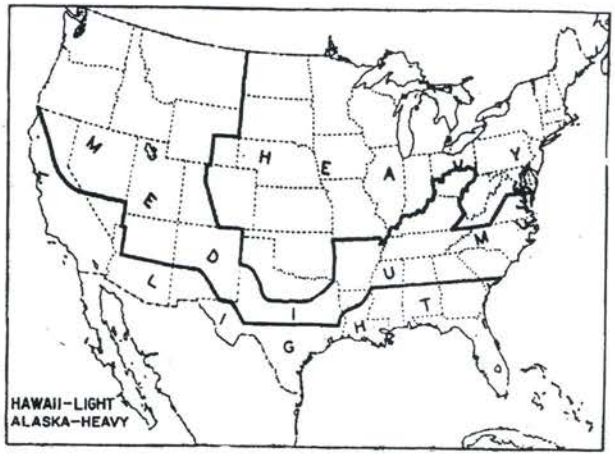
PART 2. SAFETY RULES FOR OVERHEAD LINES

Storm Loading Map Rule 250B
Combined Ice and Wind



Loading Districts

Fig 250-1
General Loading Map of United States
with Respect to Loading of Overhead Lines

IEEE
Networking the World

NESC "Winter" Storm (Rule 250B)

Combined Ice and Wind Loading

- Heavy (0.5-in. radial ice, 40 mph wind, 0°F)
  - 4 lbs. per sq. ft. wind pressure load (projected area)
- Medium (0.25-in. radial ice, 40 mph wind, 15°F)
  - 4 lbs. per sq. ft. wind pressure load (projected area)
- "Light" (0-in. radial ice, 60 mph wind, 30°F)
  - 9 lbs. per sq. ft. wind pressure load* (projected area)

* Wind pressure is proportional to square of wind speed

14

2002 Extreme Wind Map (Rule 250C)

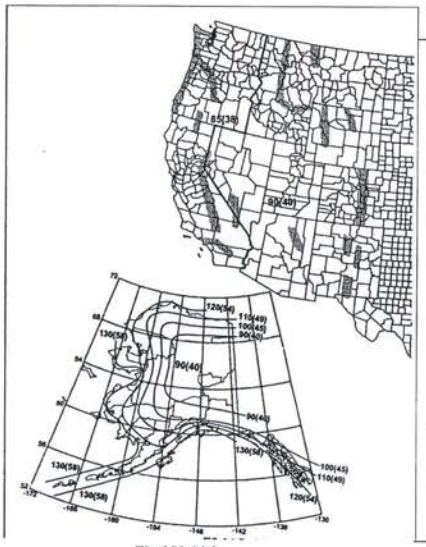


Fig 250-2(a)
Basic Wind Speeds

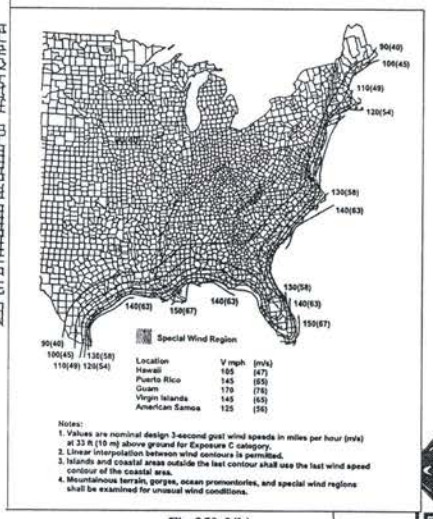


Fig 250-2(b)
Basic Wind Speeds

IEEE
Networking the World

(Note: Not required for structures ≤ 60 ft. height)

15

2002 Extreme Wind Map (Rule 250C)

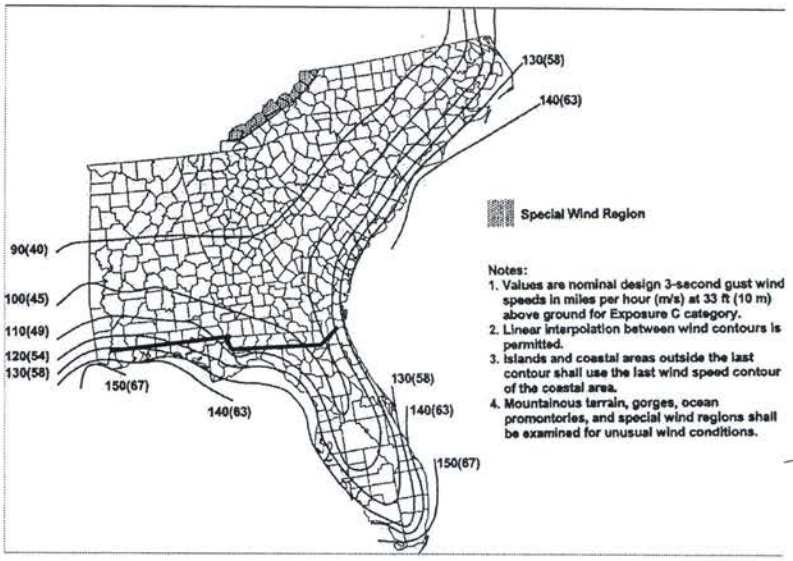


Fig 250-2(d)
Eastern Gulf of Mexico and Southeastern US Hurricane Coastline

IEEE
Networking the World

16

NESC 2002 "Summer" Storm (Rule 250C)

- ASCE 7-98 Extreme Wind Map
  - 50 year recurrence (0.02 annual probability)
  - Gusts (3-second average)*
  - Open terrain (ASCE Exposure C)
  - 33 ft. elevation
- Includes Gust Response Factors
  - Height
  - Span length
- Not required for structures $\leq$ 60 ft. height

* approx. 20% greater than 1-minute averages for categorizing hurricane levels (Saffir Simpson Hurricane Scale)

17

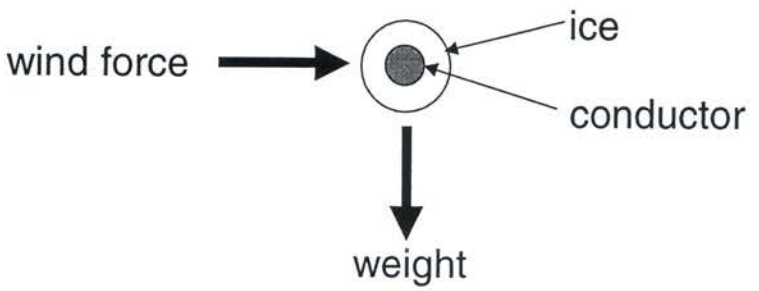
Conductor Loading

Combined Ice and Wind, or Extreme Wind

- Vertical weight of bare conductor plus ice
- Horizontal force of wind on conductor plus ice
- "Additive constant" to resultant (for tension)
- Corresponding temperature (0°F, 15°F, 30°F; 60°F)

18

Conductor Loading



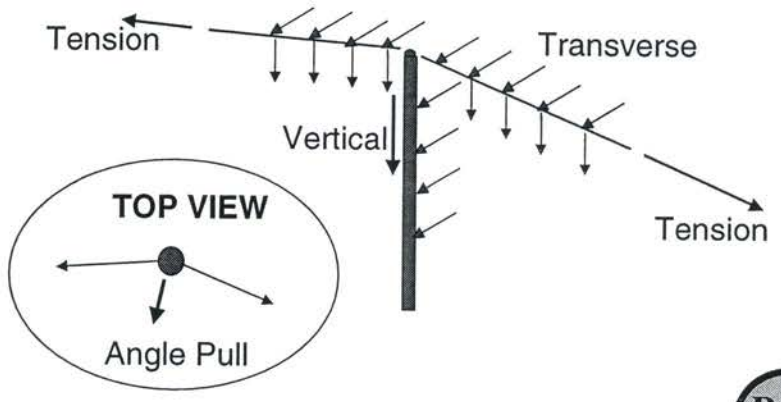
19

Loads on Line Supports

- Vertical Loads
  - Dead weight of bare supports and conductors
  - Ice load on conductors and wires (not supports)
- Transverse Loads
  - Wind force on bare structures (without ice)
  - Wind force on ice-covered conductors and wires

20

Loads on Line Supports

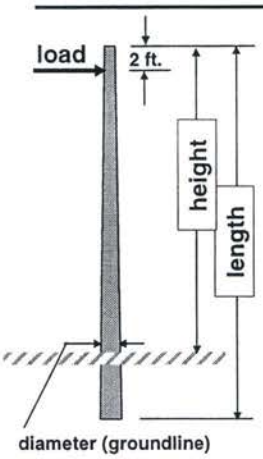


21

Wood Pole Strength & "Class"

22

ANSI-O5.1 Wood Pole Standard



Pole Class (Size*)	Strength/Capacity (lbs)
10	370
9	740
7	1,200
6	1,500
5	1,900
4	2,400
3	3,000
2	3,700
1	4,500
H1	5,400
H2	6,400
H3	7,500
H4	8,700
H5	10,000
H6	11,400

* Stronger pole (Class Size) ⇒ larger diameter
** Longer pole, same Class ⇒ larger diameter

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Strength & Overload Factors Supports (Structures, Guys, ...)

Strength x **Strength Factor** ≥ Load x **Overload Factor**

or

Strength ≥ Load x **Overload Factor ÷ Strength Factor**

Thus, effective "Design/Safety Factor" =

Overload Factor ÷ Strength Factor

24

Strength & Overload Factors Supports (Structures, Guys, ...)

Strength ≥ Load x "Design/Safety Factor"

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Conductor/Messenger (NESC Rule 261)

- Combined Ice-Wind
  (60% rated strength)
- Extreme Wind
  (80% rated strength)
- Tension increased by "additive constant"

26

Grade of Construction (NESC Section 24)

- Grade B
  - Highest - most "reliable" grade
  - Crossings (railroad, limited-access highways)
  - Details (voltage levels, type cables, area, ...)
- Grade C
  - > 750 volts (primary power)
  - Details (voltage levels, type cables, area, ...)
  - Typical distribution design (joint-usage, power, ...)

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Grade of Construction (NESC Section 24)

- Grade N
  - Lowest grade
  - e.g., ≤ 750 volts (telecommunications, secondary power, "rural" area*, ...)
  - No detailed requirements (NESC Rule 263)
    - "need not be equal to or greater than Grade C"
    - "initial size or guyed or braced to withstand expected loads, including line personnel working on them"

* deleted in NESC-2007

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Strength & Overload Factors
(Wood Poles, Transverse Wind Load)

	Grade of Construction	Rule 250B (Combined Ice & Wind)	Rule 250C (Extreme Wind)
Overload Factor	B	2.50	1.00
	C	1.75	1.00***
Strength Factor	B	0.65	0.75
	C	0.85	0.75
Effective Design Factor	B	2.50/0.65 = 3.85*	1.00/0.75 = 1.33
	C	1.75/0.85 = 2.06**	1.00/0.75 = 1.33***

* approx. "4"
** approx. "2"
*** reduced in NESC-2007

29

NESC 2007

30

Accepted Changes

Reduced Overload/Design Factor for Extreme Wind, Grade C

31

Additional Extreme Winter Storm (Rule 250D)

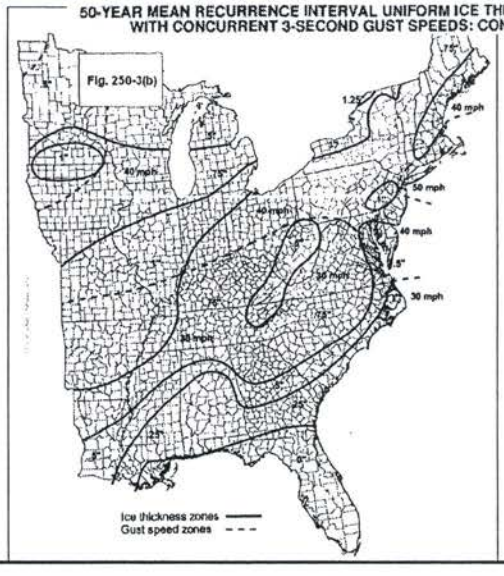

Figure 250-3(b) -- Uniform Ice thickness with concurrent wind

32

Additional Extreme Winter Storm (Rule 250D)

New Rule 250D (Extreme Ice with Concurrent Wind)

- Based upon ASCE 7-02 map
- Negligible impact in Florida (mostly 0-in. ice, low wind speed, low overload/design factor)
- Retains 60 ft. exemption (distribution)

33

Reduced Overload/Design Factor for Extreme Wind (Rule 250C)

	Grade of Construction	Rule 250B (Combined Ice & Wind)	Rule 250C (Extreme Wind)
Overload Factor	B	2.50	1.00
	C	1.75	~~1.00~~ 0.87*
Strength Factor	B	0.65	0.75
	C	0.85	0.75
Effective Design Factor	B	2.50/0.65 = 3.85*	1.00/0.75 = 1.33
	C	1.75/0.85 = 2.06**	~~1.00~~ 0.87/0.75 = ~~1.33~~ 1.16**

* 0.75 if > 100 mph (except Alaska)
** 1.00 if > 100 mph (except Alaska)

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Reduced Overload/Design Factor for Extreme Wind (Rule 250C)

Thus, contrary to extending Rule 250C to all structures (including poles ≤ 60 ft. tall), NESC 2007 reduces loads by a minimum of 13% (25% for most of Florida) for Grade C, where applicable (> 60 ft. tall)

Rationale: Grade C should not be required to be at same level of reliability as Grade B

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Rejected Change Proposals & Related Discussions

Extending Rule 250C (Extreme Wind) to Distribution Poles, ...

36

Change Proposal CP2766
(NESC 2007 Preprint - "Recommended")

CP2766

- Extends Rule 250C to structures ≤ 60 ft.
- Limits wind pressure for such Grade C structures (≤ 60 ft. tall) to 15 psf*
- No significant impact in Florida vs. present Rule 250B, requiring 18 psf

* corresponds to wind speed causing wind-blown debris, branches, ...

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Change Proposal CP2766
(Industry Response)

- Received most comments (79 of 633) of all CPs submitted by Subcommittee 5
- Overwhelming number of strong objections (90%) (for some: "lesser of evils" due to pressure limits)
- Next 3 runnerup CPs also related to extending Rule 250C to structures ≤ 60 ft.
- Typical: "almost all poles downed by flying debris, so no benefit from this change"

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Change Proposal CP2766
(NESC Subcommittee Decision)

- Rejected by vote of 17 to 7 (1 abstention)
- "CP's 2766, 2673, and 2798 are rejected based on information obtained from public comments. Utility experience has demonstrated that electrical distribution and communication line structures, under 60 ft in height, are damaged during extreme wind events by trees, tree limbs, and other flying debris. Designing structures with heights less than 60 ft for extreme winds will increase pole strengths for distribution systems resulting in large increases in cost and design complexity without commensurate increase in safety. Safety of employees and the public is provided using the current NESC loading requirements."

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General Comment

NESC well-respected document, believed to have served the industry well

Therefore, significant changes to the NESC are introduced gradually

Such gradual changes minimize potential impact and unintended consequences

40

Florida PSC Proposed Rule 25-6.034(5)

(Extreme Wind Loading)

41

- **Delays in Restoration**
- **Other Consequences**
- **Direct Effect (System Cost)**

42

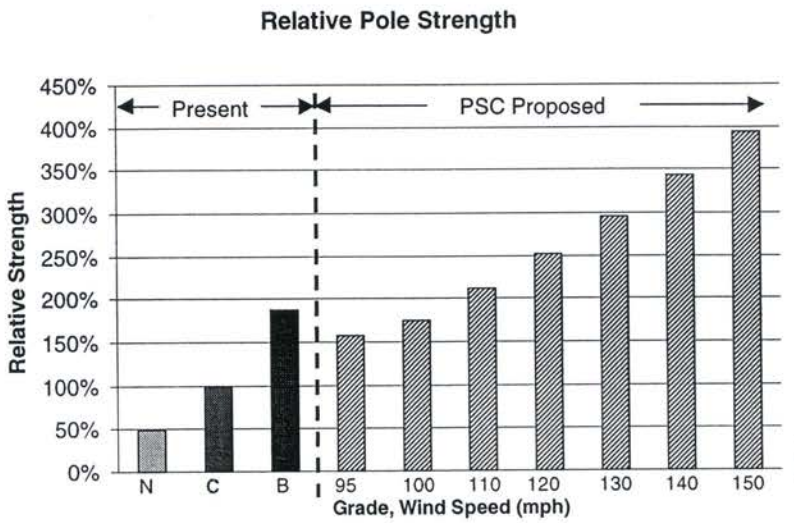
PSC Proposed Rule 25-6.034(5) (Direct Effect)

- Consider reference Grade C application*, Rule 250B (design factor ≈ 2:1*): relative strength = 100%
- Design factor Grade B ≈ 4:1
- Assume (reasonable) design factor Grade N = 1:1
- Compare to Rule 250C (NESC 2002 edition) Extreme Wind loads (Grade B = Grade C; assume also applied to Grade N); wind speeds 95 mph - 150 mph

* transverse wind, tangent structure

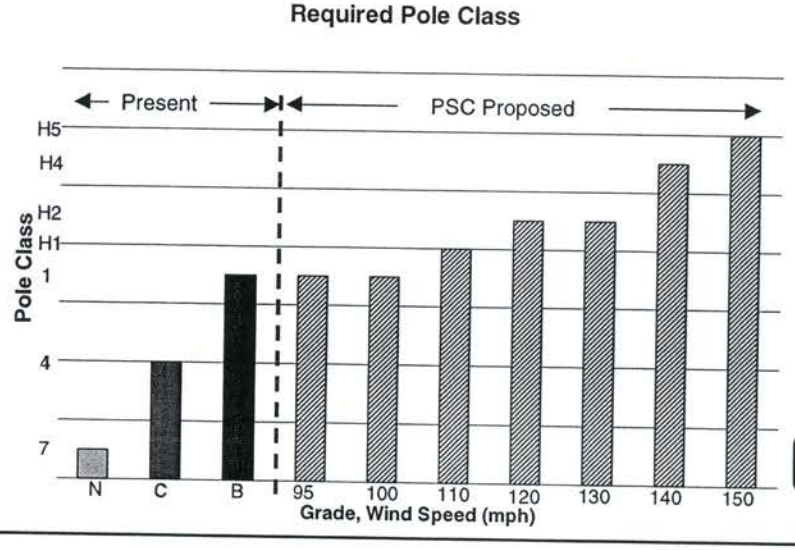
43

PSC Proposed Rule 25-6.034 (Relative Pole Strength)



44

PSC Proposed Rule 25-6.034 (Required Pole Class)



45

PSC Proposed Rule 25-6.034(5) (Increased Costs)

- Grade C applications required to be 1½ - 4 times present required strength (3 - 8 pole Class sizes)
- Alternatively, correspondingly shorter span lengths -- i.e., 1½ - 4 times more poles
- Grade B affected less (≤ 2 times present strength)
- Grade N applications 3 - 8 times present (reasonable) required strength (6 - 11 Class sizes)
- More extensive use of non-wood (concrete, steel, ...) poles

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PSC Proposed Rule 25-6.034(5) (Other Consequences)

- Delayed restoration (greater number of poles, or more massive poles, or delayed availability of appropriate non-wood poles) for "typical" case in which poles will be downed regardless of extreme wind design considerations
- Confusion, delays, and possible errors in implementation, due to relative complexity of Rule 250C extreme wind design rules
- Significant increase in fatalities and/or injuries due to vehicular accidents with pole(s)

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Confusion, Delays, Errors

Rule 250B (Combined Ice and Wind)

load (lbs) = 4 - 9 psf x shape factor x projected area (sq ft)

Rule 250C (Extreme Wind) NESC 1997

load (lbs) = 0.00256 $(V_{mph})^2$ x shape factor x projected area (ft^2)

where V_{mph} = fastest-mile (Figure 250-2, 1997)

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Confusion, Delays, Errors

NESC 2002

load (lbs) = 0.00256 $(V_{mph})^2$ x shape factor x projected area (sq ft) x k_z x G_{RF} x I

where V_{mph} = 3-sec. gust (2002 Extreme Wind Map),
k_z = velocity pressure exposure coefficient,
G_{RF} = gust response factor, and
I = importance factor (=1.0)

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Confusion, Delays, Errors

Structure: $k_z = 2.01 \times (0.67h/900)^{(2/9.5)}$, 60 ft ≤ h ≤ 900 ft
where h = height structure (ft)

Wire: $k_z = 2.01 \times (h/900)^{(2/9.5)}$, 33 ft ≤ h ≤ 900 ft
where h = height attachment point (ft)

minimum $k_z = 0.85$

Height, h (ft)	k_z (Structure)	k_z (Wire)
<33	0.92	1.00
>33 to 50	1.00	1.10
>50 to 80	1.10	1.20
>80 to 115	1.20	1.30
>115 to 165	1.30	1.40
>165 to 250	1.40	1.50
>250	Use Formulas	Use Formulas

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Confusion, Delays, Errors

Structure: $G_{RF} = [1 + 2.7E_s(B_s)^{0.5}]/k_v^2$

Wire: $G_{RF} = [1 + 2.7E_w(B_w)^{0.5}]/k_v^2$

where

$E_s = 0.346 \times [33/(0.67h)]^{1/7}$

$E_w = 0.346 \times [33/h]^{1/7}$

$B_s = 1/[1 + 0.375h/220]$

$B_w = 1/[1 + 0.8L/220]$

$k_v = 1.43$

L = Design Wind Span (ft)

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Confusion, Delays, Errors

Gust Response Factor, G_{RF}
Tabulated Values (Structure and Wire)

Height h (ft)	Structure G_{RF}	Wire G_{RF}, Span Length L (ft)						
		≤250	250<L≤500	500<L≤750	750<L≤1000	1000<L≤1500	1500<L≤2000	L>2000
≤33	1.02	0.93	0.86	0.79	0.75	0.73	0.69	Formulas
>33 to 50	0.97	0.88	0.82	0.76	0.72	0.70	0.67	Formulas
>50 to 80	0.93	0.86	0.80	0.75	0.71	0.69	0.66	Formulas
>80 to 115	0.89	0.83	0.78	0.73	0.70	0.68	0.65	Formulas
>115 to 165	0.86	0.82	0.77	0.72	0.69	0.67	0.64	Formulas
>165 to 250	0.83	0.80	0.75	0.71	0.68	0.66	0.63	Formulas
>250	Formulas	Formulas	Formulas	Formulas	Formulas	Formulas	Formulas	Formulas

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Confusion, Delays, Errors

CP2718 (proposed by Subcommittee 5 transmission engineer)

- Attempts to simplify Rule 250C.
- Rejected by vote of 19 to 4 (2 abstentions)

  "... The current method is complete and consistent with industry standard practice. ...."
- Thus, Rule 250C is generally (*but not unanimously*) considered sufficiently clear for intended transmission applications

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Vehicular Accidents

- US Department of Transportation:

  "Each year, 1200 to 2000 people are killed and an additional 60,000 to 110,000 people are injured due to collision between motor vehicles and timber utility poles."
- US DOT objective is to reduce number of utility poles
- Immediate effect of PSC Rule 25-6.034(5) will be contrary to US DOT objectives (also Florida DOT)

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Recommendations

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PSC Proposed Rule 25-6.034(5) (OPCS Recommendations)

Primary Recommendation

- Enforce present NESC rules (Rule 250B, ...)
- Continue to maintain NESC 60 ft. exemption for Rule 250C (Extreme Wind)
- Monitor development of 2012 edition of NESC, as available (e.g., 2007 - 2010)
- Contribute to development process of 2012 edition (e.g., NARUC representative to Subcommittee 5)

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PSC Proposed Rule 25-6.034(5) (OPCS Recommendations)

Alternate Recommendation

- Explicitly exclude Grade N applications
- Explicitly cite NESC 2007 for appropriate overload/design factors (13% - 25% reduction for Grade C)
- Apply as pilot study, initially limited to specified geographic area and defined period (e.g., 1 - 2 years)

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Future NESC Meetings (2012 Edition)

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NESC 2012 - Schedule

• Public Proposals Due	**July 2008**
• NESC Subcommittee Recommendations	**Oct. 2008**
• Preprint of Proposed Changes	**Sept. 2009**
• Public Comments Due	**May 2010**
• NESC Subcommittee Resolution	**Oct. 2010**
• Submitted to NESC Committee and ANSI	**Jan. 2011**
• Re-Submitted to ANSI (Final Recognition)	**May 2011**
• Published	**Aug. 2011**
• Effective	**Feb. 2012**

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NESC 2012 (Initial Anticipated Effort)

- January 2007 -- IEEE PES Towers, Poles & Conductors Subcommittee, Panel Session on NESC 2007 edition, Strength & Loading
- Will include presentation of (rejected) CP2766 regarding 60 ft exemption
- Anticipate comments from audience (e.g., regarding recent hurricane damage)
- Subcommittee 5 will probably begin to meet later in 2007 for initiating development of 2012 edition

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#5 Embarq Presentation
060172/060173

EMBARQ™

Florida Electric Plant Hardening

George Finn - Director, National Policy
Kent Dickerson - Director, Cost Support
Susan Masterton - Counsel

Voice | Data | Internet | Wireless | Entertainment

EMBARQ

Proposed Rules

- Embarq construction policies, methods, and procedures adhere to NESC, ANSI and Telcordia/Bellcore standards
- Any construction requirements beyond industry standards should reflect the collective and agreed upon input from all impacted industries and parties.
- Embarq supports utilizing underground facilities for new construction

EMBARQ

Proposed Rules

- Meaningful cost/benefit analysis is not possible until the following are more specifically set forth:
  - Construction standards (how stringent)
  - Scope of work (few miles or many)
  - Type of plant (underground or stronger aerial)

- Ultimate cost will be route and site specific

Proposed Rules

Moving Back-lot to Front-lot:

- Not a simple matter of moving the existing cable
- Requires new cable at the front, and retire and remove the cable at the rear
- The inconvenience and disruption of customer property should also be considered:
  - Torn up lawn, sidewalk, street, fences, driveways, etc.

Who Pays?

- Electric companies have a funding plan - a combination of proposed local entity funding and the opportunity to request rate increases
- Attachers have no realistic recovery mechanism, therefore shouldn't be asked to bear cost that the electric companies have already deemed cost effective and recovered elsewhere

Unlawful Delegation

EMBARQ™

- The rules improperly delegate the Commission's rulemaking authority to the electric companies
  - The rules require electric companies to unilaterally adopt construction and attachment standards that may exceed the National Electric Safety Code, without limitation.
  - The new standards will substantially affect third parties who lawfully attach to electric utility poles
  - Florida law prohibits an administrative agency from delegating its rulemaking authority to private entities.
    - Amara v. Town of Daytona Beach Shores, 181 So. 2d 722 (Fla. 1st DCA 1966)
    - Florida Attorney General Opinion 78-053, 1978 Op. Atty Gen. Fla. 1236
    - Florida Nutrition Counselors Assoc. v. DBPR, 667 So. 2d 218 (Fla. 1st DCA 1995)
  - Requiring administrative agencies to adopt rules that substantially affect third parties ensures that the procedural protections afforded by the Administrative Procedures Act, and the open records and open meetings laws, are followed.
    - News and Sun-Sentinel Co. v. Schwab et.al, 596 So. 2d 1029 (Fla. 1992)

SERC Requirements

EMBARQ

- **The rules as proposed prevent the Commission from fulfilling the SERC requirements of chapter 120. F.S.**
  - Section 120.541, F.S., requires agencies to prepare a statement of the estimated regulatory costs (SERC) of proposed rules and consider any lesser cost regulatory alternatives proposed by a substantially affected party.
  - Because the proposed rules result in standards that are unknowable at the time of adoption, the Commission is unable to fulfill the SERC requirements to ensure that it adopts the lesser cost alternatives that achieve its regulatory objectives.

Exhibit C
060172/060173

BEFORE THE PUBLIC SERVICE COMMISSION

In re: Proposed rules governing placement of new electric distribution facilities underground, and conversion of existing overhead distribution facilities to underground facilities, address effects of extreme weather events.	DOCKET NO. 060172-EU
In re: Proposed amendments to rules regarding overhead electric facilities to allow more stringent construction standards than required by National Electric Safety Code.	DOCKET NO. 060173-EU

MEMORANDUM OF LAW IN SUPPORT OF THE FLORIDA CABLE TELECOMMUNICATIONS ASSOCIATION'S SUGGESTED RULE CHANGES

I. The Commission's Proposed Rules, Without the Amendments Advanced by FCTA, Exceed the Commission's Jurisdiction

FCTA does not dispute that Florida Statutes confer jurisdiction to the Public Service Commission to prescribe and enforce *fair and reasonable* construction standards for electric transmission and distribution facilities that exceed the National Electrical Safety Code, when doing so is necessary to *ensure the reliable provision of electric service*. Fla. Stat. §366.04(6); §366.05(1). In fact, as FCTA has stated throughout this proceeding, FCTA applauds the Commission and the Florida legislature for taking positive steps to address the storm damage and protracted power outages that were experienced during the recent storms. Cable operators, which are now providing telephone and broadband services in addition to video, and more importantly their customers, which number more than 5 million in the State of Florida, have a genuine and fervent interest in assuring the integrity of the electric pole plant.[1]

[1] Cable subscribers often receive bundled services from cable operators and thus upon the cable plant attaching to the electric distribution infrastructure to receive broadband, telephone and video service. Moreover, cable's most significant competitor, satellite, does not rely on pole plant to distribute its services to customers, and acquired a number of subscribers in the wake of last season's hurricane related outages.

However, while the Commission can adopt lawful construction standards pursuant to the authority delegated by the Florida legislature, the scope and design of these standards are limited by the boundaries of the Commission's jurisdiction. The Commission's proposed rules, without the amendments sought by FCTA, would exceed the Commission's jurisdiction and be unlawful because (a) they would enable pole owning utilities to deny access, or assign unreasonable and discriminatory requirements and costs, to cable television and telecommunications providers attached to the poles in direct conflict with Section 224 of the Communications Act and the regulations adopted by the Federal Communications Commission ("FCC"); and (b) would unlawfully delegate the Commission's regulatory authority to pole owning utilities that have a pecuniary interest in redistributing the costs attributable to upgrading its infrastructure to other entities attached to pole.

A. The Commission's Jurisdiction Over Attachments To Electric Transmission and Utility Poles Is Limited By Federal Law

Investor owned utilities are obligated under federal law to provide cable operators and telecommunications carriers with non-discriminatory access to utility poles that are owned or controlled by such utilities, 47 U.S.C. § 224(f)(1), and must do so pursuant to just and reasonable rates, terms and conditions. 47 U.S.C. § 224(b)(1). Utilities may only deny access to their poles for reasons of capacity, safety, reliability and general engineering purposes. 47 U.S.C. § 224(f)(2). The FCC has authority to regulate pole attachment matters, including denials of access for safety related reasons, as well as the rates, terms and conditions of attachments, except in states that have certified to regulate pole attachments in satisfaction of the certification criteria set forth in Section 224(c)(2).

Pole owning utilities in Florida would have this Commission believe that, notwithstanding Section 224 of the Communications Act, setting forth a detailed federal scheme

for the regulation of pole attachments, jurisdiction over safety and reliability of cable television and telecommunications attachments and pole capacity is reserved exclusively to the state, regardless of whether it has certified pursuant to Section 224.[2] These same entities invite the Commission to approve proposed rules that would allow investor owned utilities to adopt construction standards, as well as standards and procedures for third party attachments, with only minimal "input" from attaching entities and without compulsory review and approval by the Commission.[3] In addition, the rules prohibit third-party attachments that do not comply with the utility imposed standards and make the Florida Commission the arbiter of disputes concerning pole access.

As the proposed rules would enable the utilities to dictate unilaterally the standards upon which cable operators and telecommunications carriers may access poles and upon which utilities may deny access to poles, and would have the Florida Commission, not the FCC, arbitrate disputes concerning such standards, they conflict with federal law, and are therefore unlawful.

i. The utilities' argument that the Commission need not satisfy the federal certification requirements to regulate denials of access simply is wrong.

Unless the Commission certifies to regulate the rates, terms and conditions of pole attachments, or access to poles, it lacks jurisdiction to regulate access to utility poles by cable operators and telecommunications carriers, even where access is denied based upon issues related to safety, reliability and engineering standards. Only the FCC and certified States have

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[2] *See Joint Reply Comments* filed in Docket No. 060173-EU, filed August 18, 2006 by Florida Power and Light Company, Progress Energy Florida, Tampa Electric Company and Gulf Power Company (hereinafter "FPL Joint Reply Comments").

[3] Rather, all the rules would require is that the utility make a copy of its construction standards available on request, and that the Commission may review disputes about the standards on an ad hoc basis. The Commission is not obligated to make request a copy of the standards, and there is no further language about what might happen if the Commission were to request and/or review a copy.

jurisdiction over an investor owned utility's denial of access based upon capacity, safety, reliability and applicable engineering purposes. Section 224(b) grants regulatory jurisdiction to the FCC over such pole attachment matters except where such matters are regulated by a State and such State has satisfied the certification criteria set forth in Section 224(c)(2).

Florida investor owned utilities assert that the Florida Commission can regulate access without following the certification procedures laid out in the Section 224(c)(2) of the federal statute. *See FPL Joint Reply Comments* at 3-7 (claiming the lack of inclusion of the word "access" in Section 224(c)(2) relieves states of the obligation to certify jurisdiction of access issues). In support of this argument for bifurcated jurisdiction, the utilities cherry pick quotations from the decisive FCC Order addressing the issue, the Order on Reconsideration, *In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996: Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers*, 14 FCC Rcd 18049, ¶¶114, 116 (1999). Tellingly, however, the utilities fail to cite the language, or even to the paragraph, which is directly on point. The pertinent paragraph states:

> [W]e clarify that…**if a state that has not previously certified its authority over rates, terms and conditions wishes to begin to assert such jurisdiction, including jurisdiction over access pursuant to section 224(f), the state must certify its jurisdiction over access pursuant to section 224(c)(2).** We are mindful of the potential confusion and lack of certainty that could result in the absence of any certification, and **do not believe that Congress intended such a result**.

Id. at ¶ 115 (emphasis added). The utilities' failure to explain this language or cite to it or even the paragraph containing the language, notwithstanding the utilities' citation to the paragraphs preceding and following the paragraph, speaks volumes about the merit of their arguments. A copy of the pertinent excerpts of the Order on Reconsideration is attached as Exhibit MAG-1. A

complete copy of this Order will be made available upon request. Moreover, as the expert agency charged with interpreting the Communications Act, the FCC's interpretation of the certification requirements of Section 224(c)(2) is entitled to deference.[4]

The utilities' arguments that the Commission may regulate access issues as long as Florida thoroughly regulates issues of safety and reliability are equally flawed because they are also premised on the misquoted language from the FCC's Order on Reconsideration. The utilities would have the Commission believe that if a complaint is brought to the FCC concerning access issues, all a pole owner need do is tell the FCC that the State in which the relevant facilities are located "is regulating such matters" and the FCC will dismiss the complaint. (FP&L Reply Comments at 6-8 citing to the Order on Reconsideration at ¶116). As the FCC made clear in the preceding paragraph of that same Order, this only applies to states that have already certified pursuant to 224(c)(2). Florida has not so certified, and thus, it cannot arbitrate access disputes, or promulgate rules that impact access to poles by cable operators and telecommunications carriers.

ii. The FCC has jurisdiction over pole safety to the extent it impacts non-discriminatory access to poles and the just and reasonable rates, terms and conditions of pole attachments by cable operators and telecommunications carriers.

The utilities in this proceeding would have the Commission believe that "safety" issues can be easily segregated from issues relating to access to poles by cable and telecommunications carriers, and that only the state can regulate issues of pole safety. In reality, the FCC has jurisdiction over safety issues, including when they are raised as a pretext for denial of access to wireless carriers or other prospective attaching entities.

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[4] *Chevron U.S.A., Inc. v. Natural Resources Defense Council,* 467 U.S. 837, 842-844 (1984); *see also NCTA v. Gulf Power Co. et al.,* 534 U.S. 327, 151 L.Ed. 2d 794, 806 (2002) (In which the United States Supreme Court deferred to the FCC's regulatory classification of cable modem service for purposes of pole attachment regulation, stating "the subject matter here is technical, complex, and dynamic," and thus, deference to the FCC on how cable modem service should be classified for purposes of pole attachment regulation was appropriate.).

The FCC has expressly asserted its jurisdiction over complaints concerning utility companies' reservation of rights to deny access, including denials based on safety.[5] Indeed, as stated by the FCC earlier this year, in response to claims by another utility pole owner, Entergy Arkansas, Inc., that the FCC lacked jurisdiction and "specific expertise with respect to electric utilities and their unique safety and operational issues," the FCC ruled it had jurisdiction, stating, "The Commission thus confirmed that it has jurisdiction to review and reject a challenged engineering standard or practice as unjust or unreasonable under section 224, even where the standard or practice complies with state or local requirements," and noting that the FCC has authority to preempt state and local engineering standards that are inconsistent with its rules and policies.[6]

Moreover, the FCC has examined safety related issues on a case by case basis over the history of its regulation of pole attachments. *See, e.g., In the Matter of the Cable Television Assoc. of Georgia v. Georgia Power Company*, 2003 FCC Lexis 4463, *14 (2003) (dismissing a pole owners' alleged safety issues as they were not supported by the record because the pole owner could not point to a single instance of property damage or personal injury caused by the pole attachments); *In the Matter of Cavalier Telephone, LLC v. Virginia Electric and Power Company*, Order and Request for Information, File No. PA 99-005, DA 00-1250 at ¶ 19 (June 7, 2000) (requiring a utility pole owner to "cease and desist from selectively enforcing safety standards or unreasonably changing the safety standards" that the party seeking to attach to its poles must adhere) *vacated by settlement* 2002 FCC LEXIS 6385 (Dec. 3, 2002 (in issuing the

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[5] *See In the Matter of Cavalier Telephone, LLC v. Virginia Electric and Power Company, Order and Request for Information*, File No. PA 99-005, DA 00-1250 at ¶¶ 14, 15 (June 7, 2000) *vacated by settlement* 2002 FCC LEXIS 6385 (Dec. 3, 2002 (in issuing the vacatur, the FCC specifically stated that its decision did not "reflect any disagreement with or reconsideration of any of the findings or conclusions contained in" the underlying decision). In *Cavalier*, the FCC addressed both a claim of denial of access as well as a contract provision that would have given the utility the right to deny access for any reason.

[6] *Arkansas Cable Telecommunications Association v. Entergy Arkansas, Inc.*, 21 FCC Rcd 2158, ¶¶ 8-11 and n. 37 (rel. March 2, 2006)(internal citations omitted).

vacatur, the FCC specifically stated that its decision did not "reflect any disagreement with or reconsideration of any of the findings or conclusions contained in" the underlying decision); *In the Matter of Newport News Cablevision, Ltd. Communications, Inc. v. Virginia Electric and Power Company, Order,* 7 FCC Rcd. 2610 ¶ 15 (April 27, 1992) (considering the reasonableness of VEPCO's guying requirements). The Commission has also affirmatively considered specific safety requirements in rulemaking proceedings, such as the impact of overlashing by attaching entities and third parties, including the impact on wind and weight load burdens. *In the Matter of Amendment of Rules and Policies Governing Pole Attachments, In the Matter of Implementation of Section 703(e) of the Telecommunications Act of 1996,* Consolidated Partial Order on Reconsideration, CS Dkt. Nos, 97-98, 97-151, 16 FCC Rcd. 12103 ¶¶ 73-78 (2001). Accordingly, the FCC has, and exercises, jurisdiction over pole safety issues.

The FCC has acknowledged that utilities can rely on the NESC in prescribing standards as well as other industry codes that are widely-accepted objective guides for the installation and maintenance of electrical and communications facilities.[7] The FCC also has said that a state requirement that is more restrictive than the corresponding NESC standard "may still apply."[8] However, in the same order the FCC made it unequivocally clear that it will preempt state standards that are inconsistent with FCC rules and policies, and that a utility may not be the final arbiter of denials based on capacity, safety, reliability or engineering, nor should pole owners' determinations be presumed reasonable. Accordingly, the utilities' arguments that the Commission has jurisdiction over all pole safety and construction issues, regardless of whether

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[7] *In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996; Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers*, First Report and Order, 11 FCC Rcd 15499 (1996) at ¶¶ 1151-1158.
[8] *Id.* at ¶ 1152.

they impact access to poles by cable operators and telecommunications carriers, are without foundation.

iii. FCTA's proffered revisions to the proposed rules are not at odds with the Commission's jurisdiction.

The utilities assert that FCTA's recommendations are at odds with the Commission's jurisdiction, *FPL Joint Reply Comments* at 10, and specifically complain that FCTA's proffered changes would enable third parties to "hold hostage" implementation of the standards, usurp the Commission's jurisdiction over safety and prematurely set access disputes at the FCC. These allegations are entirely without merit.

The Commission's delegated authority includes the adoption of standards to be observed by each public utility, including construction standards that exceed NESC where necessary to ensure the reliable provision of service. Fla. Stat. §366.04(6); §366.05(1). The Commission has interpreted this authority to include the adoption of rules governing third party attachments. *See* Proposed Rule 25-6.0342. As such, the interests and needs of third party attachments must be taken into account in developing the construction standards. Indeed, the law is clear that both the pole owner and a would be attacher must agree that a pole lacks capacity before a utility may deny access on such grounds. Specifically, the Commission's rule on access was challenged by a group of electric utilities in *Southern Company v. FCC.*[9] In *Southern Company*, the 11th Circuit held that the Commission's regulations requiring utilities to "expand" capacity were overbroad in light of the statutory language in Section 224(f) of the Act and vacated the rule.[10] However, the court also found that utilities may not make a unilateral determination that capacity is insufficient

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[9] *Southern Company, et. al. v. Federal Communications Commission,* 293 F.3d 1338, (11th Cir. 2002) ("*Southern Company*").

[10] *Southern Company,* 293 F.3d at 1347-49.

for third-party attachments.[11] Specifically, the court explained that electric utilities do not have "unfettered discretion" to determine insufficient capacity because that could only be found as to a particular pole "*when it is agreed* that capacity is insufficient."[12] Thus, only where a third-party attacher agrees that a taller pole, rearrangement, or other make-ready is not feasible could capacity be deemed "insufficient" to justify a denial of access. Accordingly, FCTA has proffered amendments to the proposed rules that would enable third-party attachers to provide meaningful contributions to the development of the rules consistent with governing law.

FCTA's other amendments would ensure that the Commission (and not private entities) has ultimate decision making authority over the standards, ensuring that these rules are "fair and reasonable" and also remedying what would otherwise be an unlawful exercise of delegated authority. *See infra.* Nor do FCTA's proposed amendments have the effect of "setting" jurisdiction at the FCC. Rather FCTA has simply requested the Commission to acknowledge that 47 U.S.C. § 224 exists by including a provision that says that the rules do not interfere with that law. Accordingly, these arguments are without merit.

B. The Commission's Assignment In its Proposed Rules 25-6.034 and 25-6.0342 of Responsibility to Private Interested Entities Is an Unlawful Exercise of its Delegated Authority

The Florida legislature, Florida courts and the Attorney General all have recognized that administrative agencies are limited in the responsibilities they may delegate to private entities.[13]

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[11] *Id.*

[12] *Id.* at 1347 (emphasis added).

[13] Fla. Stat. § 120.52 (2006); *County Collection Services, Inc. v. Thomas C. Charnock, aka C.T. Charnock aka Tom Charnock, et al.*, 789 So. 2d 1109 (Fla. App. 2001) (recognizing that county could not delegate its taxing authority to a private entity); *City of Belleview v. Belleview Fire Fighters, Inc.*, 367 So. 2d 1086 (Fla. App. 1979) (recognizing city could not delegate its police power functions to private entity); *Florida Nutrition Counselors Association v. Department of Business and Professional Regulation, Board of Medicine, Dietetics and Nutrition Practice Council*, 667 So. 2d 218, _ (Fla. App. 1995) (striking down a rule that relied too heavily upon role of private educational institutions in setting standards for medical devices); *State of Florida v. State Road Department*, 173 So. 2d 693, _ (Fla. 1965); *Florida Attorney General Op. 078-53*, issued March 28, 1978 at 5-6 (recognizing that state cannot delegate its rate making authority to private entities).

Under the prevailing cases, including the cases cited by the utilities in this proceeding, agencies can not delegate a *governmental* function to private entities. Agencies may delegate technical matters of implementation but even then, agencies must retain ultimate decision making authority and sufficient control over the delegated function.[14] A private entity may only play an advisory role and the agency may not simply "rubber stamp" the private entity's findings. Rather, discretion and ultimate supervision and control must rest with the governmental entity. [15] This is especially true where the private entity has a stake in the project for which it is performing a technical function.[16]

Here, the proposed rules require the investor owned utilities to develop the standards that will govern third-party attachments. There is no provision for approval of the standards by the Commission; rather the utilities need only make a copy of the standards available on request. The Commission is not obligated to request a copy of the standards, and there is no further language about what might happen if the Commission were to request and/or review a copy of the Standards. Further, the Commission has included a provision for reviewing disputes on an ad hoc basis but that review is undermined by the FCC's jurisdiction over pole attachment disputes. Thus, there is no effective control or final decision making authority in the Commission and the rules are therefore an unauthorized exercise of the Commission's delegated authority.

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[14] *Brown v. Apalachee Regional Planning Council*, 560 So. 2d 782, _ (Fla. 1990) (distinguishing between delegation of a technical matter of implementation with sufficient constraints including considerable detail and specific criteria about the review process and delegation of a policy function).

[15] *Florida Attorney General Op. 078-53*, issued March 28, 1978 a6t 5-6 (recognizing that state cannot delegate its rate making authority to private entities) (citing *State of Florida v. State Road Department*, 173 So. 2d 693, _ (Fla. 1965).

[16] *Sierra Club v. Lynn*, 502 F. 2d 43, 59 (5th Cir. 1974) (Florida was part of the 5th Circuit until 1980, when the 11th Circuit was created) (finding that HUD had the obligation to "independently perform its reviewing, analytical, and judgmental functions, and participate actively and significantly in the preparation and drafting process" and could not "abdicate its statutory duties by reflexively rubber stamping a statement prepared by others."); *Sierra Club v. Sigler*, 695 F. 2d 957 , 962, n. 3(5th Cir. 1983) ("The role of the private firm in preparation of [the draft and final version of environmental impact statement] is particularly troubling in this case because the consulting firm also had a stake in the project which it was evaluating.").

II. The Proposed Rules Can Be Saved If FCTA's Proposed Amendments Are Adopted

The Commission can adopt fair and reasonable construction standards and such standards can exceed NESC where doing so is necessary to ensure the reliable provision of electric service. However, in adopting these standards, the Commission cannot supplant FCC jurisdiction over access to poles by cable operators and telecommunications carriers and cannot make the utilities, or even the Commission, the arbiter of denials of access based on these construction standards.[17] Nor can the Commission allow utilities to adopt construction standards that impose discriminatory requirements or costs on attaching entities. Moreover, such standards will not be entitled to any deference by the FCC unless they are affirmatively reviewed and approved by the Commission.

The proposed rules, as currently worded, fail in all of these regards and thus would violate Section 224 of the Communications Act. FCTA's proffered amendments to the proposed rules, which provide that the construction and third-party attachment standards shall be jointly developed with third party attaching entities, reviewed and approved by the Commission, and are not intended to interfere with the access rights afforded to cable operators and telecommunications carriers under Section 224, save the proposed rules.

While the Commission must certify pursuant to Section 224(c)(2) if it wishes to regulate utility denials of access based upon capacity, safety, reliability and engineering purposes, FCTA does not dispute that construction standards lawfully adopted by the Commission would be entitled to deference by the FCC in any dispute concerning a denial of access. Nevertheless, while the FCC has stated that "it would not invalidate summarily all local [safety] requirements,"

[17] The exception to this would be if the State of Florida were to satisfy the certification requirements in Section 224(c).

in the exact same paragraph the FCC made equally clear that state and local safety requirements apply only if there is no "direct conflict with federal policy. ...Where a local requirement directly conflicts with a rule or guideline we adopt herein, our rules will prevail."[18] Moreover, the FCC also specifically rejected "the contention of some utilities that they are the primary arbiters of such concerns, or that their determinations should be presumed reasonable," while noting that § 224(f)(1) "reflects Congress' intention that utilities must be prepared to accommodate requests for attachments by telecommunications carriers and cable operators." Order on Reconsideration at ¶72.

Thus, the Commission's jurisdiction over the safety and reliability of electric plant does not allow it to adopt rules, such as proposed rules 25-6.034 and 25-6.0432, that would give the electric utilities unfettered discretion to adopt construction and attachment standards, and deny attachment based upon those standards. Such rules clearly and directly conflict with the federal law and policy to grant non-discriminatory access to cable operators and telecommunications providers except for reasons based upon capacity, safety, reliability and applicable engineering purposes, which denials may be reviewed only by states that have certified pursuant to Section 224(c)(2) or the FCC. If the Commission wants broader regulatory authority over pole attachments, it must satisfy the certification requirements set forth in Section 224(c)(2).

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[18] *In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers*, First Report and Order, CC Dkt Nos. 96-98, 95-185, 11 FCC Rcd 16073 ¶ 1154 (1996) ("Local Competition Order").

Respectfully submitted this 31st day of August 2006.

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& Regulatory Counsel
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LEXSEE 14 FCC RCD 18049

In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996; Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers

CC Docket No. 96-98; CC Docket No. 95-185

FEDERAL COMMUNICATIONS COMMISSION

14 FCC Rcd 18049; 1999 FCC LEXIS 5303; 18 Comm. Reg. (P & F) 376

RELEASE-NUMBER: FCC 99-266

October 26, 1999 Released; Adopted October 20, 1999

ACTION: [**1] ORDER ON RECONSIDERATION

JUDGES:

By the Commission: Commissioners Furchtgott-Roth and Powell concurring in part, and dissenting in part and issuing separate statements

OPINION:

[*18049] **I. INTRODUCTION**

1. In this *Order on Reconsideration*, we address petitions for reconsideration or clarification of the *Local Competition Order* n1 regarding the rules implementing access provisions of the Communications Act of 1934 n2 ("the Act"), as amended by the Telecommunications Act of 1996 n3 ("1996 Act"). In the *Local Competition Order*, the Commission established a program for nondiscriminatory access to utilities' poles, ducts, conduits and rights-of-way, consistent with its obligation to institute a fair, efficient and expeditious regulatory regime for determining just and reasonable pole attachment rates with [*18050] a minimum of administrative costs. n4 Herein we consider petitioners' requests for reconsideration or clarification of the access requirements of the*Local Competition Order*, including requirements pertaining to capacity expansion and reservation of space, utilities' access obligations, worker qualifications, the timing and manner of notification of modifications, allocation [**2] of modification costs, and state certification of access regulation. n5

n1 Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98, *First Report and Order*, 11 FCC Rcd. 15499, 15505 P1 (1996) (*Local Competition First Report and Order*), *aff'd in part and vacated in part sub nom.* Competitive Telecommunications Ass'n v. FCC, 117 F.3d 1068 (8th Cir. 1997), *aff'd in part and vacated in part sub nom.* Iowa Utils. Bd. v. FCC, 120 F.3d 753 (8th Cir. 1997), *aff'd in part, rev'd in part, and remanded sub nom.* AT&T Corp. v. Iowa Utils. Bd., 119 S.Ct. 721 (1999) (*Iowa Utilities Board*), *Order on Reconsideration*, 11 FCC Rcd. 13042 (1996), *Second Order on Reconsideration*, 11 FCC Rcd. 19738 (1996), *Third Order on Reconsideration and Further Notice of Proposed Rulemaking*, 12 FCC Rcd. 12460 (1997), *appeals docketed*, *Second Further Notice of Proposed Rulemaking*, FCC 99-70 (rel. Apr.16, 1999) (*UNE Further NPRM*). [**3]

a state does preempt federal jurisdiction it should follow the federal lead with respect to access to poles, ducts, conduits, and rights-of-way. n257

n256 *Id.* at 8. *See also* AEP comments at 11-12. [**100]

n257 AEP comments at 11-12.

c. Discussion

114. In the *Local Competition Order*, we noted that the authority of a state is clear under section 224(c)(1) to preempt federal regulation for access requests arising solely under section 224(f)(1). n258 When a telecommunications carrier seeks access to LEC facilities or property under section 251(b)(4), the reference in section 251(b)(4) to section 224 incorporates all aspects of the latter section, including the state reverse preemption authority of section 224(c)(1). n259 Thus, when a state has exercised its preemptive authority under section 224(c)(1), a LEC satisfies its duty under section 251(b)(4) to afford access by complying with the state's regulations. n260 If a state has not exercised such preemptive authority, the LEC must comply with the federal rules. n261 The *Local Competition Order* noted that Congress did not amend section 224(c)(2) to prescribe a certification procedure with respect to access (as distinct from the rates, terms, and conditions of access). n262 Parties seeking reconsideration have provided no new facts or arguments to justify their requested rule changes. We note that, in a separate proceeding, [**101] we seek comment on whether additional certification is needed to ascertain whether a State is regulating the rates, [*18089] terms and conditions of access to facilities and rights-of-way on multiple unit premises. n263 The issue of State certification of such jurisdiction was not raised in this proceeding and is not decided herein.

n258 *Local Competition Order* at para. 1236.

n259 *Id.* at para. 1237.

n260 *Id.* at para. 1239.

n261 *Id.*

n262 *Id.* at para. 1240.

n263 *See Notice of Proposed Rulemaking, Notice of Inquiry, and Third Further Notice of Proposed Rulemaking*, FCC 99-141, WT Docket No. 99-217.

115. Rather than requiring states to undertake formal certification procedures that are not supported by the text of section 224(c)(2), we determined that the burden of informing this Commission when a state has exercised its reverse preemption authority should rest with the party seeking to rely upon such authority in defending an access complaint filed before us. Although we decline to reconsider this decision, we clarify that this applies to those states that have previously certified their regulation of rates, terms and conditions of [**102] pole attachments. Our rule does not require such states to formally re-certify in order to assert their jurisdiction over access. However, if a state that has not previously certified its authority over rates, terms and conditions wishes to begin to assert such jurisdiction, including jurisdiction over access pursuant to section 224(f), the state must certify its jurisdiction, as required under section 224(c)(2). We are mindful of the potential confusion and lack of certainty that could result in the absence of any certification, and do not believe that Congress intended such a result.

116. We reiterate that, upon the filing of an access complaint with this Commission, the defending party or the state itself should come forward to apprise us whether the state is regulating such matters. n264 If so, pursuant to the *Local Competition Order*, we shall dismiss the complaint without prejudice to it being brought in the appropriate state forum. n265 We require any party seeking to demonstrate that a state regulates access issues to cite the state laws and regulations governing access and establishing a procedure for resolving access complaints in a state forum. n266 We continue to believe [**103] that these procedures are consistent with the language and intent of the statute, and unduly burden neither the parties to an access complaint, nor the state entities responsible for pole attachment regulation.

n264 *Local Competition Order* at para. 240.

n265 *Id.*

n266 *Id.*

G. Other Issues

a. 45 DayTime Limit on Utility Evaluation of Attachment Request

117. The *Local Competition Order* stated that, because time is of the essence in access requests, a utility must respond to a written request for access within 45 days. n267 If access is not granted within 45 days of the request, the utility must confirm the denial in writing by the 45th day. EEI and UTC request that we clarify that an entity requesting access to utility facilities must provide clear and sufficient information in order for the utility to evaluate the request, and the Commission should specify that 45-day time period to respond to request does not start until all the necessary information is provided. n268 The [*18090] Joint Cable Parties and NCTA respond that giving more than 45 days would be unreasonable and contrary to industry practice. n269 According to the Joint Cable Parties [**104] and NCTA, in the event a utility were to find that a particular request for access would take longer than 45 days to evaluate, the utility should apply for a waiver of the 45 day limit.

n267 *Id.* at para. 1224.

n268 EEI/UTC comments at 14.

n269 Joint Cable Parties comments at 13; NCTA comments at 30.

118. Based upon the record before us, we decline to reconsider the procedural rules under discussion. We expect that access requests would contain all pertinent and reasonably necessary information for the utility's consideration of the request, and would follow established industry practices. If the information in the request is incomplete, a utility may require a second access request. In such a case, we would also expect the utility to notify the applicant of all pertinent defects in its application promptly. It would not be acceptable to object, in a piecemeal fashion, to an access request containing multiple defects.

119. As we stated in the *Local Competition Order*, a telecommunications carrier or cable operator filing a complaint with the Commission must establish a prima facie case. n270 A petitioner's complaint, in addition to showing that it is timely filed, [**105] must state the grounds given for the denial of access, the reasons those grounds are unjust or unreasonable, and the remedy sought. n271 The complaint must be supported by the written request for access, the utility's response, and information supporting its position. n272 We believe that an entity requesting access would provide the utility with sufficient information in its request, and this request will be part of the record in the Commission's evaluation of a complaint regarding a denial of access. We reiterate that, "time is of the essence," and that by implementing specific complaint procedures for denial of access cases, we have established swift and specific enforcement procedures that will allow for competition where access can be provided. n273

n270 *Local Competition Order*. at para 1223.

n271 *Id.*

n272 *Id.*

n273 *Id.* at para. 1224.

b. Identification of Attachments

120. Several commenters ask that the Commission require attaching entities to "tag" their attachments, in order to facilitate easy identification of attachers lines. n274 We believe that, on a prospective basis, reasonable tagging requirements may be included in agreements between [**106] utilities and attachers. This would help prevent confusion during modifications, would aid safety measures, and would help insure that notice of modifications are sent to the correct parties. Thus, we will permit utilities to require tagging in their attachment agreements, as easy identification of attachers lines is in the best interests of the facility owner, the attaching entity, and the consumers of all of these services.

Exhibit 7
060172/060173

BEFORE THE PUBLIC SERVICE COMMISSION

In re: Proposed rules governing placement of new electric distribution facilities underground, and conversion of existing overhead distribution facilities to underground facilities, address effects of extreme weather events.	DOCKET NO. 060172-EU
In re: Proposed amendments to rules regarding overhead electric facilities to allow more stringent construction standards than required by National Electric Safety Code.	DOCKET NO. 060173-EU

COMMENTS BY MICHAEL T. HARRELSON ON BEHALF OF THE FLORIDA CABLE TELECOMMUNICATIONS ASSOCIATION

I have previously stated that the relative effectiveness of storm preparedness initiatives should be a major consideration in allocating limited resources. I placed top priority on the initiative to inspect transmission structures and substations and to fund remediation of defects found.

In joint comments filed on August 26, 2006, by "the IOUs" they state "…the FCTA contends that it would be more effective to devote additional resources to inspecting and maintaining transmission poles and substations. However, the IOUs' experience has been that a relatively small portion of the overall storm damage is to transmission lines and substations. The IOUs believe that one of the principal reasons why the transmission system has fared well in recent storm seasons is that it is already built to extreme wind standards."

It was stated in the FPSC Order No. PSC-06-0351-PAA-EI, Case Background, issued April 25, 2006: "Failures of various FPL transmission lines during Hurricane

Wilma caused at least 94% of FPL's Hurricane Wilma substation outages." If they are correct that it was a small portion of the overall storm damage then I still contend that I am correct in stating that top priority on transmission line maintenance can do the most good in reducing widespread and frequently long lasting power outages, such as occurred in Wilma due to transmission line failures.

In Joint Reply Comments filed August 18, 2006, the IOUs criticize the definition of a pole at full capacity as one which can not be rearranged, strengthened or changed out as necessary to accommodate a request for access. This is exactly the definition which has been used as standard industry practice for make-ready work on poles to allow cable TV attachments. The cable operators pay for the changes. The power companies use the exact same definition to decide if a pole needs modifications or replacement to accommodate its own facilities. There are limited circumstances where a taller pole can not be placed due to conflicts with other lines, airport glide slopes and other field conditions.

1. Rule 25-6.034(2) Standard of Construction

Electric power companies must have construction standards which specify generally what materials and configurations of facilities (construction units) which they will normally use to achieve the performance standards contained in the National Electrical Safety Code (NESC). The NESC is not a Construction Standard but rather a performance standard which clearly and completely states what is to be accomplished for safety but not how to accomplish it. The NESC covers both Electric and Communications lines and work rules for electric and communications workers.

Construction Standards, though necessary, do not and can not contain all combinations of construction units which are placed on and added to poles in practice. Actual field conditions such as terrain, highways, other lines to cross over, or under, etc. require customizing generally applicable Construction Standards. Construction Standards must be used in conjunction with the NESC to assure that initial construction and facilities added later comply with the NESC. FCTA members do need access to power company Construction Standards.

The FCTA intends to review power company Construction Standards which might adversely affect efficient use of poles for joint use and offer input accordingly. I agree with the comments which Dr. Slavin has made about incorporating Extreme Wind design into distribution pole line standards.

2. 25-6.034(4.a)

The 2007 edition of the NESC was published on August 1, 2006. The 2007 edition should now be the code adopted.

3. 25-6.034(4.b)

This portion of the proposed rule as written only includes electric facilities to be grandfathered to previous editions of the code. It also misstates the NESC Rule. The proposed rule should be re-written to accurately state the requirements of NESC Rule 013.B. in the 2007 Code. The NESC rule applies to Electric and Communications facilities equally.

4. Rule 25-6.0-342

Each electric utility shall establish third party attachment standards and procedures. Attachment Standards should have flexability for IOUs to:

1. Require standards and clearances greater than NESC requirements on poles with adequate height and strength; and
2. Accept compliance with the NESC as a final criteria before requiring that poles must be changed out to taller or stronger ones.

Such flexible attachment standards would allow for the efficient use of available pole space for future attachments by the electric company and communications companies. As the pole space and strength capacity is used up the pole would have to be replaced only when the safety requirements of the NESC can no longer be met. This is a win, win approach to developing attachment standards.

The attachment procedures must be reasonable and non-discriminatory.

Submitted by:

Michael T. (Mickey) Harrelson, Consultant
Professional Engineer
P. O. Box 432
McRae, GA 31055

August 31, 2006

Exhibit 8
060172/060173

BEFORE THE PUBLIC SERVICE COMMISSION

In re: Proposed rules governing placement of new electric distribution facilities underground, and conversion of existing overhead distribution facilities to underground facilities, address effects of extreme weather events.	DOCKET NO. 060172-EU
In re: Proposed amendments to rules regarding overhead electric facilities to allow more stringent construction standards than required by National Electric Safety Code.	DOCKET NO. 060173-EU

DESCRIPTION OF PHOTOS BY MICHAEL T. HARRELSON ON BEHALF OF THE FLORIDA CABLE TELECOMMUNICATIONS ASSOCIATION

Photo #1 was taken on May 25, 2005, in Panama City, Florida, by M.T. Harrelson. It shows where the electric company added three transformers in violation of NESC rules. There are two existing cables. By visual inspection, the pole is not overloaded. Attached hereto as Exhibit MTH-1.

Photo #2 was taken on February 6, 2006, in Pensacola, Florida, by M.T. Harrelson. This pole was inadequately guyed by the power company. The guying should be connected and the pole straightened up. It will not be overloaded. Attached hereto as Exhibit MTH-1.

Photo #3 was taken on February 6, 2006, in Milton, Florida, by M.T. Harrelson. It shows much more load caused by two electric circuits. Attached hereto as Exhibit MTH-2.

Photo #4 was taken on February 6, 2006, in Milton, Florida, by M.T. Harrelson. It shows electric triplex cable hanging down below cable in the span to the left, a code violation. Attached hereto as Exhibit MTH-2.

Photo #5 was taken on February 7, 2006, in Pensacola, Florida by M.T. Harrelson. It shows a pole with no high voltage power which by code only requires grade N strength. Attached hereto as Exhibit MTH-3.

Photo #6 was taken on February 6, 2006, in Pensacola, Florida by M.T. Harrelson. It shows a tall distribution pole with ample space for more attachments. A determination of loading should be done when and if future attachments are made. Attached hereto as Exhibit MTH-3.

Photo #7 was taken on February 6, 2006, in Pensacola, Florida by M.T. Harrelson. It shows two cables with ample space for more attachments. A determination of loading is appropriate for new attachments. Attached hereto as Exhibit MTH-4.

Photo #8 was taken on February 6, 2006, in Pensacola, Florida by M.T. Harrelson. It shows a new pole set after hurricane damage months earlier but the electric facilities remain to be transferred. The old pole in the background was partially broken above the ground line probably by tree limbs. Attached hereto as Exhibit MTH-4.

Photo #9 was taken on February 6, 2006, in Pensacola, Florida by M.T. Harrelson. It shows a pole with multiple NESC spacing violations. Electric facilities and cable facilities were added in violation of NESC spacing rules but the pole-strength is not in question. Electric and cable attachments help support the pole in four directions. Attached hereto as Exhibit MTH-5.

Photo #10 was taken on February 6, 2006, in Pensacola, Florida by M.T. Harrelson. It shows a pole with double electric circuits and two cables. There are NESC violations but no strength question. Attached hereto as Exhibit MTH-5.

Photo #11 was taken on February 6, 2006, in Pensacola, Florida by M.T. Harrelson. It shows a pole with two electric circuits and two cables. The flood light was installed in violation and later the second cable was installed in violation. Attached hereto as Exhibit MTH-6.

Photo #12 was taken on February 6, 2006, in Pensacola, Florida by M.T. Harrelson. It shows a pole with as many cables as electric wires but the electric line is tangent exposing the pole to wind force and the cables run in four directions making the pole resistant to wind force at that level rather than at the ground level for a purely tangent pole. Attached hereto as Exhibit MTH-6.

Photo #13 was taken on February 6, 2006, in Pensacola, Florida by M.T. Harrelson. It shows a secondary lift pole. Construction grade N is required. The power cable sags excessively between poles causing a code violation but no strength issue. Attached hereto as Exhibit MTH-7.

Photo #14 was taken on February 6, 2006, in Defuniak Spring, Florida by M.T. Harrelson. It shows a triplex power cable between poles hanging down to the TV cable causing a separation violation but no strength issue. Attached hereto as Exhibit MTH-7.

Photo #15 was taken on February 6, 2006, in Milton, Florida by M.T. Harrelson. It shows a tangent pole with enough power lines and cables attached to merit a wind load assessment of pole strength. Attached hereto as Exhibit MTH-8.

Submitted by:

Michael T. (Mickey) Harrelson, Consultant
Professional Engineer
P. O. Box 432
McRae, GA 31055

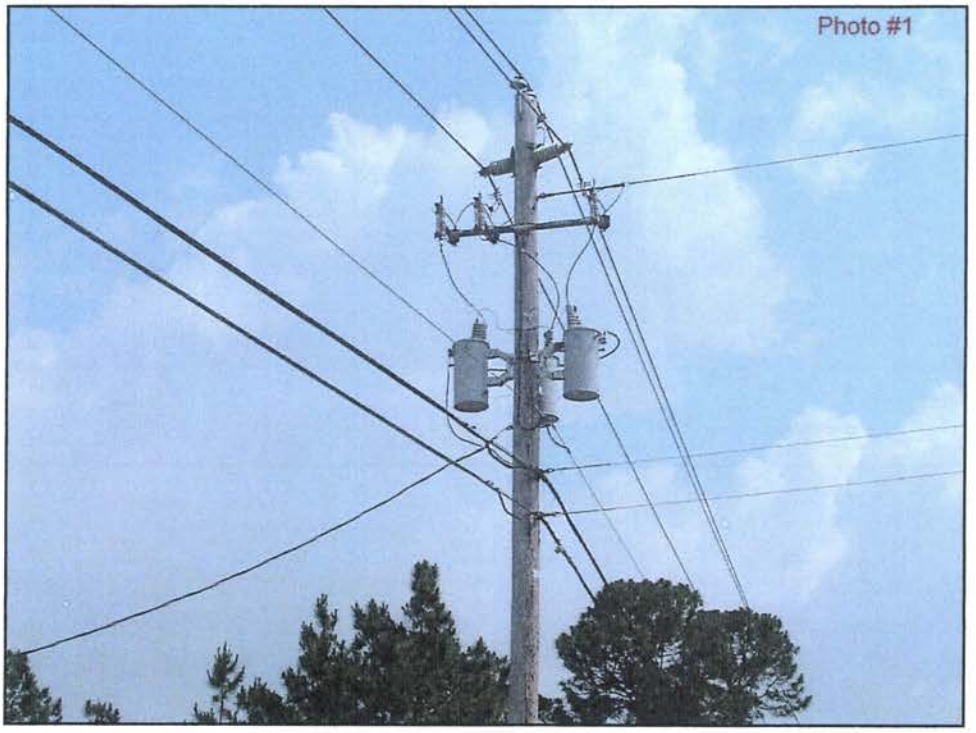
On behalf of the Florida Cable Telecommunications Association

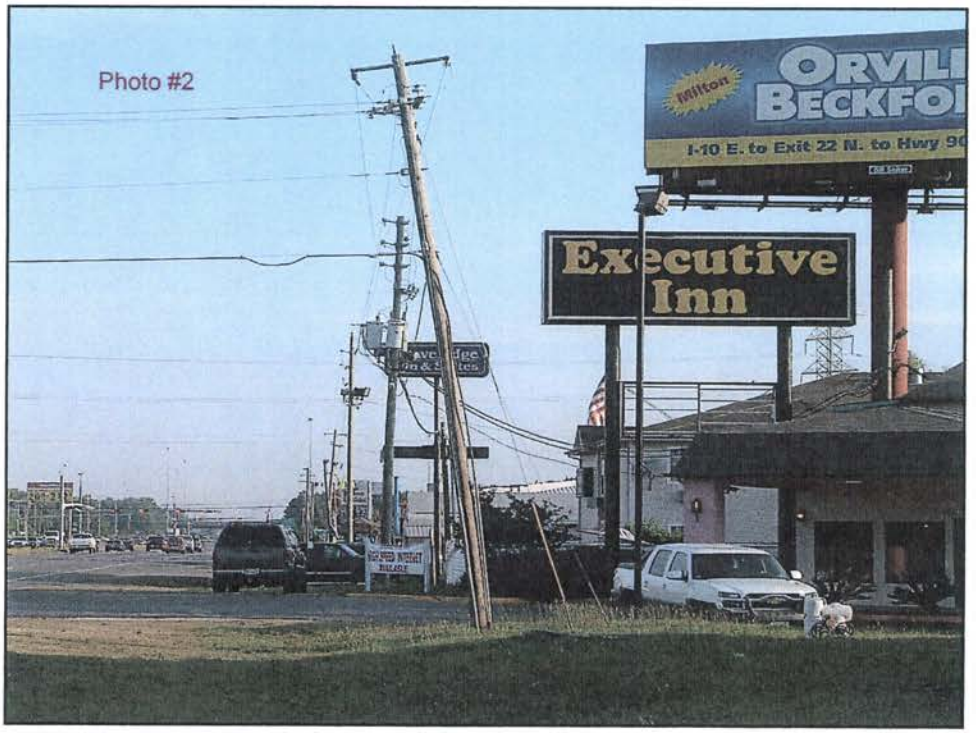
August 31, 2006

EXHIBIT

tabbies

MTH-1





EXHIBIT

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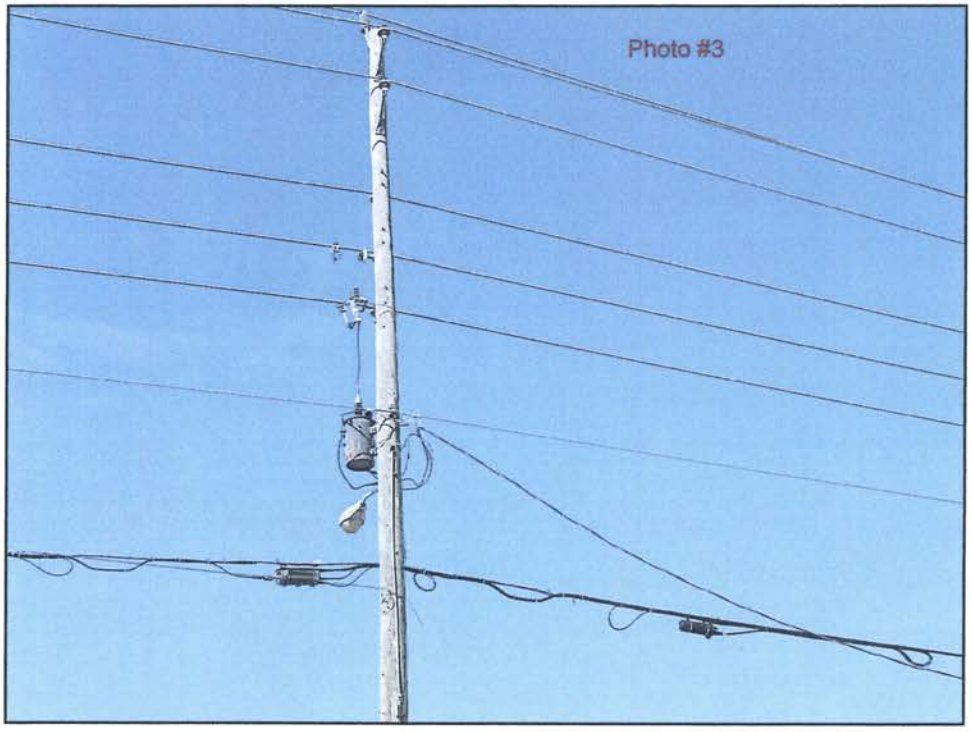
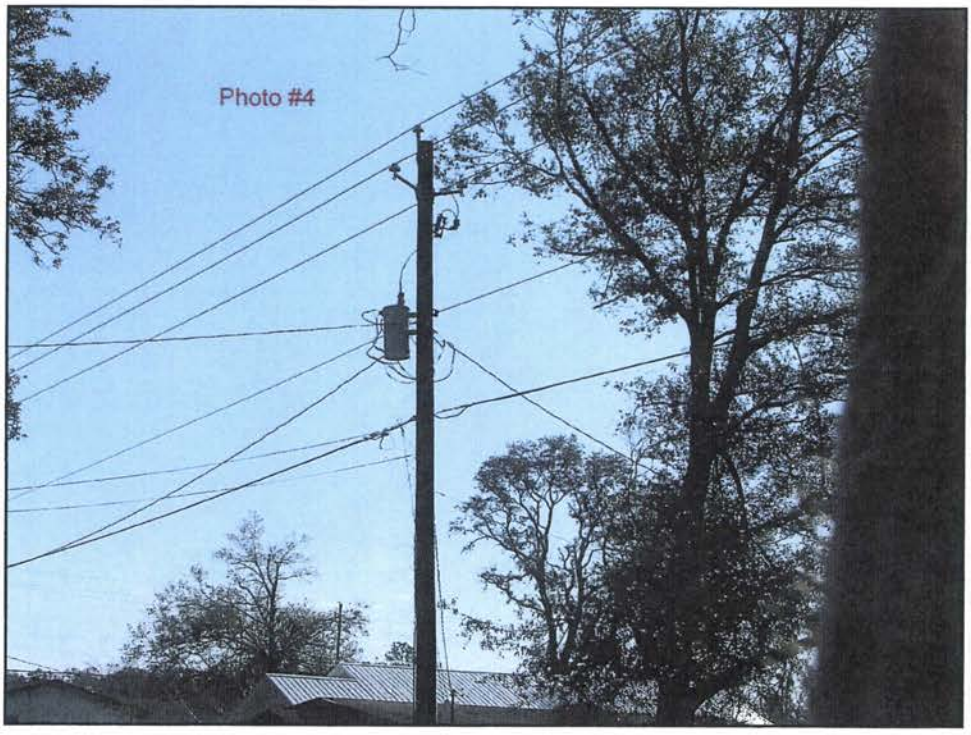
MTH-2





EXHIBIT

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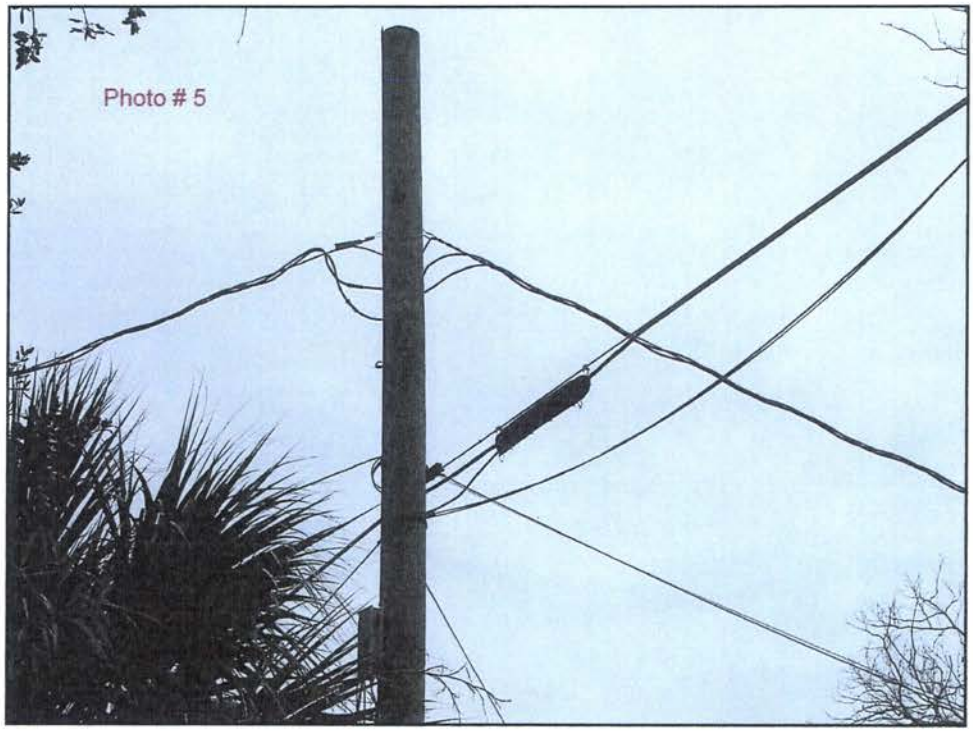
MTH-3



EXHIBIT

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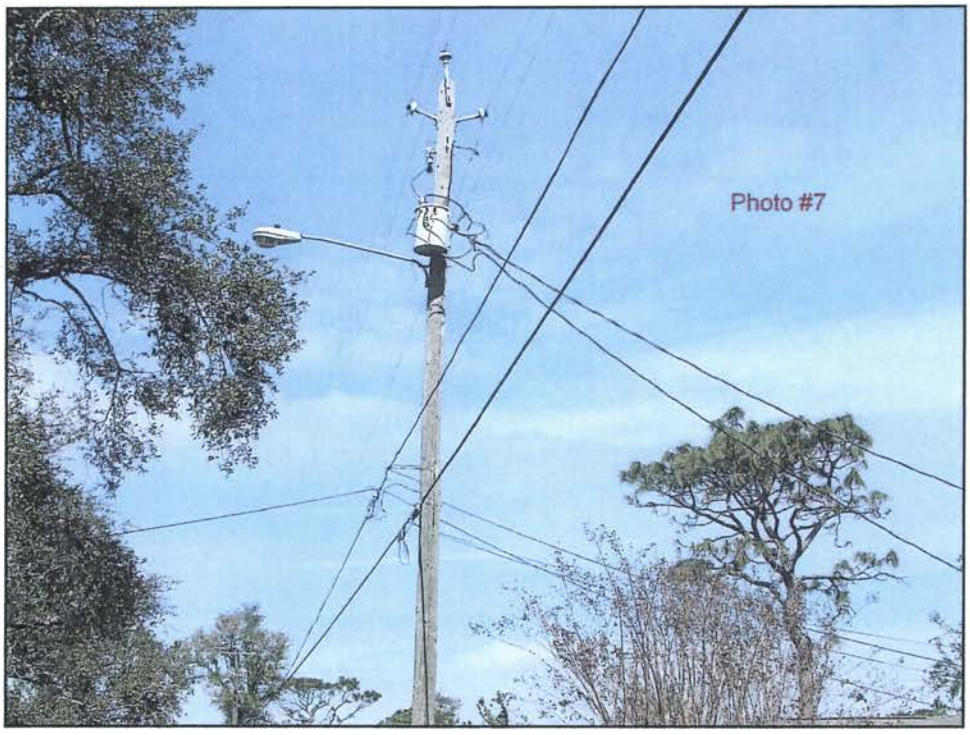
MTH-4



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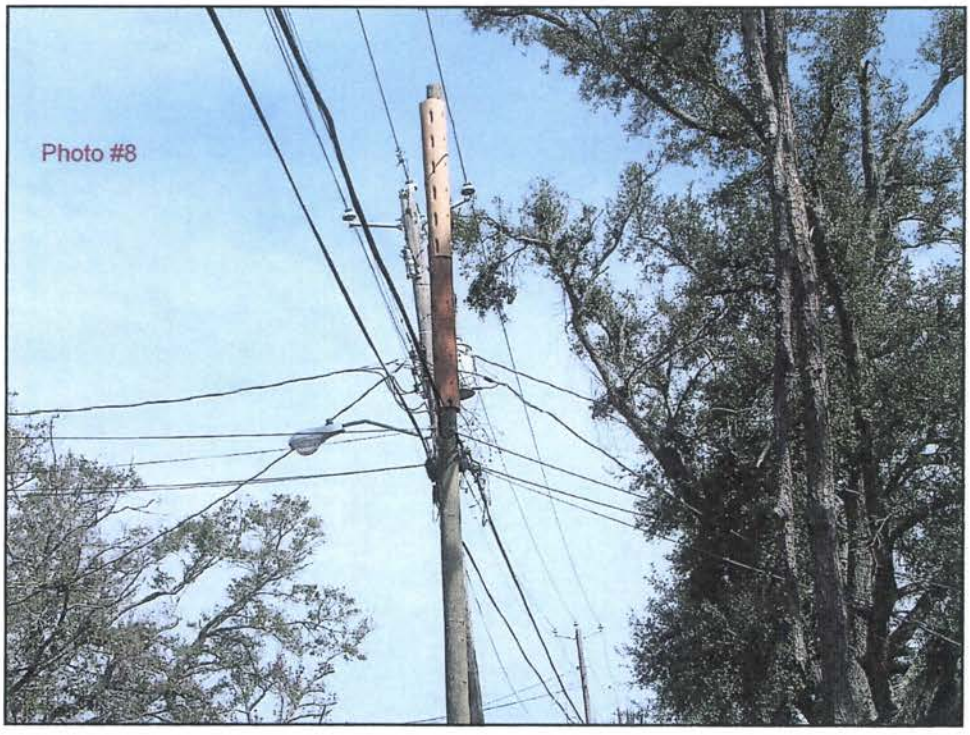
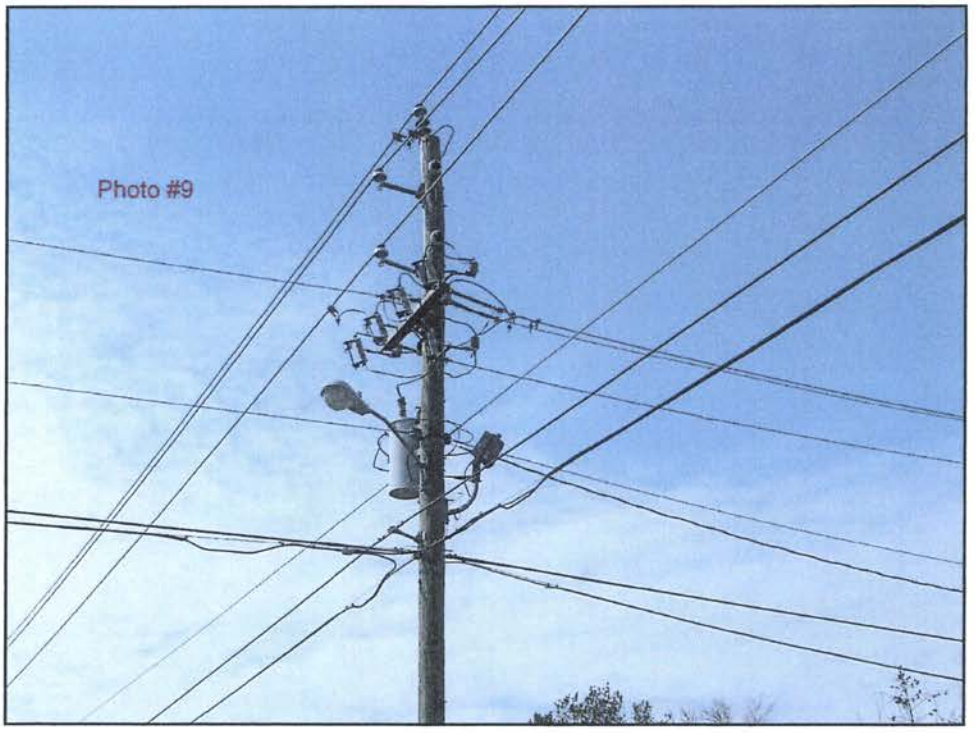


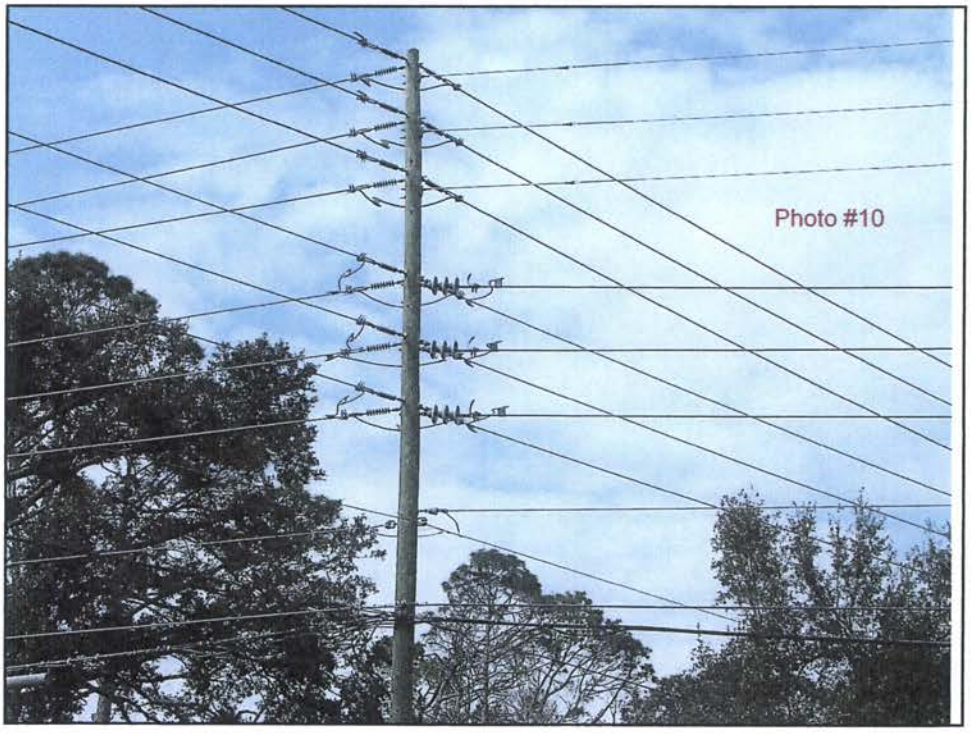
Photo #8

EXHIBIT

tabbies

MTH-5





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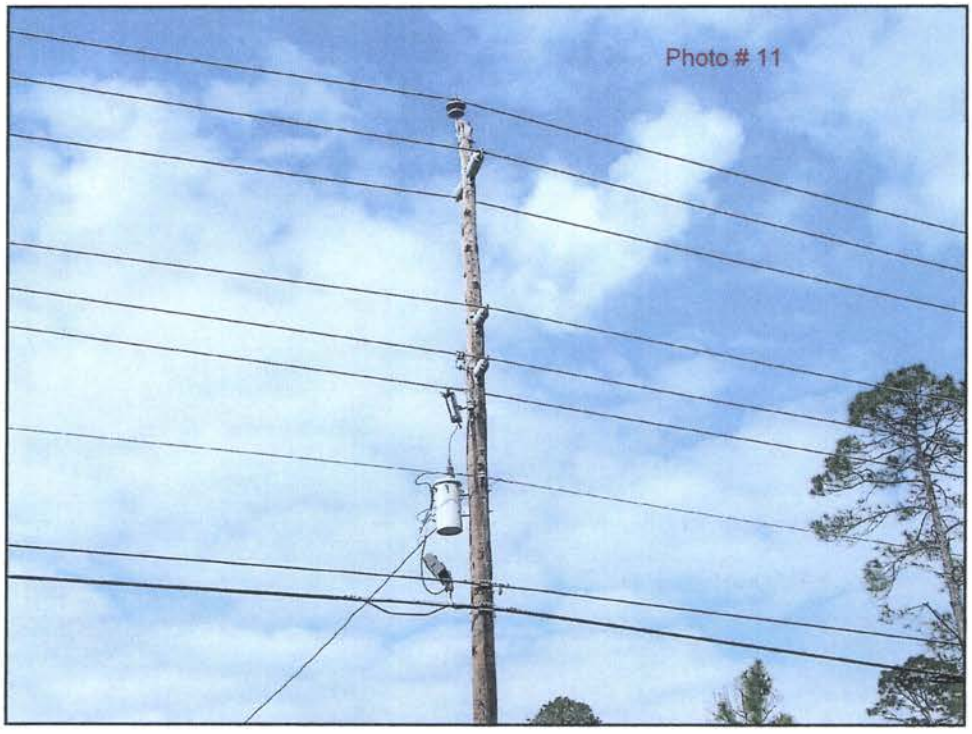

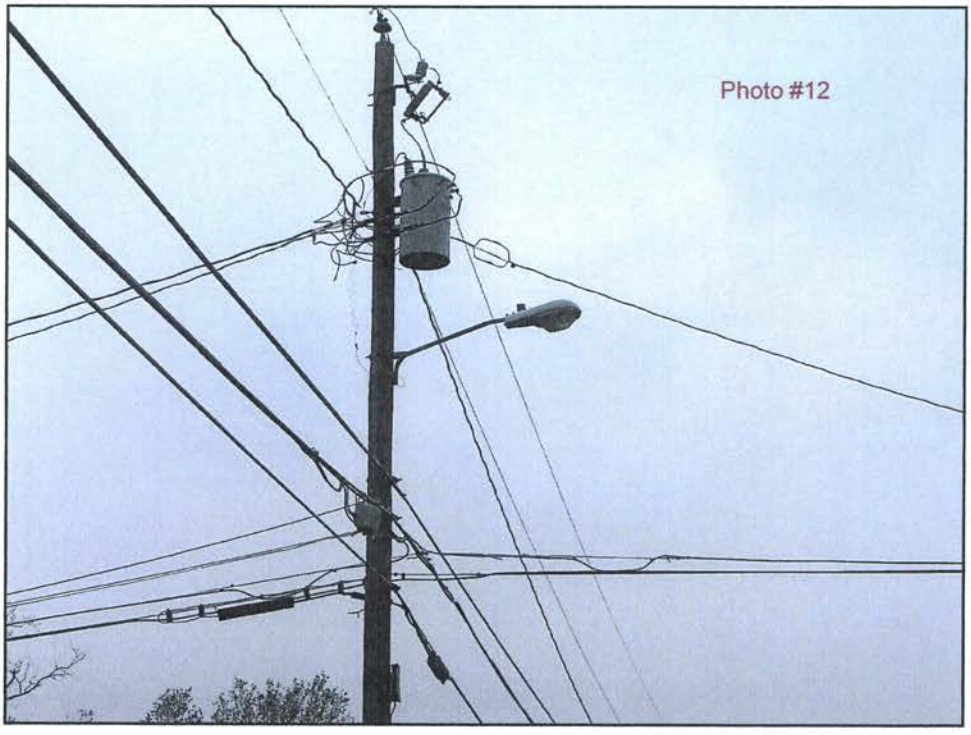

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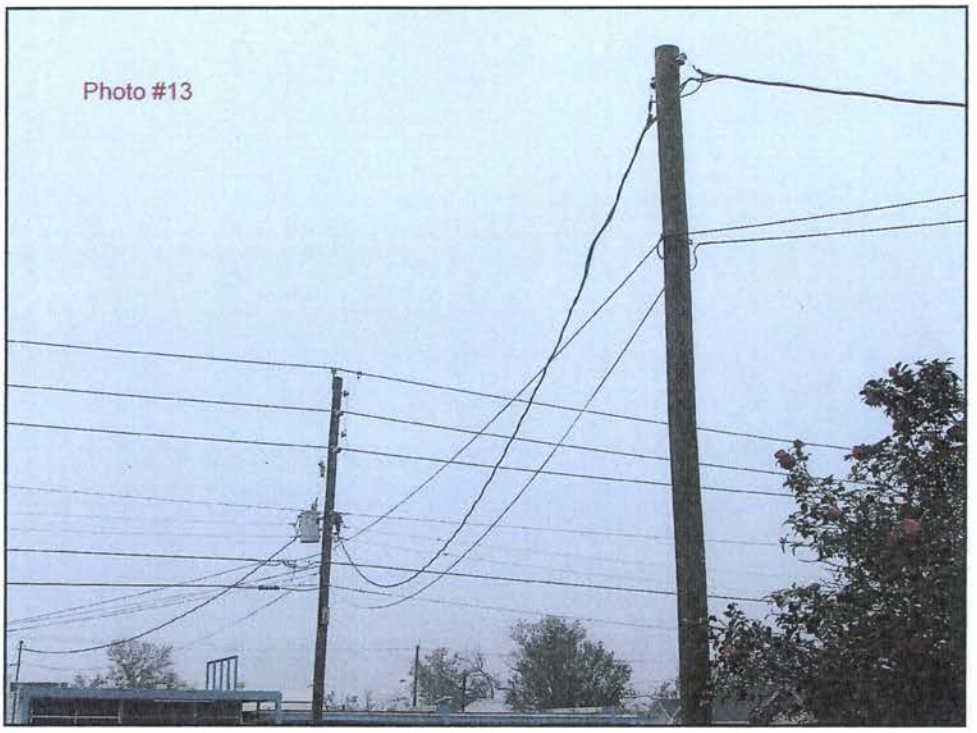

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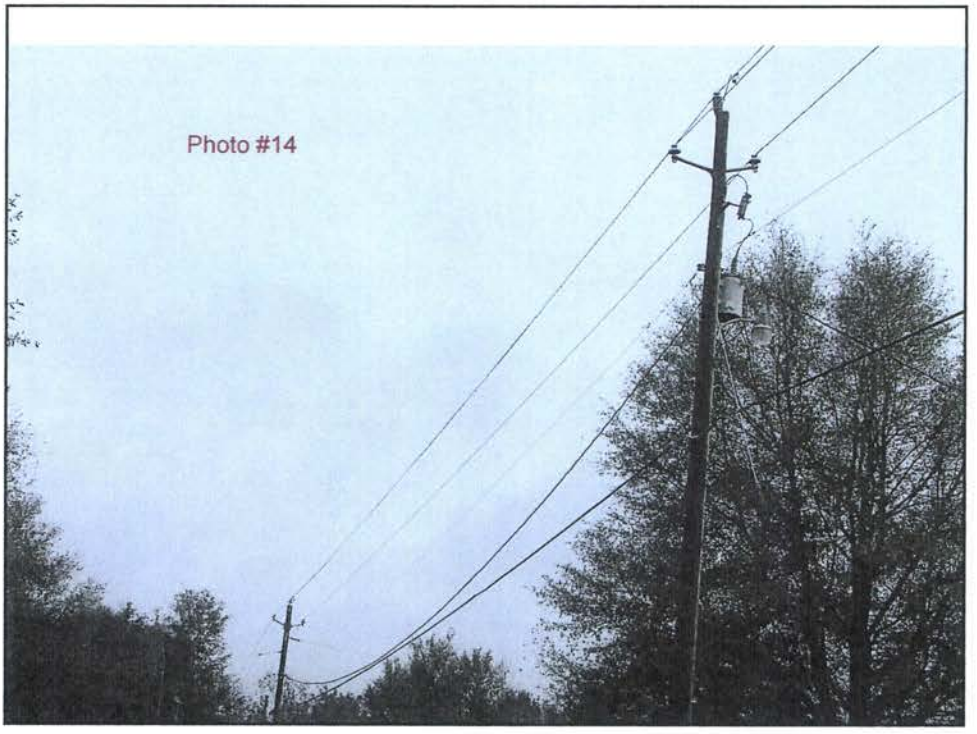

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EXHIBIT

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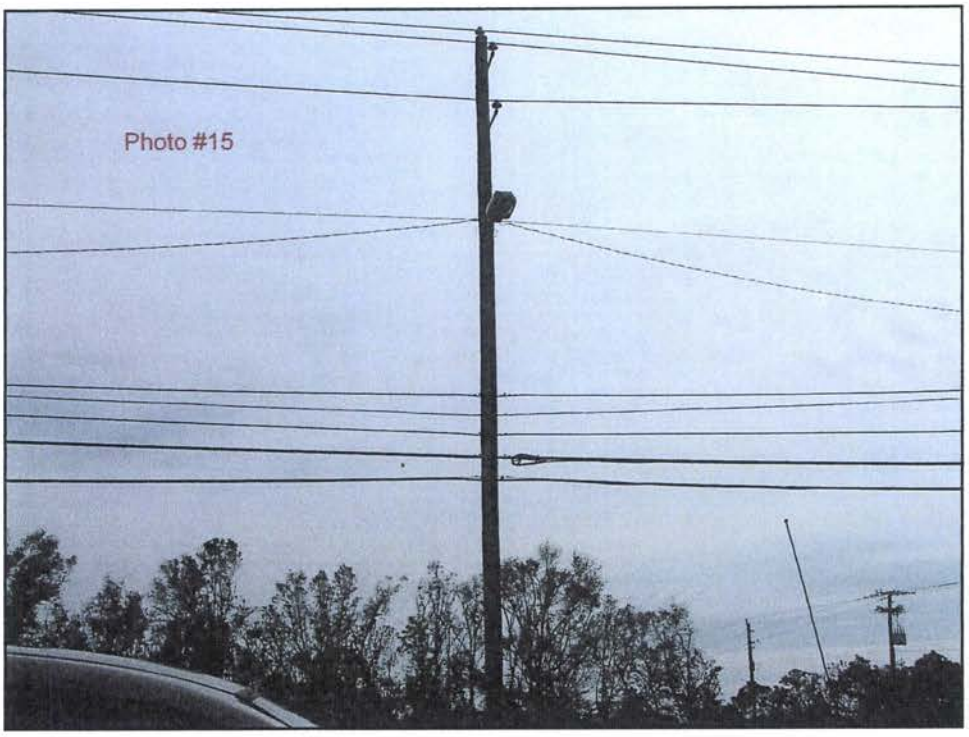
MTH-8



May 19, 2006
2nd Staff Rule Development Workshop

Docket No. 060172-EU

Docket No. 060173-EU

Docket No. 060173-EU	Re: Proposed amendments to rules regarding overhead electric facilities to allow more stringent construction standards than required by National Electric Safety Code.
Docket No. 060172-EU	Re: Proposed rules governing placement of new electric distribution facilities underground and conversion of existing overhead distribution facilities to underground facilities, to address effects of extreme weather events.

At the February 27, 2006 Internal Affairs, the Commission directed staff to open rulemaking proceedings to:

(1) Address requiring distribution facility standards higher than the National Electric Safety Code (NESC); and

(2) Look at the cost and reliability of undergrounding electric facilities, with specific emphasis on identifying areas/circumstances where underground facilities may be appropriate.

Staff's first draft of proposed rule changes was discussed at the April 17, 2006 staff rule development workshop. On May 3, 2006, post-workshop comments were received. On May 15, 2006, Staff circulated its revised draft of proposed rule changes. A second staff rule development workshop is scheduled for May 19, 2006.

Participants should be prepared to address the following topics at the May 19, 2006 staff rule development workshop.

AGENDA

May 19, 2006
Staff Rule Development Workshop

I. Opening Remarks by Staff

II. Public Comments

III. 25-6.034 Standard of Construction. (Attachment 1 pp. 1-4)

A. Overview and Discussion of Proposed Rule Revisions

B. Commission Jurisdiction Over Municipal Electric Utilities and Rural Electric

Cooperatives

C. Pole Attachment Standards and Procedures

D. Estimated Cost Impacts

IV. 25-6.0345 Safety Standard of Construction of New Transmission and Distribution Facilities. (Attachment 1 pp. 5-7)

V. 25-6.064 CIAC : Installation of New or Upgraded Facilities. (Attachment 1 pp. 8-12)

Overview and Discussion of the Contribution-in-Aid-of-Construction Formula. (Attachment 2)

VI. 25-6.078 Schedule of Charges (for residential electric underground extensions). (Attachment 1 pp. 13-15)

25-6.115 Facility Charges for Conversion of Existing Overhead Investor-owned Distribution Facilities. (Attachment 1 pp. 16-19)

Treatment of Storm Restoration Costs in Overhead-Underground Cost Differentials

VII. Ongoing Scheduling and Procedural Matters

Post Workshop Comments – May 25, 2006
Utility Cost data for Statement of Estimated Regulatory Cost (SERC) – May 25, 2006
Staff Recommendation - June 8, 2006 for June 20, 2006 Agenda

PART III

GENERAL MANAGEMENT REQUIREMENTS

25-6.034 Standard of Construction.

(1) Application and Scope. This rule is intended to define construction standards for all overhead and underground electrical transmission and distribution facilities to ensure the provision of adequate and reliable electric service for operational as well as emergency purposes. This rule applies to all electric utilities, including municipal electric utilities and rural electric cooperative utilities, unless otherwise specified. ~~The facilities of the utility shall be constructed, installed, maintained and operated in accordance with generally accepted engineering practices to assure, as far as is reasonably possible, continuity of service and uniformity in the quality of service furnished.~~

(2) Each utility shall establish and maintain construction standards for overhead and underground electrical transmission and distribution facilities that conform to the provisions of this rule. No later than 90 days after the effective date of this rule, each utility shall file five copies of its construction standards with the Director of Economic Regulation. In the event a utility subsequently modifies its construction standards, the utility shall file its revised standards, labeled to indicate the effective date of the new version, together with a type-and-strike annotated copy of the previous version showing the modifications. A copy of the utility's construction standards as filed with the Commission, including Attachment Standards and Procedures pursuant to subsection 8 of this rule, shall be made available by the utility for public inspection. The utility shall, upon request, furnish a copy of its construction standards in effect at the time to any person requesting a copy. Any challenge by a customer or applicant for service to the utility's filed construction standards shall be handled pursuant to Rule 25-22.032. ~~The Commission has reviewed the American National Standard Code for~~

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~~Electricity Metering, 6th edition, ANSI C-12, 1975, and the American National Standard Requirements, Terminology and Test Code for Instrument Transformers, ANSI-57.13, and has found them to contain reasonable standards of good practice. A utility that is in compliance with the applicable provisions of these publications, and any variations approved by the Commission, shall be deemed by the Commission to have facilities constructed and installed in accordance with generally accepted engineering practices.~~

(3) The facilities of each utility shall be constructed, installed, maintained and operated in accordance with generally accepted engineering practices to assure, as far as is reasonably possible, continuity of service and uniformity in the quality of service furnished.

(4) Each utility shall, at a minimum, comply with the applicable edition of the National Electrical Safety Code (ANSI C-2) [NESC].

(a) The Commission adopts and incorporates by reference the 2002 edition of the NESC, published August 1, 2001. A copy of the 2002 NESC, ISBN number 0-7381-2778-7, may be obtained from the Institute of Electric and Electronic Engineers, Inc. (IEEE).

(b) Electrical facilities constructed prior to the effective date of the 2002 edition of the NESC shall be governed by the applicable edition of the NESC in effect at the time of the initial construction.

(5) For the construction of distribution facilities, each utility shall, to the extent reasonably practical and feasible, adopt the extreme wind loading standards specified by Figure 250-2(d) of the 2002 edition of the NESC. As part of its construction standards, each utility shall establish guidelines and procedures governing the applicability and use of the extreme wind loading standards to enhance reliability and reduce restoration costs and outage times for each of the following types of construction:

(a) new construction;

(b) major planned work, including expansion, rebuild, or relocation of existing

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facilities, assigned on or after the effective date of this rule; and

(c) targeted critical infrastructure facilities and major thoroughfares taking into account political and geographical boundaries and other applicable operational considerations.

(6) For the construction of underground facilities and their supporting overhead facilities, each utility shall, to the extent reasonably practical (cost effective) and feasible, establish guidelines and procedures to deter damage resulting from flooding and storm surges in areas designated as Surge Zones by the Department of Community Affairs, Division of Emergency Management.

(7) Location of the utility's electric facilities.

(a) For initial installation, expansion, rebuild, or relocation of overhead facilities, utilities shall use easements, public streets, roads and highways along which the utility has the legal right to occupy, and public lands and private property across which rights-of-way and easements have been provided by the applicant for service. To the extent practical and feasible, facilities shall be placed in easements in front of the customer's premises adjacent to a public road for all new facilities and major upgrades or rebuilds affecting a customer or contiguous group of customers served by the same distribution line.

(b) For initial installation, expansion, rebuild, or relocation of underground facilities, the utility shall require the applicant for service to provide easements along the front edge of the property, unless the utility determines there is an operational, economic, or reliability benefit to use another location.

(c) For conversions of existing overhead facilities to underground facilities, the utility may, if the applicant for service is a local government that provides all necessary permits and meets the utility's legal, financial, and operational requirements, place facilities in road rights-of-way in lieu of requiring easements.

(8) As part of its construction standards, each utility shall establish and maintain

Safety, reliability, capacity, and engineering

written standards and procedures for attachments by others to the utility's electric transmission or distribution poles (Attachment Standards and Procedures). Such Attachment Standards and Procedures shall meet or exceed the NESC and other applicable standards imposed by law so as to assure, as far as is reasonably possible, that third-party facilities attached to electric transmission and distribution poles do not impair electric system safety, adequacy, or reliability; do not exceed pole loading capacity; and are constructed, installed, maintained, and operated in accordance with generally accepted engineering practices for the utility's service territory. No attachment to an electric utility's transmission or distribution poles shall be made except in compliance with such utility's Attachment Standards and Procedures as filed with the Commission.

Specific Authority 350.127(2), 366.05(1) FS.

Law Implemented 366.04(2)(c), (5), (6), 366.05(1) FS.

History–Amended 7-29-69, 12-20-82, Formerly 25-6.34, Amended _____..

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25-6.0345 Safety Standards for Construction of New Transmission and Distribution Facilities.

(1) In compliance with Section 366.04(6)(b), F.S., 1991, the Commission adopts and incorporates by reference the 2002 edition of the National Electrical Safety Code (ANSI C-2), published August 1, 2001, as the applicable safety standards for transmission and distribution facilities subject to the Commission's safety jurisdiction. Each investor-owned ~~public~~ electric utility, rural electric cooperative, and municipal electric system shall comply with the standards in these provisions. Standards contained in the 2002 edition shall be applicable to new construction for which a work order number is assigned on or after the effective date of this rule.

(2) Each investor-owned ~~public~~ electric utility, rural electric cooperative and municipal electric utility shall report all completed electric work orders, whether completed by the utility or one of its contractors, at the end of each quarter of the year. The report shall be filed with the Director of the Commission's Division of Regulatory Compliance and Consumer Assistance ~~Auditing and Safety~~ no later than the 30th working day after the last day of the reporting quarter, and shall contain, at a minimum, the following information for each work order:

(a) Work order number/project/job;

(b) Brief title; and

(c) Estimated cost in dollars, rounded to nearest thousand.

(3) The quarterly report shall be filed in standard DBase or compatible format, DOS ASCII text, or hard copy, as follows:

(a) DBase Format

Field Name	Field Type	Digits
1. Work orders	Character	20

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2. Brief title	Character	30
3. Cost	Numeric	8
4. Location	Character	50
~~5. Kv~~	~~Numeric~~	~~5~~
~~6. Contiguous~~	~~Character~~	~~1~~

(b) DOS ASCII Text.

1. Columns shall be the same type and in the same order as listed under Field Names above.

2. A comma (,) shall be placed between data fields.

3. Character data fields shall be placed between quotation marks (". . .").

4. Numeric data fields shall be right justified.

5. Blank spaces shall be used to fill the data fields to the indicated number of digits.

(c) Hard Copy.

The following format is preferred, but not required:

Completed Electrical Work Orders For PSC Inspection

Work Order	Brief Title	Estimated Cost	Location	~~Kv Rating~~	~~Contiguous (y/n)~~

(4) In its quarterly report, each utility shall identify all transmission and distribution facilities subject to the Commission's safety jurisdiction, and shall certify to the Commission that they meet or exceed the applicable standards. Compliance inspections by the Commission shall be made on a random basis or as appropriate.

(5) As soon as practicable, but by the end of the next business day after it learns of the occurrence, each investor-owned electric ~~public~~ utility, rural electric cooperative, and

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municipal electric utility shall (without admitting liability) report to the Commission any accident occurring in connection with any part of its transmission or distribution facilities which:

(a) Involves death or injury requiring hospitalization of nonutility persons; or

(b) Is significant from a safety standpoint in the judgment of the utility even though it is not required by paragraph (a).

(6) Each investor-owned electric ~~public~~ utility, rural electric cooperative, and municipal electric utility shall (without admitting liability) report each accident or malfunction, occurring in connection with any part of its transmission or distribution facilities, to the Commission within 30 days after it learns of the occurrence, provided the accident or malfunction:

(a) Involves damage to the property of others in an amount in excess of $5000; or

(b) Causes significant damage in the judgment of the utility to the utility's facilities.

(7) Unless requested by the Commission, reports are not required with respect to personal injury, death, or property damage resulting from vehicles striking poles or other utility property.

Specific Authority 350.127(2) FS.

Law Implemented 366.04(2)(f), (6) FS.

History–New 8-13-87, Amended 2-18-90, 11-10-93, 8-17-97, 7-16-02, Amended _____.

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PART IV

GENERAL SERVICE PROVISIONS

25-6.064 ~~Extension of Facilities;~~ Contribution in Aid of Construction: Installation of New or Upgraded Facilities

(1) ~~Purpose.~~ Application and scope: The purpose of this rule is to establish a uniform procedure by which investor-owned electric utilities ~~subject to this rule will~~ calculate amounts due as ~~contributions in aid of construction~~ contribution-in-aid-of-construction (CIAC) from customers who require new facilities, other than standard installations, or for upgrades to existing facilities resulting from changes in the customer's demand on the system, ~~extensions of distribution facilities~~ in order to receive electric service, except as provided in Rule 25-6.078.

(2) ~~Applicability. This rule applies to all investor owned electric utilities in Florida as defined in Section 366.02, F.S. Contributions in aid of construction~~ Contribution-in-aid-of-construction shall be calculated as set forth below:

CIAC	=	Cost of installing the facilities	-	4 x ~~nonfuel energy charge~~ base energy charge per kWh x expected incremental annual kWh sales over the new facilities	-	4 x expected annual demand charge revenues from incremental sales over the new facilities

For the purposes of the above formula, costs are defined as follows:

(a) The cost of all new overhead and underground ~~line extensions~~ facilities shall be the total estimated work order job cost.

(b) There shall be no charge for the overhead transformer, service drop and meter for new standard overhead installations. costs for ... shall be excluded - Same meaning, but use these "costs"

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(c) The total cost of installing new underground service shall be reduced by the cost of a standard overhead service installation.

(d) The cost of upgrades to existing facilities shall be the estimated work order job cost including any costs of removal less any salvage.

(e) For customers in rate classes that pay only energy charges, demand charge revenues shall be zero.

(f) Expected demand charge revenues and energy sales shall be based on an annual period ending not more than 5 years after the extension is placed in service.

~~(3) Definitions. Actual or estimated job cost means the actual cost of providing the specified line extension facilities, calculated after the extension is completed, or the estimated cost of providing the specified facilities before the extension is completed.~~

~~(4) In developing the policy for extending overhead distribution facilities to customers, the following formulas shall be used to determine the contribution in aid of construction owed by the customer.~~

~~(a) For customers in rate classes that pay only energy charges, i.e., those that do not pay demand charges, the CIAC shall be calculated as follows:~~

~~$CIAC_{oh}$~~	=	~~(Actual or estimated job cost for new poles and conductors and appropriate fixtures require to provide service, excluding transformers, service drops, and meters)~~	~~(4 x nonfuel energy charge per KWH x expected annual KWH sales over the new line facilities)~~

~~(b) For customers in rate classes that pay both energy charges and demand charges, the CIAC shall be calculated as follows:~~

~~$CIAC_{oh}$~~	=	~~(Actual or estimated job cost for~~	-	~~(4 x nonfuel~~	-	~~(4 x expected~~

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		~~new poles and conductors and appropriate fixtures require to provide service, excluding transformers, service drops, and meters)~~		~~energy charge per KWH x expected annual KWH sales over the new line)~~		~~annual demand charge revenues from sales over the new line)~~

~~(c) Expected demand charge revenues and energy sales shall be based on an annual period ending not more than five years after the extension is placed in service.~~

~~(5) In developing the policy for extending underground distribution facilities to customers, the following formula shall be used to determine the contribution in aid of construction.~~

~~$CIAC_{ug}$~~	=	~~(Estimated difference between the cost of providing the facilities distribution line extension, including not only the distribution line extension itself but also the transformer, the service drop, and other necessary fixtures, with underground facilities vs. the cost of providing service using overhead facilities)~~		-		~~$CIAC_{oh}$ (as above)~~

~~6) Nothing in this rule shall be construed as prohibiting a utility from collecting from a customer the total difference in cost for providing underground service instead of overhead service to that customer.~~

~~(7) In the event that amounts are collected for certain distribution facilities via the URD differential tariff as permitted by Rule 25-6.078, F.A.C., that would also be collected pursuant to this rule, the utility shall give an appropriate credit for such amounts collected via the URD differential tariff when calculating the line extension CIAC due pursuant to this rule.~~

(3)~~(8)~~ Each utility shall apply the ~~above~~ formulas in subsection (2) of this rule

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uniformly to residential, commercial and industrial customers ~~requiring~~ requesting new or upgraded facilities at any voltage level ~~line extensions~~.

(4) The costs applied to the formula in subsection (2) shall be based on the requirements of Rule 25-6.034, Standards of Construction.

~~(9) Each utility shall calculate an appropriate CIAC for line extensions constructed to serve customers who receive service at the primary distribution voltage level and the transmission voltage level consistent with paragraphs (4), (5), and (6) of this rule. This CIAC shall be based on the actual or estimated cost of providing the extension less an appropriate credit.~~

5 ~~(6)~~(10) Each ~~The~~ utility shall use its best judgment in estimating the total amount of revenues and sales which new or upgraded facilities ~~each line extension is~~ are expected to produce in ~~the~~ a 4-year time frame commencing with the in-service date of the new or upgraded facilities ~~near future~~. If the amount of the estimated credit to the CIAC is disputed, at the customer's request, the utility shall true-up the CIAC collected using actual revenues at the end of the 4-year period over which the CIAC was estimated.

6 ~~(7)~~(11) The utility may elect to waive ~~the line extension~~ all or any portion of the CIAC for customers, even when a CIAC is found to be applicable ~~owing~~. However, if the utility waives the CIAC, the utility shall reduce net plant in service as though the CIAC had been collected ~~Commission will reduce the utility's net plant in service by an equal amount for ratemaking purposes, as though the CIAC had been collected, except when the company's annual revenues from a customer are sufficient to offset the unpaid line extension CIAC under subsection (4) or (5)~~. Each utility shall maintain records of amounts waived and any subsequent changes that served to offset the CIAC.

7 ~~(8)~~(12) In cases where ~~larger developments~~ more customers than the initial applicant are expected to be served by the new or upgraded facilities ~~line extensions~~, the utility shall

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~~may elect to~~ prorate the total ~~line extension costs and~~ CIAC's, ~~owed~~ over the number of customers expected to ~~connect to the new line~~ be served by the new or upgraded facilities within a period not to exceed 3 years commencing with the in-service date of the new or upgraded facilities. The utility may require an advance equal to the full amount of the CIAC from the initial customer. As additional customers connect to the facilities subject to the CIAC, the utility shall collect from those customers a pro-rated CIAC, and credit that amount to the initial customer who paid the CIAC. In the event the projected growth in customers or usage does not materialize by the end of the 3-year period, the remaining CIAC shall be retained by the utility to offset the cost of the construction. The utility shall file a tariff outlining its policy for the proration of CIAC.

~~(9)~~(13) A detailed statement of its standard facilities extension and upgrade policyies shall be filed by each utility as part of its tariffs. ~~This policy~~ The tariffs shall have uniform application and shall be nondiscriminatory.

~~(10)~~(14) If a utility and applicant are unable to agree ~~in regard to an extension~~ on the CIAC amount, either party may appeal to the Commission for a review.

Specific Authority 366.05(1), 350.127(2) FS.

Law Implemented 366.03, 366.05(1), 366.06(1) FS.

History–New 7-29-69, Amended 7-2-85, Formerly 25-6.64, Amended _____.

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PART V

RULES FOR RESIDENTIAL ELECTRIC UNDERGROUND EXTENSIONS

25-6.078 Schedule of Charges.

(1) Each utility shall file with the Commission a written policy that shall become a part of the utility's tariff rules and regulations on the installation of underground facilities in new subdivisions. Such policy shall be subject to review and approval of the Commission and shall include an Estimated Average Cost Differential, if any, and shall state the basis upon which the utility will provide underground service and its method for recovering the difference in cost of an underground system and an equivalent overhead system from the applicant at the time service is extended. The charges to the applicant shall not be more than the estimated difference in cost of an underground system and an equivalent overhead system.

(2) For the purposes of calculating the Estimated Average Cost Differential, cost estimates shall reflect the requirements of Rule 25-6.034, Standards of Construction.

(3)~~(2)~~ On or before October 15~~th~~ of each year each utility shall file with the Commission's Division of Economic Regulation Form PSC/ECR 13-E, Schedule 1, using current material and labor costs. If the cost differential as calculated in Schedule 1 varies from the Commission-approved differential by plus or minus 10 percent or more, the utility shall file a written policy and supporting data and analyses as prescribed in subsections (1), (4~~3~~) and (5~~4~~) of this rule on or before April 1 of the following year; however, each utility shall file a written policy and supporting data and analyses at least once every 3 ~~three~~ years.

(4)~~(3)~~ Differences in present value of operating and maintenance costs, including average historical storm restoration costs over the life of the facilities, between underground and overhead systems, if any, shall ~~may~~ be taken into consideration in determining the overall Estimated Average Cost Differential. Each utility shall establish sufficient record keeping and

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accounting measures to separately identify storm related operating and maintenance costs for underground and overhead facilities.

(5)~~(4)~~ Detailed supporting data and analyses used to determine the Estimated Average Cost Differential for underground and overhead distribution systems shall be concurrently filed by the utility with the Commission and shall be updated using cost data developed from the most recent 12-month period. The utility shall record these data and analyses on Form PSC/ECR 13-E (10/97). Form PSC/ECR 13-E, entitled "Overhead/Underground Residential Differential Cost Data" is incorporated by reference into this rule and may be obtained from the Division of Economic Regulation, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, (850) 413-6900.

(6)~~(5)~~ Service for a new multiple-occupancy building shall be constructed underground within the property to be served to the point of delivery at or near the building by the utility at no charge to the applicant, provided the utility is free to construct its service extension or extensions in the most economical manner.

(7)~~(6)~~ The recovery of the cost differential as filed by the utility and approved by the Commission may not be waived or refunded unless it is mutually agreed by the applicant and the utility that the applicant will perform certain work as defined in the utility's tariff, in which case the applicant shall receive a credit. Provision for the credit shall be set forth in the utility's tariff rules and regulations, and shall be no more in amount than the total charges applicable.

(8)~~(7)~~ The difference in cost as determined by the utility in accordance with its tariff shall be based on full use of the subdivision for building lots or multiple-occupancy buildings. If any given subdivision is designed to include large open areas, the utility or the applicant may refer the matter to the Commission for a special ruling as provided under Rule 25-6.083, F.A.C.

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(9)~~(8)~~ The utility shall not be obligated to install any facilities within a subdivision until satisfactory arrangements for the construction of facilities and payment of applicable charges, if any, have been completed between the applicant and the utility by written agreement. A standard agreement form shall be filed with the company's tariff.

(10)~~(9)~~ Nothing herein contained shall be construed to prevent any utility from absorbing ~~assuming~~ all or any portion of the costs ~~differential~~ of providing underground distribution systems, provided, however, that such ~~assumed~~ costs in excess of a comparable overhead system ~~differential~~ shall not be chargeable to the general body of ratepayers, and any such policy adopted by a utility shall have uniform application throughout its service area.

Specific Authority 366.04(2)(f), 366.05(1) FS.

Law Implemented 366.03, 366.04(1), (4), 366.04(2)(f), 366.06(1) FS.

History–New 4-10-71, Amended 4-13-80, 2-12-84, Formerly 25-6.78, Amended 10-29-97, _____ .

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PART VII

UNDERGROUND ELECTRIC DISTRIBUTION FACILITY CHARGES

25-6.115 Facility Charges for Conversion of Existing Overhead ~~Providing Underground Facilities of Public~~ Investor-owned Distribution Facilities ~~Excluding New Residential Subdivisions.~~

(1) Each ~~public~~ investor-owned utility shall file a tariff showing the non-refundable deposit amounts for standard applications addressing ~~new construction and~~ the conversion of existing overhead electric distribution facilities to underground facilities ~~excluding new residential subdivisions~~. The tariff shall include the general provisions and terms under which the public utility and applicant may enter into a contract for the purpose of ~~new construction or~~ converting~~sion of~~ existing overhead ~~electric~~ facilities to underground ~~electric~~ facilities. The non-refundable deposit amounts shall ~~approximate~~ be calculated in the same manner as the engineering costs for underground facilities serving each of the following scenarios: urban commercial, urban residential, rural residential, existing low-density single family home subdivision and existing high-density single family home subdivision service areas.

(2) For ~~the~~ purposes of this rule, the applicant is the person or entity seeking the undergrounding of existing overhead electric distribution facilities. In the instance where a local ordinance requires developers to install underground facilities, the developer who actually requests the construction for a specific location is ~~when a developer requests local government development approval, the local government shall not be~~ deemed the applicant for purposes of this rule.

(3) Nothing in the tariff shall prevent the applicant from constructing and installing all or a portion of the underground distribution facilities provided:

(a) s~~S~~uch work meets the investor-owned ~~public~~ utility's construction standards;

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(b) tThe investor-owned ~~public~~ utility will own and maintain the completed distribution facilities; and

(c) sSuch agreement is not expected to cause the general body of ratepayers to incur ~~greater~~ costs in excess of the costs the utility would incur for the installation.

(4) Nothing in the tariff shall prevent the applicant from requesting a non-binding cost estimate which shall be provided to the applicant free of any charge or fee.

(5) Upon an applicant's request and payment of the deposit amount, an investor-owned ~~public~~ utility shall provide a binding cost estimate for providing underground electric service.

(6) An applicant shall have at least 180 days from the date the estimate is received, to enter into a contract with the public utility based on the binding cost estimate. The deposit amount shall be used to reduce the charge as indicated in subsection (7) only when the applicant enters into a contract with the public utility within 180 days from the date the estimate is received by the applicant, unless this period is extended by mutual agreement of the applicant and the utility.

(7) The charge paid by the applicant shall be the charge for the proposed underground facilities as indicated in subsection (8 ~~10~~) minus the charge for overhead facilities as indicated in subsection (9 ~~11~~) minus the non-refundable deposit amount. The applicant shall not be required to pay an additional amount which exceeds 10 percent of the binding cost estimate.

(8) For the purpose of this rule, the charge for the proposed underground facilities shall include:

(a) Tthe estimated cost of construction of the underground distribution facilities including the construction cost of the underground service lateral(s) to the meter(s) of the customer(s); and

(b) ~~For conversions,~~ the estimated remaining net book value of the existing facilities to be removed less the estimated net salvage value of the facilities to be removed.

CODING: Words underlined are additions; words in ~~struck through~~ type are deletions from existing law.

(9) For the purpose of this rule, the charge for overhead facilities shall be the estimated construction cost to build new overhead facilities, including the service drop(s) to the meter(s) of the customer(s). Estimated construction costs shall be based on the requirements of Rule 25-6.034, Standards of Construction.

(10) An applicant ~~to a public utility for~~ requesting construction of underground distribution facilities under to this rule may ~~petition~~ challenge the utility's cost estimates ~~the Commission~~ pursuant to Rule 25-22.032, F.A.C.

(11) For the purposes of the computing the charges required in subsections (8) and (9):

(a) The utility shall include the net present value of operating and maintenance costs and the average historical storm restoration costs for comparable facilities over the expected life of the facilities.

(b) If the applicant chooses to construct or install all or a part of the requested facilities, all costs, including overhead assignments, avoided by utility due to the applicant assuming responsibility for construction shall be subtracted from the CIAC charged to the customer, or if the full CIAC has already been paid, credited to the customer. At no time will the CIAC be less than zero.

(12) Nothing herein contained shall be construed to prevent any utility from absorbing all or any portion of the cost of providing underground distribution systems, provided, however, that such costs in excess of a comparable overhead system shall not be chargeable to the general body of ratepayers, and any such policy adopted by a utility shall have uniform application throughout its service area.

(1~~1~~3) Nothing in this rule shall be construed to grant any investor-owned electric utility any right, title or interest in real property owned by a local government.

Specific Authority 366.04, 366.05(1) FS.

Law Implemented 366.03, 366.04, 366.05 FS.

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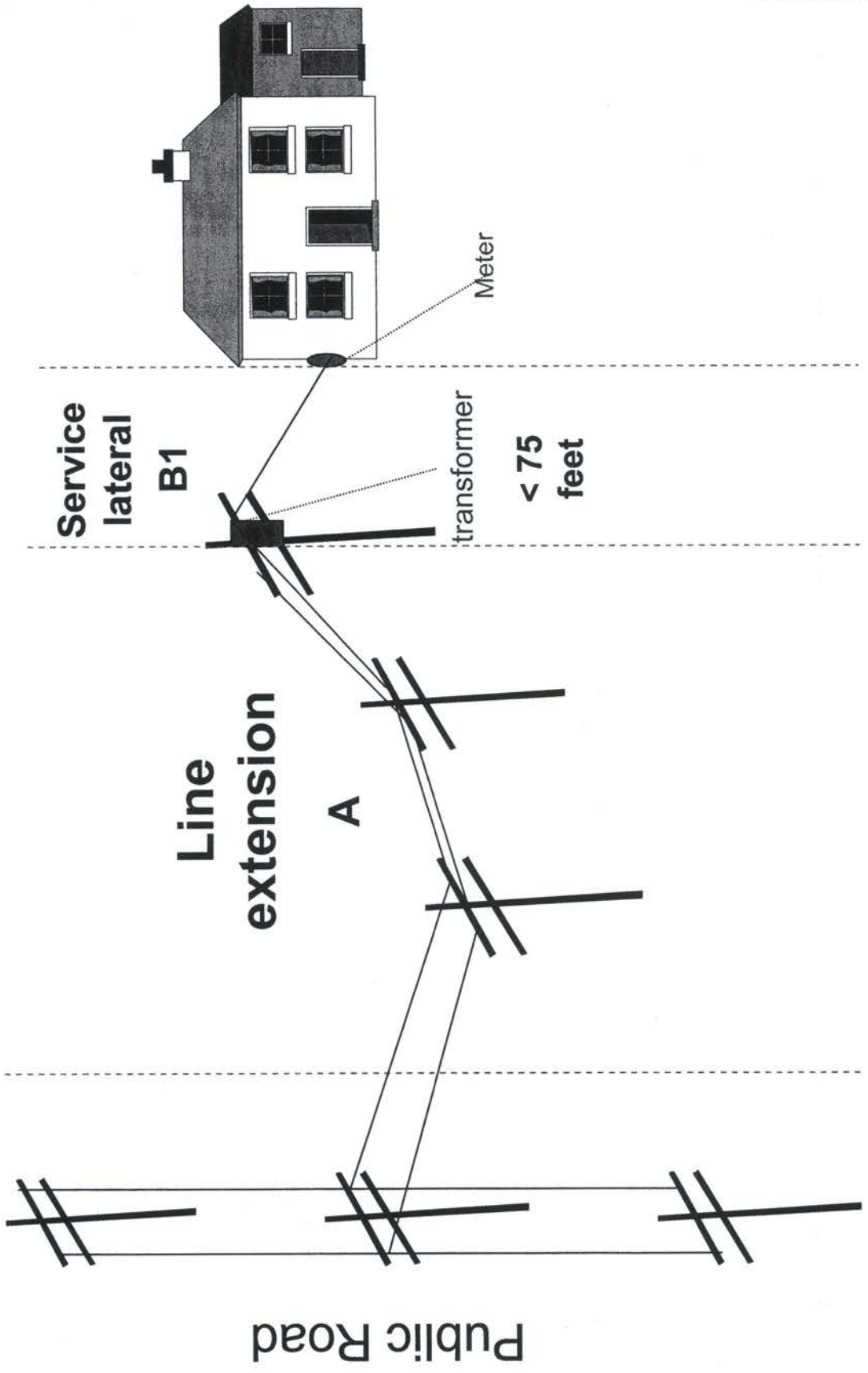
History–New 9-21-92, Amended

CODING: Words underlined are additions; words in ~~struck through~~ type are deletions from existing law.

Explanation of Changes to Rule 25-6.064, CIAC

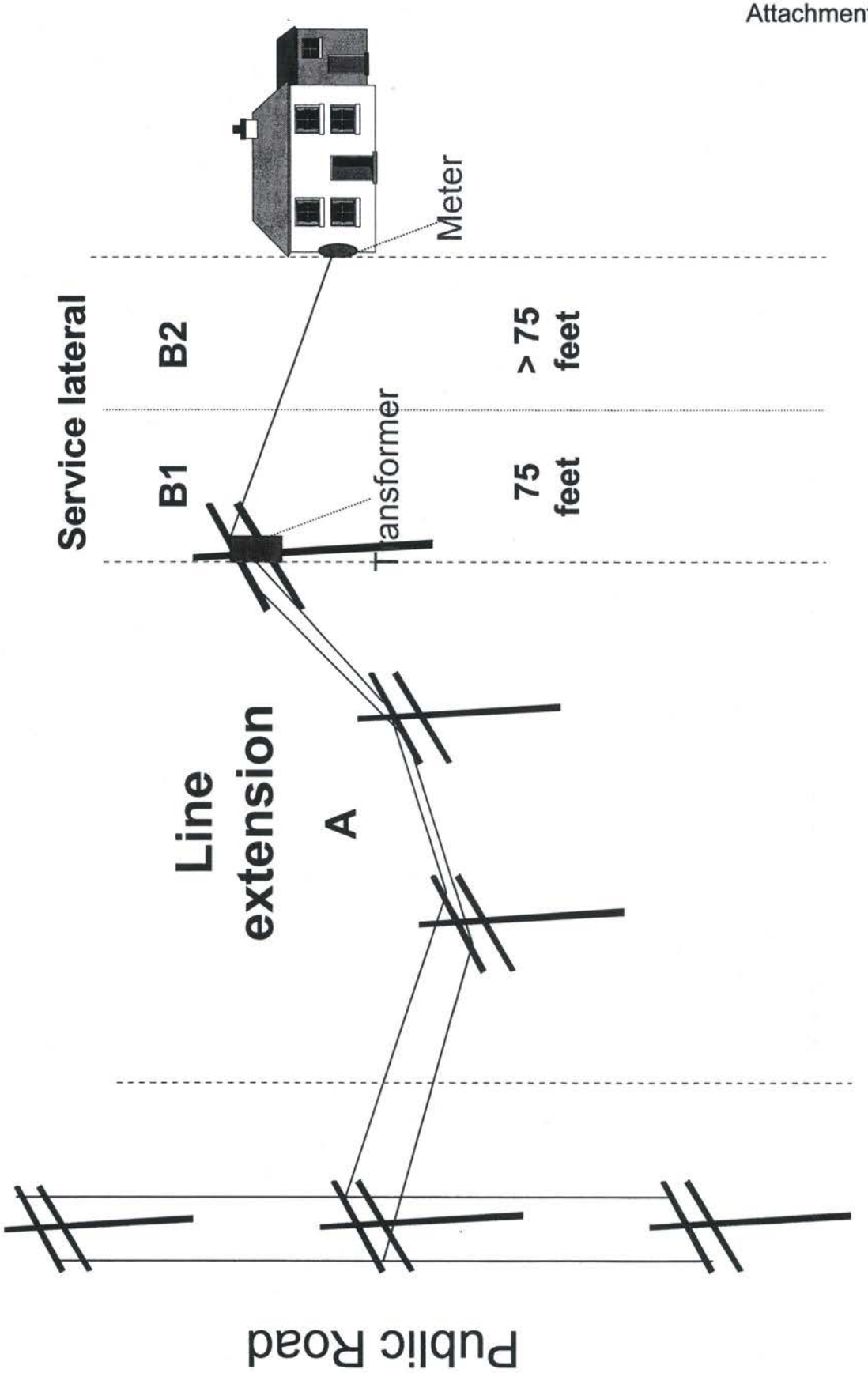
Attachment 2

CIAC for standard service lateral



Attachment 2

CIAC for non-standard service lateral



CIAC for New and Upgraded Overhead and Underground Service

New or Upgraded Overhead or Underground Line Extensions

1. **The CIAC for a new overhead or underground line extension is the total cost of the line extension.**
2. **The CIAC for an upgraded overhead or underground line extension is the total cost of the line extension plus the cost of removal of the existing service less salvage.**

CIAC for New and Upgraded Overhead and Underground Service (cont.)

New or Upgraded Overhead or Underground Service Drop or Lateral

1. No CIAC for a new standard overhead service drop (approximately 75 feet or less) (B1)
2. The CIAC for a new standard underground service lateral is the cost in excess of the cost of a standard overhead service drop (B1)

CIAC for New and Upgraded Overhead and Underground Service (cont.)

3. The CIAC for an upgrade to an existing service drop or lateral is the total cost of the upgrade plus the cost of removal of the existing service less salvage. (B1+B2)

4. The CIAC for the portion of a new overhead or underground service drop or lateral that exceeds the cost of a standard overhead service drop is the total cost of that portion of the service drop or lateral. (B2)

The CIAC for new connections and upgrades to existing connections shall be reduced by 4 times the expected incremental annual revenue.

	Gross Plant-in-Service in Millions (1)	Distribution Net Plant-in-Service in Millions (2)	Activity	Estimated Annual Incremental costs due to Rule 25-6.034 changes (2006 $) Staff's Initial Draft	Company Alternatives
FPL	$ 23,146	$ 8,542	Extreme Wind - New Construction	$10 - 60 million	
			Extreme Wind - Expansion, rebuild, relocation	$ 5 - 25 million	
			Targeted - Harden Critical Infrastructure - Costs decline after 5 yrs	$35 - 165 million	$35 - 165 million
			Estimated Additional Plant	**$50 - 250 million**	**$35 - 165 million**
	After Tax Cost of Capital (1)	12.11%	**Estimated Revenue Impact**	**$6 - 30 million**	**$4 - 20 million**
PEF	$ 8,780	$ 3,185	500% Increase in Feeder pole replacement costs (Upgrade to Current NESC)	$ 12,706,341	$ 0
			Harden All New Construction vs. Targeted	$ 21,594,146	$ 1,955,122
			Retire Back-Lot Easements 10 yr program	$ 114,240,976	$ 0
			Estimated Additional Plant	**$ 148,541,463**	**$ 1,955,122**
	After Tax Cost of Capital (1)	13.86%	**Estimated Revenue Impact**	**$ 20,589,332**	**$ 270,999**
TECO	$ 4,889	$ 1,467	Extreme Wind - New Construction	$ 143,013	$ 143,013
			Extreme Wind - Expansion, rebuild, relocation	$ 234,400	$ 234,400
			Targeted	$ 5,117,560	$ 5,117,560
			Cat. 3 Flood Zone	$ 2,280,564	$ 0
			Retire Back-Lot Easements 10 yr program	$ 5,019,840	$ 0
			Estimated Additional Plant	**$ 12,795,377**	**$ 5,494,973**
	After Tax Cost of Capital (1)	13.39%	**Estimated Revenue Impact**	**$ 1,713,736**	**$ 735,964**
GULF	$ 2,493	$ 789	Upgrade Transmission to Current NESC -10 yr	$ 30,000,000	No data provided
			Upgrade Distribution to Current NESC - 10 yr	$ 48,700,000	No data provided
			Harden All New Construction vs. Targeted (6)	$ 11,130,000	No data provided
			Retire Back-Lot Easements	No data provided	No data provided
			Estimated Additional Plant	**$ 89,830,000**	**$ -**
	After Tax Cost of Capital (1)	11.87%	**Estimated Revenue Impact**	**$ 10,666,145**	**$ -**
FPUC(3)	$ 71	$ 7	Post-workshop comments did not quantify costs due to rule changes.	0	0
			Estimated Additional Plant	**$ 0**	**$ 0**
	After Tax Cost of Capital (1)	13.46%	**Estimated Revenue Impact**	**$ 0**	**$ 0**
FECA			Extreme Wind Load	65% to 159% increase in cost per mile of distribution	$ -
FMEA			No data provided	No data provided	No data provided

(1) Source : Earnings Surveillance Reports - year end 2005.
(2) Source : FERC Form 1, page 207, Accounts 360-374 - year end 2005.
(3) FPUC's distribution plant-in-service is estimated using year-end 2004 data and Earnings Surveillance Reports.
(4) Distribution costs are based on feeder estimates. FPL's distribution pole are 65% lateral poles and 35% feeder poles.
(5) All costs estimates focus on rate base impacts. Incremental O&M due to servicing and inspecting more poles may not be included.
(6) {$37.1 Million : Gulf's annual avg. plant additions FERC Form 1, 1997-2004, page 207, Accounts 360-374.} x 30% = cost increase

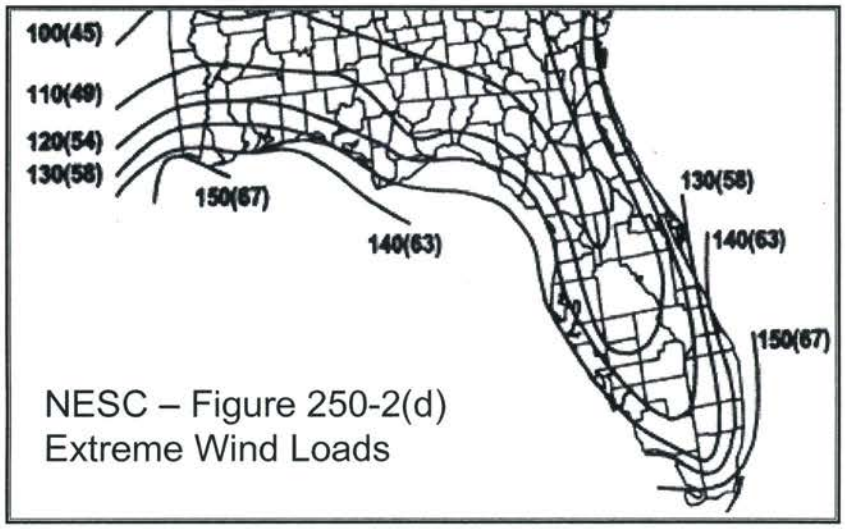
April 17, 2006
Staff Rule Development Workshop

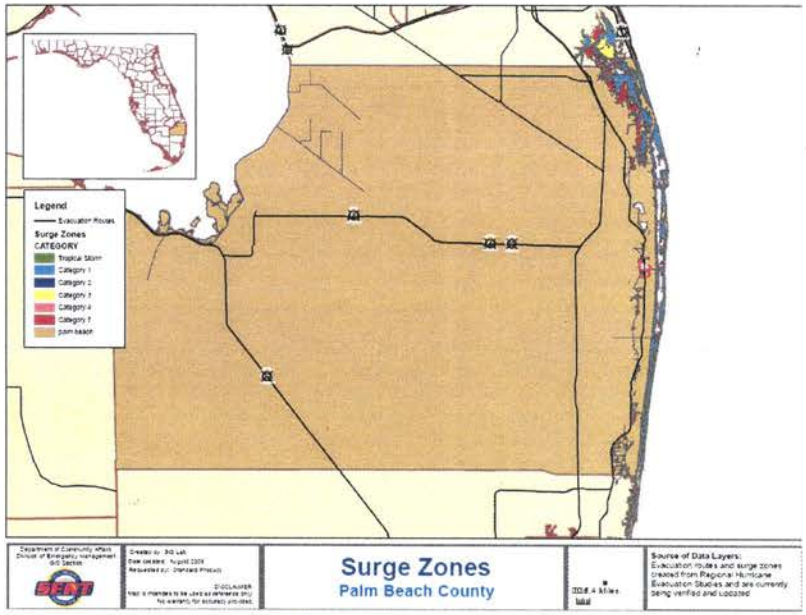
Docket No. 060172-EU

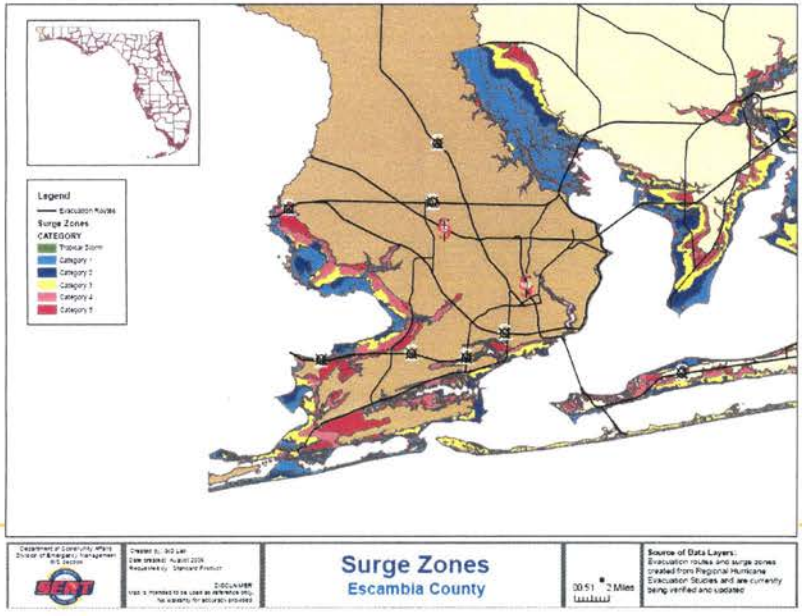
Docket No. 060173-EU

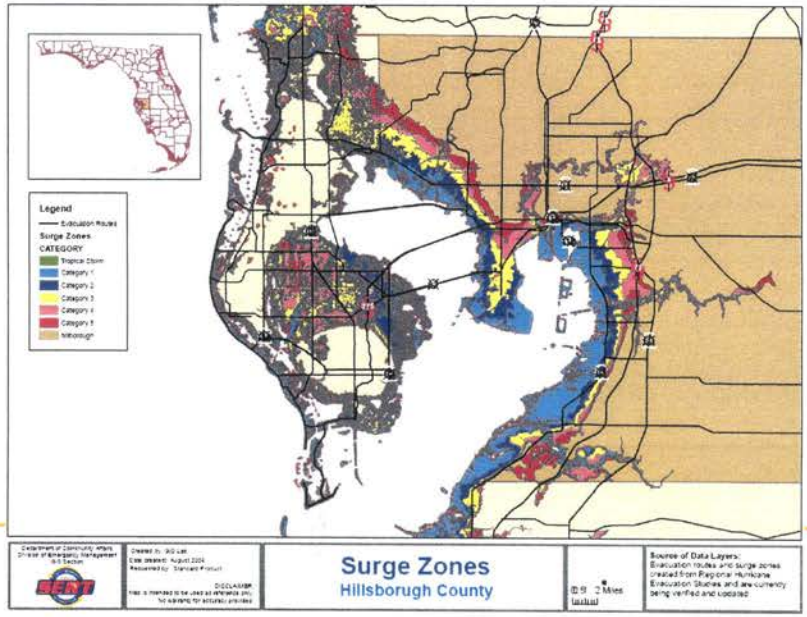
Attachment 1

25-6.034 – Standard of Construction





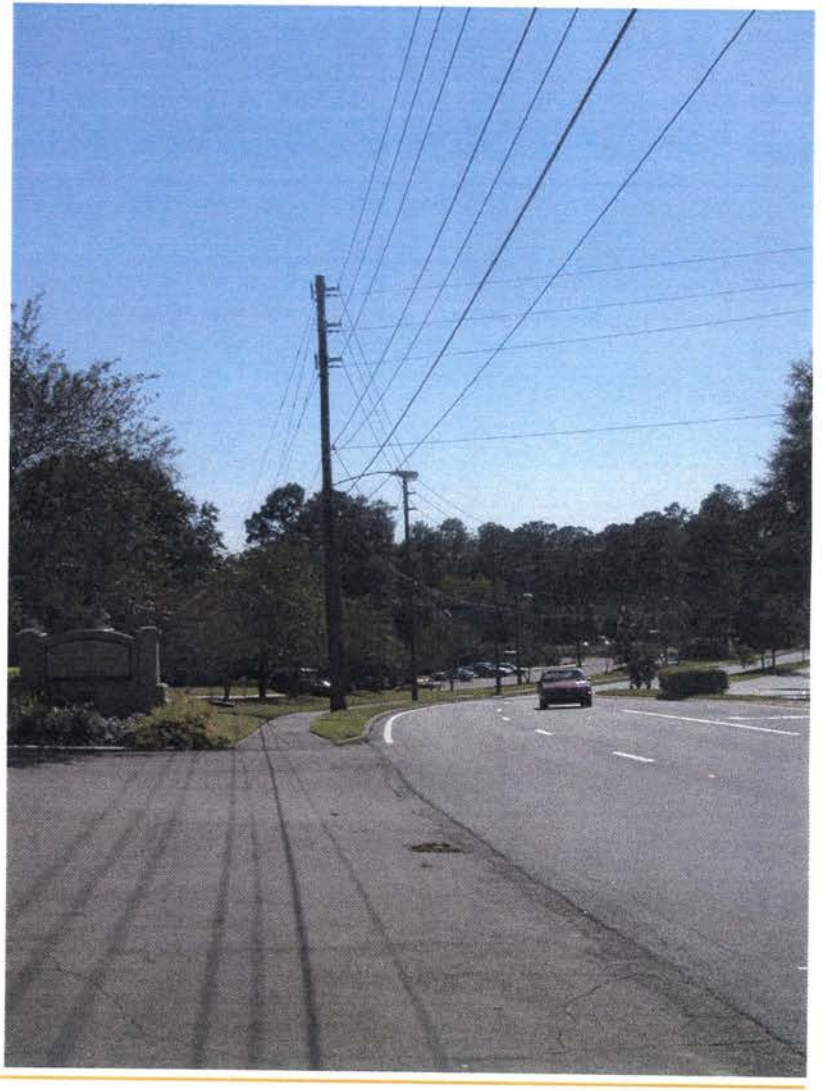




Coastal county maps at http://floridadisaster.org/PublicMapping/index.htm

Easements & R-O-Ws

Back-Lot



Front-Lot

25-6.115 – Converting Overhead Distribution & Services

6.115(7) & (8)(a)	A.	+	New UG Construction Cost
6.115(8)(b)	B.	+	Remaining Book Value of Existing OH
6.115(8)(b)	C.	–	Net Salvage of Existing OH
6.115(7) & (9)	D.	–	New OH Construction Costs
6.115(7)	E.	–	Payment for Estimate/Deposit
6.115(3)	F.	–	Other Costs Assumed by the Applicant
6.115(3)(c)	G.	–	Other Costs Assumed by the Utility (No increase in total jurisdictional costs)
		=	

Conversion CIAC

Docket No. 060173-EU	Re: Proposed amendments to rules regarding overhead electric facilities to allow more stringent construction standards than required by National Electric Safety Code.
Docket No. 060172-EU	Re: Proposed rules governing placement of new electric distribution facilities underground and conversion of existing overhead distribution facilities to underground facilities, to address effects of extreme weather events.

At the February 27, 2006 Internal Affairs, the Commission directed staff to open rulemaking proceedings to:

(1) Address requiring distribution facility standards higher than the National Electric Safety Code (NESC); and

(2) Look at the cost and reliability of undergrounding electric facilities, with specific emphasis on identifying areas/circumstances where underground facilities may be appropriate.

Participants should be prepared to address the following topics at the April 17, 2006 staff rule development workshop.

AGENDA

April 17, 2006
Staff Rule Development Workshop

A. Should the National Electric Safety Code be adopted as the minimum construction standard for all electric utility overhead and underground transmission and distribution facilities, including substations?

B. Should existing transmission and distribution facilities continue to be governed by the edition of the NESC in effect at the time of initial construction? Should existing facilities be upgraded to the current NESC standards at the time of major expansions, maintenance/rebuild, or relocation?

C. Should electric utilities be required to exceed the minimum requirements of the NESC to address known "hot spots" subject to repeated storm damage? If so, under what circumstances? What reporting and demonstration of prudence should be required? How should costs be recovered?

D. Should all electric utilities be required to adhere to the extreme wind loading standards contained in the NESC in the design and construction of all transmission and distribution facilities, including substations?

E. Should all electric utilities be required to establish construction standards for underground facilities capable of protecting such facilities from flooding and storm surges in areas designated as Category 3 Surge Zones by the Department of Community Affairs, Division of Emergency Management?

F. How should the costs associated with meeting storm-hardened overhead and underground construction standards be reflected in Contribution-In-Aid-of-Construction (CIAC) calculations for (i) new construction, and (ii) conversion of existing overhead facilities to underground?

G. What are the costs, benefits, and rate impacts of implementing storm-hardened overhead construction standards?

H. What are the costs, benefits, and rate impacts of implementing storm-hardened underground construction standards?

I. Other issues.

J. Ongoing scheduling and procedural matters.

PART III – GENERAL MANAGEMENT REQUIREMENTS

25-6.034 Standard of Construction.

(1) Application and Scope. This rule is intended to define construction standards for all overhead and underground electrical transmission and distribution facilities to ensure the provision of adequate and reliable electric service for operational as well as emergency purposes. The facilities of each ~~the~~ utility shall be constructed, installed, maintained and operated in accordance with generally accepted engineering practices to assure, as far as is reasonably possible, continuity of service and uniformity in the quality of service furnished. This rule applies to all electric utilities, including municipal electric utilities and rural electric cooperative utilities unless otherwise noted.

(2) The Commission adopts and incorporates by reference the 2002 edition of the National Electric Safety Code (ANSI C-2), published August 1, 2001, as the minimum construction standards for transmission and distribution facilities built by each electric utility. Except as otherwise provided for in this rule, the standards shall be applicable to (a) new construction and (b) the expansion, rebuild, or relocation of existing facilities for which a work order number is assigned on or after the effective date of this rule. A copy of the 2002 NESC, ISBN number 0-7381-2778-7, may be obtained from the Institute of Electric and Electronic Engineers, Inc.(IEEE)

(3) Distribution and transmission facilities constructed prior to the effective date of this rule shall be governed by the applicable edition of the National Electric Safety Code in effect at the time of the initial construction.

(4) In addition to the requirements of Sections (5) and (6) of this rule, an electric utility may exceed the minimum requirements of the National Electric Safety Code (ANSI C-2) to

enhance reliability and reduce restoration costs and outage times associated with extreme weather events. Each investor-owned electric utility electing to exceed minimum construction standards shall identify and report the effects on total system cost and reliability and shall justify any resulting increase in rates charged to rate-payers.

(5) Notwithstanding the exception contained in Section 25.250.C., Extreme Wind Loading, National Electric Safety Code, structures of 18 meters or less shall be designed to withstand extreme wind speeds as specified by Figure 250-2(d) of the 2002 edition of the National Electric Safety Code. The extreme wind loading standard shall be applicable to (a) new structures, (b) the expansion, rebuild, or relocation of existing facilities for which a work order is assigned on or after the effective date of this rule, and (c) targeted critical infrastructure facilities and major thoroughfares taking into account political and geographical boundaries and other applicable operational considerations.

(6) Each electric utility shall establish construction standards for underground electrical facilities to enhance reliability and reduce restoration costs and outage times associated with extreme weather events. Such construction standards shall assure, to the extent practicable and cost-effective, that underground and supporting overhead electrical facilities are protected from flooding and storm surges in areas designated as Category 3 Surge Zones by the Department of Community Affairs, Division of Emergency Management. Such construction standards shall be applicable to (a) new construction, (b) the expansion, rebuild, or relocation of existing facilities for which a work order is issued on or after the effective date of this rule, and (c) conversion of existing overhead facilities to underground.

(7) For initial installation, expansion, rebuild, or relocation of any investor-owned electric utility facilities, utilities are required to use easements, public streets, roads and

highways which the utility has the legal right to occupy, and on public lands and private property across which the rights of way and easements satisfactory to the utility have been provided by the applicant by the time construction is required.

(8) For initial installation, expansion, rebuild, or relocation of any investor-owned electric utility facilities, including the conversions of existing overhead facilities to underground facilities, all facilities shall be placed at the front edge of the property, unless the utility demonstrates an operational need to use another location.

~~(2) The Commission has reviewed the American National Standard Code for Electricity Metering, 6th edition, ANSI C-12, 1975, and the American National Standard requirements, Terminology and Test Code for Instrument Transformers, ANSI-57.13, and has found them to contain reasonable standards of good practice A utility that is in compliance with the applicable provisions of these publications, and any variations approved by the Commission, shall be deemed by the Commission to have facilities constructed and installed in accordance with generally accepted engineering practices.~~

25-6.0345 Safety Standards for Construction of New Transmission and Distribution Facilities.

(1) In compliance with Section 366.04(6)(b), F.S., 1991, the Commission adopts and incorporates by reference the 2002 edition of the National Electrical Safety Code (ANSI C-2), published August 1, 2001, as the applicable safety standards for transmission and distribution

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facilities subject to the Commission's safety jurisdiction. Each public electric utility, rural electric cooperative, and municipal electric system shall comply with the standards in these provisions. Standards contained in the 2002 edition shall be applicable to new construction for which a work order number is assigned on or after the effective date of this rule.

(2) Each public electric utility, rural electric cooperative and municipal electric utility shall report all completed electric work orders, whether completed by the utility or one of its contractors, at the end of each quarter of the year. The report shall be filed with the Director of the Commission's Division of Auditing and Safety no later than the 30th working day after the last day of the reporting quarter, and shall contain, at a minimum, the following information for each work order:

(a) Work order number/project/job;

(b) Brief title; and

(c) Estimated cost in dollars, rounded to nearest thousand.

(3) The quarterly report shall be filed in standard DBase or compatible format, DOS ASCII text, or hard copy, as follows:

(a) DBase Format

Field Name	Field Type	Digits
1. Work orders	Character	20
2. Brief title	Character	30
3. Cost	Numeric	8
4. Location	Character	50
5. Kv	Numeric	5
6. Contiguous	Character	1

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(b) DOS ASCII Text.

1. Columns shall be the same type and in the same order as listed under Field Names above.

2. A comma (,) shall be placed between data fields.

3. Character data fields shall be placed between quotation marks (". . .").

4. Numeric data fields shall be right justified.

5. Blank spaces shall be used to fill the data fields to the indicated number of digits.

(c) Hard Copy.

The following format is preferred, but not required:

Completed Electrical Work Orders For PSC Inspection

Work Order	Brief Title	Estimated Cost	Location	Kv Rating	Contiguous (y/n)

(4) In its quarterly report, each utility shall identify all transmission and distribution facilities subject to the Commission's safety jurisdiction, and shall certify to the Commission that they meet or exceed the applicable standards. Compliance inspections by the Commission shall be made on a random basis or as appropriate.

(5) As soon as practicable, but by the end of the next business day after it learns of the occurrence, each public utility, rural electric cooperative, and municipal electric utility shall (without admitting liability) report to the Commission any accident occurring in connection with any part of its transmission or distribution facilities which:

(a) Involves death or injury requiring hospitalization of nonutility persons; or

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(b) Is significant from a safety standpoint in the judgment of the utility even though it is not required by paragraph (a).

(6) Each public utility, rural electric cooperative, and municipal electric utility shall (without admitting liability) report each accident or malfunction, occurring in connection with any part of its transmission or distribution facilities, to the Commission within 30 days after it learns of the occurrence, provided the accident or malfunction:

(a) Involves damage to the property of others in an amount in excess of $5000; or

(b) Causes significant damage in the judgment of the utility to the utility's facilities.

(7) Unless requested by the Commission, reports are not required with respect to personal injury, death, or property damage resulting from vehicles striking poles or other utility property.

PART IV – GENERAL SERVICE PROVISIONS

25-6.064 ~~Extension of Facilities;~~ Contribution in Aid of Construction: Installation of New or Upgraded Facilities

(1) ~~Purpose.~~ Application and scope: The purpose of this rule is to establish a uniform procedure by which investor-owned electric utilities ~~subject to this rule will~~ calculate amounts due as ~~contributions in aid of construction~~ contribution-in-aid-of-construction (CIAC) from customers who require new facilities, other than standard installations, or for upgrades to existing facilities resulting from changes in the customer's demand on the system, ~~extensions of distribution facilities~~ in order to receive electric service, except as provided in Rule 25-6.078.

(2) ~~Applicability. This rule applies to all investor owned electric utilities in Florida as defined in Section 366.02, F.S. Contributions in aid of construction~~ Contribution-in-aid-of-construction shall be calculated as set forth below:

CIAC	=	Cost of installing the facilities	-	4 x nonfuel energy charge per kWh x expected incremental annual kWh sales over the new facilities	=	4 x expected annual demand charge revenues from incremental sales over the new facilities

(a) The cost of all new line extensions shall be the estimated work order job cost.

(b) There shall be no charge for the overhead transformer, service drop and meter for standard installations.

(c) The cost of new standard service underground laterals shall be the difference between the cost of a comparable overhead service drop and the cost of undergrounding the lateral.

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(d) The cost of upgrades to existing facilities shall be the estimated work order job cost including any costs of removal less any salvage.

(e) For customers in rate classes that pay only energy charges, demand charge revenues shall be zero.

(f) Expected demand charge revenues and energy sales shall be based on an annual period ending not more than five years after the extension is placed in service.

~~(3) Definitions. Actual or estimated job cost means the actual cost of providing the specified line extension facilities, calculated after the extension is completed, or the estimated cost of providing the specified facilities before the extension is completed.~~

~~(4) In developing the policy for extending overhead distribution facilities to customers, the following formulas shall be used to determine the contribution in aid of construction owed by the customer.~~

~~(a) For customers in rate classes that pay only energy charges, i.e., those that do not pay demand charges, the CIAC shall be calculated as follows:~~

~~$CIAC_{oh}$~~	=	~~(Actual or estimated job cost for new poles and conductors and appropriate fixtures require to provide service, excluding transformers, service drops, and meters)~~	~~(4 x nonfuel energy charge per KWH x expected annual KWH sales over the new line facilities)~~

~~(b) For customers in rate classes that pay both energy charges and demand charges, the CIAC shall be calculated as follows:~~

~~$CIAC_{oh}$~~	=	~~(Actual or estimated job cost for new poles and conductors and~~	-	~~(4 x nonfuel energy charge per KWH x~~	-	~~(4 x expected annual demand~~

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		~~appropriate fixtures require to provide service, excluding transformers, service drops, and meters)~~		~~expected annual KWH sales over the new line)~~		~~charge revenues from sales over the new line)~~

~~(c) Expected demand charge revenues and energy sales shall be based on an annual period ending not more than five years after the extension is placed in service.~~

~~(5) In developing the policy for extending underground distribution facilities to customers, the following formula shall be used to determine the contribution in aid of construction.~~

~~$CIAC_{ug}$~~	=	~~(Estimated difference between the cost of providing the facilities distribution line extension, including not only the distribution line extension itself but also the transformer, the service drop, and other necessary fixtures, with underground facilities vs. the cost of providing service using overhead facilities)~~	-	~~$CIAC_{oh}$ (as above)~~

~~6) Nothing in this rule shall be construed as prohibiting a utility from collecting from a customer the total difference in cost for providing underground service instead of overhead service to that customer.~~

~~(7) In the event that amounts are collected for certain distribution facilities via the URD differential tariff as permitted by Rule 25-6.078, F.A.C., that would also be collected pursuant to this rule, the utility shall give an appropriate credit for such amounts collected via the URD differential tariff when calculating the line extension CIAC due pursuant to this rule.~~

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(4)~~(8)~~ Each utility shall apply the above formulas in Paragraph (2) of this rule uniformly to residential, commercial and industrial customers ~~requiring~~ requesting new or upgraded facilities~~line extensions~~.

(5) The costs applied to the formula in Paragraph (2) shall be based on the requirements of Rule 25-6.034, Standards of Construction.

~~(9) Each utility shall calculate an appropriate CIAC for line extensions constructed to serve customers who receive service at the primary distribution voltage level and the transmission voltage level consistent with paragraphs (4), (5), and (6) of this rule. This CIAC shall be based on the actual or estimated cost of providing the extension less an appropriate credit.~~

(6)~~(10)~~ Each ~~The~~ utility shall use its best judgment in estimating the total amount of revenues and sales which new or upgraded facilities ~~each line extension is~~ are expected to produce in ~~the~~ a four-year time frame ~~near future~~. In any dispute over the amount of the estimated CIAC, the utility shall true-up the CIAC collected using actual costs and revenues for a period not to exceed the four years used to develop the estimate.

(7)~~(11)~~ The utility may elect to waive the ~~line extension~~ CIAC for customers, even when a CIAC is found to be applicable ~~owing~~. However, if the utility waives the CIAC, the utility shall impute ~~Commission will reduce the utility's net plant in service by an equal amount for ratemaking purposes, as though~~ the CIAC as if it had been collected~~, except when the company's annual revenues from a customer are sufficient to offset the unpaid line extension CIAC under subsection (4) or (5)~~. Each utility shall maintain records of amounts waived and any subsequent changes that served to offset the CIAC.

(8)~~(12)~~ In cases where larger developments are expected to be served by the new or

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upgraded facilities ~~line extensions~~, the utility shall ~~may elect to~~ prorate the total ~~line extension~~ costs and CIAC's owed over the largest number of customers expected to ~~connect to the new line~~ be served by the new or upgraded facilities in any four of the first five-year period the facilities are in service.

(9)~~(13)~~ A detailed statement of its standard facilities extension and upgrade policy~~ies~~ shall be filed by each utility as part of its tariffs. ~~This policy~~ The tariffs shall have uniform application and shall be nondiscriminatory.

(10)~~(14)~~ If a utility and applicant are unable to agree ~~in regard to an extension~~ on the CIAC amount, either party may appeal to the Commission for a review.

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PART V – RULES FOR RESIDENTIAL ELECTRIC UNDERGROUND EXTENSIONS

25-6.078 Schedule of Charges.

(1) Each utility shall file with the Commission a written policy that shall become a part of the utility's tariff rules and regulations on the installation of underground facilities in new subdivisions. Such policy shall be subject to review and approval of the Commission and shall include an Estimated Average Cost Differential, if any, and shall state the basis upon which the utility will provide underground service and its method for recovering the difference in cost of an underground system and an equivalent overhead system from the applicant at the time service is extended. The charges to the applicant shall not be more than the estimated difference in cost of an underground system and an equivalent overhead system.

(2) For the purposes of calculating the Estimated Average Cost Differential, costs shall be estimated based on the requirements of Rule 25-6.034, Standards of Construction.

(3)~~(2)~~ On or before October 15th of each year each utility shall file with the Commission's Division of Economic Regulation Form PSC/ECR 13-E, Schedule 1, using current material and labor costs. If the cost differential as calculated in Schedule 1 varies from the Commission-approved differential by plus or minus 10 percent or more, the utility shall file a written policy and supporting data and analyses as prescribed in subsections (1), (4~~3~~) and (5) of this rule on or before April 1 of the following year; however, each utility shall file a written policy and supporting data and analyses at least once every three years.

(4)~~(3)~~ Differences in operating and maintenance costs between underground and overhead systems, if any, shall ~~may~~ be taken into consideration in determining the overall Estimated Average Cost Differential.

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(5)~~(4)~~ Detailed supporting data and analyses used to determine the Estimated Average Cost Differential for underground and overhead distribution systems shall be concurrently filed by the utility with the Commission and shall be updated using cost data developed from the most recent 12-month period. The utility shall record these data and analyses on Form PSC/ECR 13-E (10/97). Form PSC/ECR 13-E, entitled "Overhead/Underground Residential Differential Cost Data" is incorporated by reference into this rule and may be obtained from the Division of Economic Regulation, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, (850) 413-6900.

(6)~~(5)~~ Service for a new multiple-occupancy building shall be constructed underground within the property to be served to the point of delivery at or near the building by the utility at no charge to the applicant, provided the utility is free to construct its service extension or extensions in the most economical manner.

(7)~~(6)~~ The recovery of the cost differential as filed by the utility and approved by the Commission may not be waived or refunded unless it is mutually agreed by the applicant and the utility that the applicant will perform certain work as defined in the utility's tariff, in which case the applicant shall receive a credit. Provision for the credit shall be set forth in the utility's tariff rules and regulations, and shall be no more in amount than the total charges applicable.

(8)~~(7)~~ The difference in cost as determined by the utility in accordance with its tariff shall be based on full use of the subdivision for building lots or multiple-occupancy buildings. If any given subdivision is designed to include large open areas, the utility or the applicant may refer the matter to the Commission for a special ruling as provided under Rule 25-6.083, F.A.C.

(9)~~(8)~~ The utility shall not be obligated to install any facilities within a subdivision until satisfactory arrangements for the construction of facilities and payment of applicable charges, if

CODING: Words underlined are additions; words in ~~struck through~~ type are deletions from existing law.

any, have been completed between the applicant and the utility by written agreement. A standard agreement form shall be filed with the company's tariff.

(10)~~(9)~~ Nothing herein contained shall be construed to prevent any utility from assuming all cost differential of providing underground distribution systems, provided, however, that such assumed cost differential shall not be chargeable to the general body of rate payers, and any such policy adopted by a utility shall have uniform application throughout its service area.

CODING: Words underlined are additions; words in ~~struck through~~ type are deletions from existing law.

PART VII – UNDERGROUND ELECTRIC DISTRIBUTION FACILITY CHARGES

25-6.115 Facility Charges for Conversion of Existing Overhead ~~Providing Underground Facilities of Public~~ Distribution Facilities ~~Excluding New Residential Subdivisions.~~

(1) Each ~~public~~ investor-owned electric utility shall file a tariff showing the non-refundable deposit amounts for standard applications addressing ~~new construction and~~ the conversion of existing overhead electric distribution facilities to underground facilities ~~excluding new residential subdivisions~~. The tariff shall include the general provisions and terms under which the ~~public~~ investor-owned electric utility and applicant may enter into a contract for the purpose of ~~new construction or~~ convertingsion ~~of~~ existing overhead ~~electric~~ facilities to underground ~~electric~~ facilities. The non-refundable deposit amounts shall ~~approximate~~ be consistent with the engineering costs for underground facilities serving each of the following scenarios: urban commercial, urban residential, rural residential, existing low-density single family home subdivision and existing high-density single family home subdivision service areas.

(2) For the purpose of this rule, the applicant is the person or entity seeking the undergrounding of existing overhead electric distribution facilities. In the instance when a developer requests local government development approval, the local government shall not be deemed the applicant for purposes of this rule.

(3) Nothing in the tariff shall prevent the applicant from constructing and installing all or a portion of the underground distribution facilities provided:

(a) Such work meets the ~~public~~ investor-owned electric utility's construction standards;

(b) The ~~public~~ investor-owned electric utility will own and maintain the completed distribution facilities; and

CODING: Words underlined are additions; words in ~~struck through~~ type are deletions from existing law.

(c) Such agreement is not expected to cause the general body of ratepayers to incur greater costs.

(4) Nothing in the tariff shall prevent the applicant from requesting a non-binding cost estimate which shall be provided to the applicant free of any charge or fee.

(5) Upon an applicant's request and payment of the deposit amount, ~~a public~~ an investor-owned electric utility shall provide a binding cost estimate for providing underground electric service.

(6) An applicant shall have at least 180 days from the date the estimate is received, to enter into a contract with the public utility based on the binding cost estimate. The deposit amount shall be used to reduce the charge as indicated in subsection (7) only when the applicant enters into a contract with the public utility within 180 days from the date the estimate is received by the applicant.

(7) The charge paid by the applicant shall be the charge for the proposed underground facilities as indicated in subsection (~~10~~8) minus the charge for overhead facilities as indicated in subsection (~~11~~9) minus the non-refundable deposit amount. The applicant shall not be required to pay an additional amount which exceeds 10 percent of the binding cost estimate.

(8) For the purpose of this rule, the charge for the proposed underground facilities shall include:

(a) The estimated cost of construction of the underground distribution facilities including the construction cost of the underground service lateral(s) to the meter(s) of the customer(s); and

(b) ~~For conversions, t~~The estimated remaining net book value of the existing facilities to be removed less the estimated net salvage value of the facilities to be removed.

(9) For the purpose of this rule, the charge for overhead facilities shall be the estimated

CODING: Words underlined are additions; words in ~~struck through~~ type are deletions from existing law.

construction cost to build new overhead facilities, including the service drop(s) to the meter(s) of the customer(s). Estimated construction costs shall be based on the requirements of Rule 25-6.034, Standards of Construction.

(10) An applicant to ~~a public~~ an investor-owned electric utility for construction of underground distribution facilities may petition the Commission pursuant to Rule 25-22.032, F.A.C.

(11) Nothing in this rule shall be construed to grant any electric utility any right, title or interest in real property owned by a local government.

CODING: Words underlined are additions; words in ~~struck through~~ type are deletions from existing law.

PSC/ECR FORM 13-E FOR REPORTING
THE OVERHEAD/UNDERGROUND RESIDENTIAL DIFFERENTIAL COST DATA
RULES 25-6.074 THROUGH 25-6.082

Schedule No.	Title	Page
1-4	Low Density - 210 Lot Subdivision	
1	Overhead vs. Underground Summary Sheet	3
2	Cost Per Service Lateral Overhead Material and Labor	4
3	Cost Per Service Lateral and Underground Material and Labor	5
4	Low Density - 210 Lot Subdivision Typical Layout for both Overhead and Underground Designs	6
5-11	High Density - 176 Lot Subdivision	
5	Overhead vs. Underground Summary Sheet (Company Owned Service Laterals)	7
6	Cost Per Service Lateral Overhead Material and Labor (Company Owned Service Laterals)	8
7	Cost Per Service Lateral Underground Material and Labor (Company Owned Service Laterals)	9
8	Overhead vs. Underground Summary Sheet (Customer Owned Service Laterals from Meter Centers)	10
9	Cost Per Dwelling Unit Overhead Material and Labor (Customer Owned Service Laterals from Meter Centers)	11
10	Cost Per Dwelling Unit Underground Material and Labor (Customer Owned Service Laterals from Meter Centers)	12
11	High Density - 176 Lot Subdivision Layouts for both Overhead and Underground Designs	13
12	Average Underground Feeder Costs	14
13	Actual Operating and Maintenance Distribution Expenses for Overhead and Underground	15
14	Signature Page	16

Notes:

- Mark all schedules from 2 through 13 which do not apply to the current filing as not applicable. Attach additional sheets for clarification and justification if necessary.
- The signature page, Schedule 14, will be filed with every filing.

PSC/ECR Form 13-E (10/97)

COMPANY: _____ DATE: _____

OVERHEAD VS. UNDERGROUND SUMMARY SHEET

- Low Density 210 Lot Subdivision -
- Cost per Service Lateral -

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
Labor			
Material			
O&M(Optional)			
TOTAL			

PSC/ECR Form 13-E, Schedule 1 (10/97)

COMPANY: _____ DATE: _____

COST PER SERVICE LATERAL OVERHEAD MATERIAL AND LABOR

- Low Density 210 Lot Subdivision -

ITEM	MATERIAL[1]	LABOR[4]	TOTAL
Service[2]			
Primary			
Secondary			
Initial Tree Trim			
Poles			
Transformers			
Subtotal			
Stores Handling[3]			
Subtotal			
Engineering[5]			
TOTAL			

[1]Includes Sales Tax
[2]Includes _____.
[3]____% of _____.
[4]Includes _____.
[5]____% of _____.
____% of _____.

PSC/ECR Form 13-E, Schedule 2 (10/97)

COMPANY: _____ DATE: _____

COST PER SERVICE LATERAL UNDERGROUND MATERIAL AND LABOR

- Low Density 210 Lot Subdivision -

ITEM	MATERIAL[1]	LABOR[4]	TOTAL
Service[2]			
Primary			
Secondary			
Transformers			
Primary Trenching			
Secondary Trenching			
Service Trenching			
Subtotal			
Stores Handling[3]			
Subtotal			
Engineering[5]			
TOTAL			

[1]Includes Sales Tax
[2]Includes _____.
[3] ____ % of _____.
[4]Includes _____.
[5] ____ % of _____.
____ % of _____.

PSC/ECR Form 13-E, Schedule 3 (10/97)

COMPANY: _____ DATE: _____

LOW DENSITY - 210 LOT SUBDIVISION TYPICAL LAYOUT
for both Overhead and Underground Designs

PSC/ECR Form 13-E, Schedule 4 (10/97)

COMPANY: _____ DATE: _____

OVERHEAD VS. UNDERGROUND SUMMARY SHEET

- High Density 176 Lot Subdivision -
- Company Owned Service Laterals -
- Cost per Service Lateral -

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
Labor			
Material			
O&M(Optional)			
Total			

PSC/ECR Form 13-E, Schedule 5 (10/97)

COMPANY: _____ DATE: _____

COST PER SERVICE LATERAL OVERHEAD MATERIAL AND LABOR

- High Density 176 Lot Subdivision -
- Company Owned Service Laterals -

ITEM	MATERIAL[1]	LABOR[4]	TOTAL
Service[2]			
Primary			
Secondary			
Initial Tree Trim			
Poles			
Transformers			
Subtotal			
Stores Handling[3]			
Subtotal			
Engineering[5]			
TOTAL			

[1]Includes Sales Tax
[2]Includes _____.
[3]____% of _____.
[4]Includes _____.
[5]____% of _____.
____% of _____.

PSC/ECR Form 13-E, Schedule 6 (10/97)

COMPANY: _____ DATE: _____

COST PER SERVICE LATERAL UNDERGROUND MATERIAL AND LABOR

- High Density 176 Lot Subdivision -
- Company Owned Service Laterals -

ITEM	MATERIAL[1]	LABOR[4]	TOTAL
Service[2]			
Primary			
Secondary			
Transformers			
Primary Trenching			
Secondary Trenching			
Service Trenching			
Subtotal			
Stores Handling[3]			
Subtotal			
Engineering[5]			
TOTAL			

[1]Includes Sales Tax
[2]Includes _____.
[3]____% of _____.
[4]Includes _____.
[5]____% of _____.
____% of _____.

PSC/ECR Form 13-E, Schedule 7 (10/97)

COMPANY: _____ DATE: _____

OVERHEAD VS. UNDERGROUND SUMMARY SHEET

- High Density 176 Lot Subdivision -
- Customer Owned Service Laterals -
- from Meter Centers -
- Cost per Dwelling Unit -

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
Labor			
Material			
O&M(Optional)			
Total			

PSC/ECR Form 13-E, Schedule 8 (10/97)

COMPANY: _____ DATE: _____

COST PER DWELLING UNIT OVERHEAD MATERIAL AND LABOR

- High Density 176 Lot Subdivision -
- Customer Owned Service Laterals -
- from Meter Centers -

ITEM	MATERIAL[1]	LABOR[4]	TOTAL
Service[2]			
Primary			
Secondary			
Initial Tree Trim			
Poles			
Transformers			
Subtotal			
Stores Handling[3]			
Subtotal			
Engineering[5]			
TOTAL			

[1]Includes Sales Tax
[2]Includes _____.
[3]____% of _____.
[4]Includes _____.
[5]____% of _____.
____% of _____.

PSC/ECR Form 13-E, Schedule 9 (10/97)

COMPANY: _____ DATE: _____

COST PER DWELLING UNIT UNDERGROUND MATERIAL AND LABOR

- High Density 176 Lot Subdivision -
- Customer Owned Service Laterals -
- from Meter Centers -

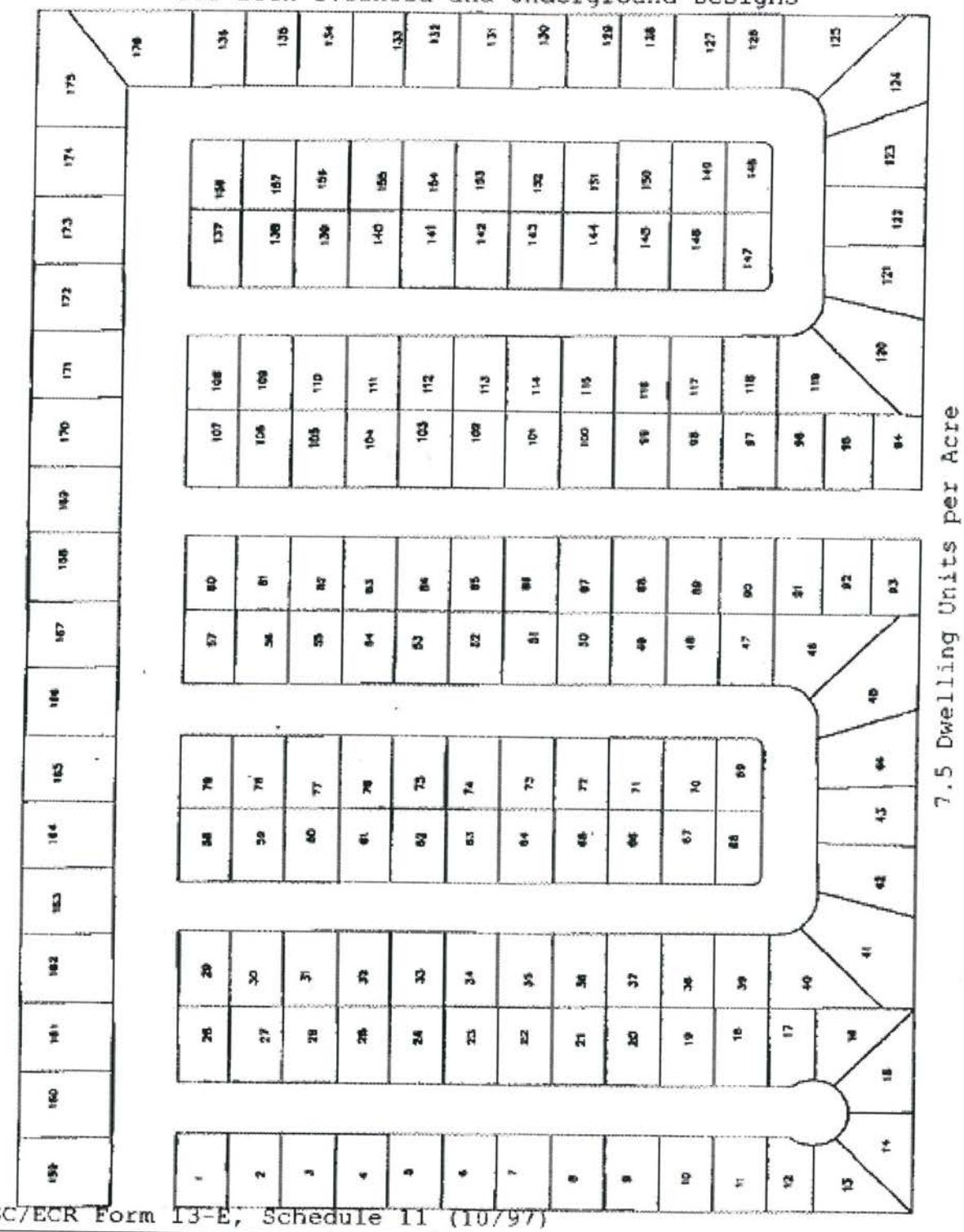
ITEM	MATERIAL[1]	LABOR[4]	TOTAL
Service[2]			
Primary			
Secondary			
Transformers			
Primary Trenching			
Secondary Trenching			
Service Trenching			
Subtotal			
Stores Handling[3]			
Subtotal			
Engineering[5]			
TOTAL			

[1]Includes Sales Tax
[2]Includes _____.
[3]____% of _____.
[4]Includes _____.
[5]____% of _____.
____% of _____.

PSC/ECR Form 13-E, Schedule 10 (10/97)

COMPANY: _____ DATE: _____

HIGH DENSITY - 176 LOT SUBDIVISION TYPICAL LAYOUT
for both Overhead and Underground Designs



PSC/ECR Form 13-E, Schedule 11 (10/97)

COMPANY: _____ DATE: _____

AVERAGE UNDERGROUND FEEDER COSTS

Underground	Overhead	Difference
$/Ft...	$/Ft...	$/Ft..

PSC/ECR Form 13-E, Schedule 12 (10/97)

COMPANY: _____ DATE: _____

ACTUAL OPERATING & MAINTENANCE DISTRIBUTION EXPENSES
IN YEAR XXXX
for Overhead and Underground

	AMOUNT
Account 583 Overhead Line Expenses	
Account 584 Underground Line Expenses	
Account 593 Maintenance of Overhead Lines	
Account 594 Maintenance of Underground Lines	
Account 595 Maintenance of Line Transformers	
Total	$ _____

The accounts shall be in accordance with the Federal Energy Regulatory Commission's Uniform System of Accounts for Public Utilities and Licensees, Code of Federal Regulations, Title 18, Subchapter C, Part 101, as adopted and as modified by Rule 25-6.014, F.A.C.

PSC/ECR Form 13-E, Schedule 13 (10/97)

SIGNATURE PAGE

I certify that I am the person responsible of _____

_____;

that I have examined the attached schedule(s); that to the best of my knowledge, information, and belief, all statements of fact contained in the schedule(s) are true.

I am aware that Section 837.06, Florida Statutes, provides:

Whoever knowingly makes a false statement in writing with the intent to mislead a public servant in the performance of his or her official duty shall be guilty of a misdemeanor of the second degree, punishable as provided in s. 775.082 or s. 775.083.

_____ _____

Date **Signature**

_____ _____

Name **Title**

PSC/ECR Form 13-E, Schedule 14 (10/97)

DATA REQUEST FOR

Proposed Amendments to Rules 25-6.034, F.A.C., Standard of Construction; Rules 25-6.064, F.A.C., Extension of Facilities; Contribution in Aid of Construction; Rule 25-6.078, F.A.C., Schedule of Charges; Rule 25-6.115, F.A.C., Facility Charges for Providing Underground Facilities of Public Distribution Facilities Excluding New Residential Subdivisions.

DATA REQUEST DUE: MAY 1, 2006

INVESTOR OWNED UTILITIES

Progress Energy Florida, Inc.

Florida Power & Light Company

Tampa Electric Company

Gulf Power Company

Florida Public Utilities Company

MUNICIPAL ELECTRIC UTILITIES

ELECTRIC COOPERATIVES UTILITIES

Proposed Amendments to Rule 25-6.034, F.A.C., Standard of Construction; Rule 25-6.064, F.A.C., Extension of Facilities; Contribution in Aid of Construction; Rule 25-6.078, F.A.C., Schedule of Charges; Rule 25-6.115, F.A.C., Facility Charges for Providing Underground Facilities of Public Distribution Facilities Excluding New Residential Subdivisions.

Company Name:

Name, title, and telephone number of
company official responding to request:

PLEASE RETURN NO LATER THAN MAY 1, 2006, TO:

CRAIG B. HEWITT
Division of Economic Regulation
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0872

FAX No. (850) 413-6849
ATTN: CRAIG B. HEWITT

The subject rules contain the Commission approval of national standards for construction of electricity infrastructure by electricity companies, reference national standards, and give procedures for electricity metering. The proposed amendments would clarify definitions, update references, and improve the requirements for minimum construction standards.

INSTRUCTIONS

In answering the following questions, please consider the following:

- *Be as specific and accurate as possible in identifying costs or savings which would occur from implementation.*
- *Detail the assumptions and basis for each cost or savings estimate associated with the proposed rule.*
- *In identifying additional types of expense/revenue increases or decreases, be specific as to the types of expenses/revenues (for example, labor costs, administrative costs, other operating revenues).*
- *Identify whether these expense/revenue increases or decreases would occur only in the initial year of implementation or if they would recur in subsequent years.*

* * * * * * * * *

1. Please identify and estimate incremental costs to comply with each of the proposed rule requirements, including all potential transactional costs. For purposes of this question, "transactional costs" should include direct costs that are readily ascertainable based upon standard business practices. These costs may include filing fees, costs of obtaining a license, the cost of equipment required to be installed or used or procedures required to be employed in complying with the rule, additional operating costs incurred, and the costs of monitoring and reporting.

2. Please identify and estimate additional benefits from the proposed rule.

3. Please provide additional comments or cost estimates that may be useful to the Commission or its staff in assessing the economic impacts of the proposed rule. Please include any company-recommended modifications and related expenses/savings if not covered above.

Specific Authority, Law Implemented, and History of Rules
– Docket Nos. 060172-EU & 060173-EU –

25-6.034 Standard of Construction.

Specific Authority 350.127(2), 366.05(1) FS.
Law Implemented 366.04(2)(c), (5), 366.05(1) FS.
History–Amended 7-29-69, 12-20-82, Formerly25-6.34.

25-6.0345 Safety Standards for Construction of New Transmission and Distribution Facilities.

Specific Authority 350.127(2) FS.
Law Implemented 366.04(2)(f), (6) FS.
History–New 8-13-87, Amended 2-18-90, 11-10-93, 8-17-97, 7-16-02.

25-6.064 Extension of Facilities; Contribution in Aid of Construction.

Specific Authority 366.05(1), 350.127(2) FS.
Law Implemented 366.03, 366.05(1), 366.06(1) FS.
History–New 7-29-69, Amended 7-2-85, Formerly 25-6.64

25-6.078 Schedule of Charges.

Specific Authority 366.04(2)(f), 366.05(1) FS.
Law Implemented 366.03, 366.04(1), (4), 366.04(2)(f), 366.06(1) FS.
History–New 4-10-71, Amended 4-13-80, 2-12-84, Formerly 25-6.78, Amended 10-29-97.

25-6.115 Facility Charges for Providing Underground Facilities of Public Distribution Facilities Excluding New Residential Subdivisions.

Specific Authority 366.04, 366.05(1) FS.
Law Implemented 366.03, 366.04, 366.05 FS.
History–New 9-21-92.

Florida Public Service Commission Workshop

April 17, 2006

Tallahassee, FL

NESC & ANSI O5

Pole Strength & Load

Nelson Bingel

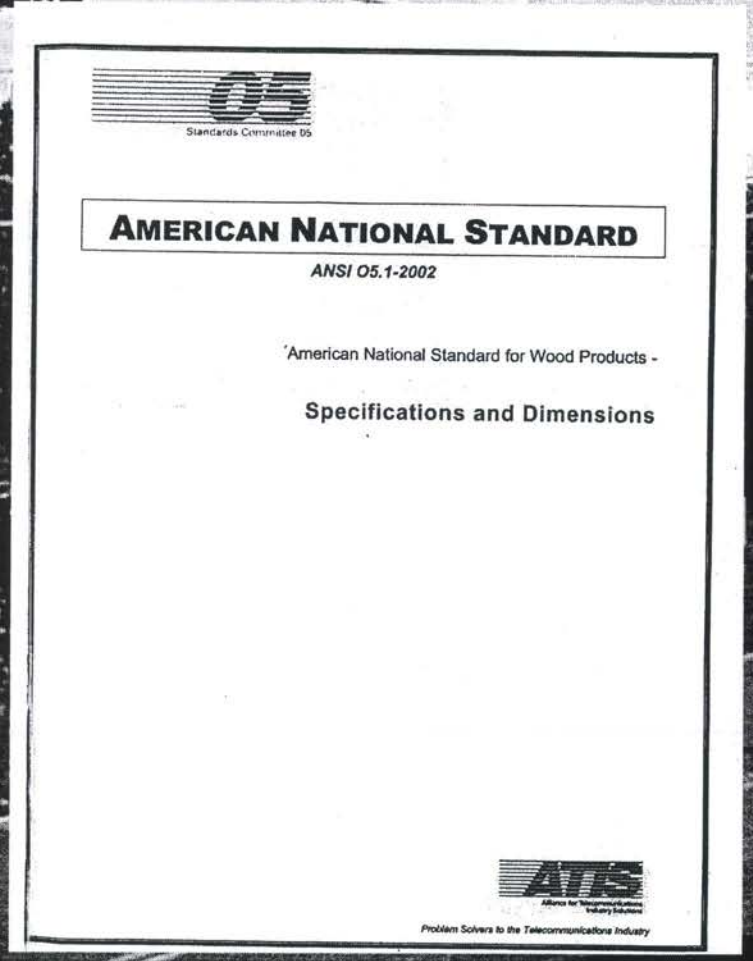
Osmose Utilities Services, Inc

Principal Member – NESC SC 5

Chairman – ANSI O5

NESC - Safety

ANSI O5



ANSI O5.1

L_c

Bending Capacity =

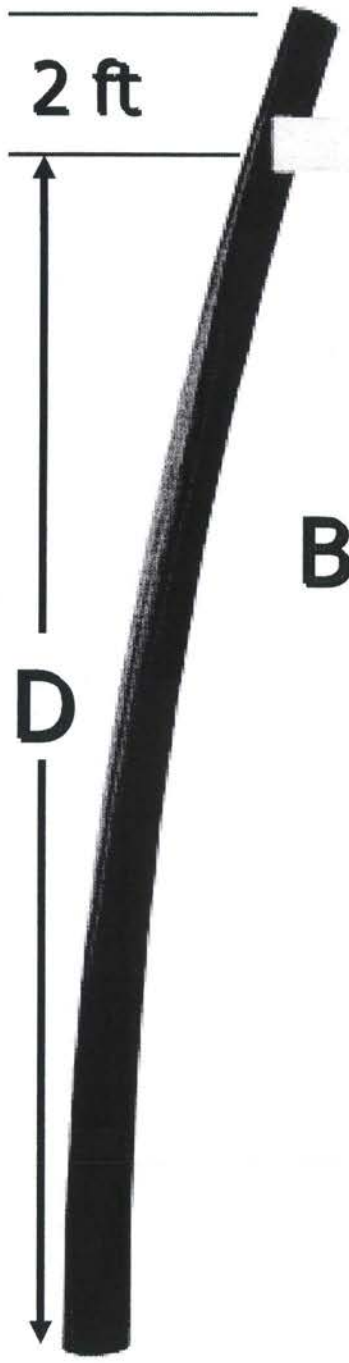
k x fiber strength -lb)

Tension (psi)

Compression (psi)

Fiber Strength

ANSI O5.1

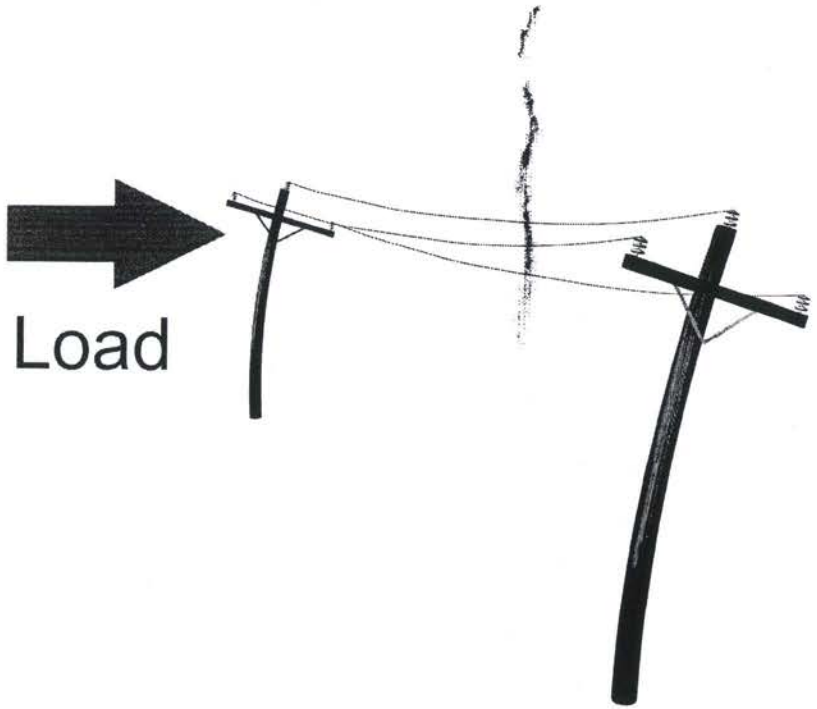


L_c

Applied
Bending Load = L_c x D (ft-lb)

Class 1	4,500 lb
Class 2	3,700 lb
Class 3	3,000 lb
Class 4	2,400 lb
Class 5	1,900 lb

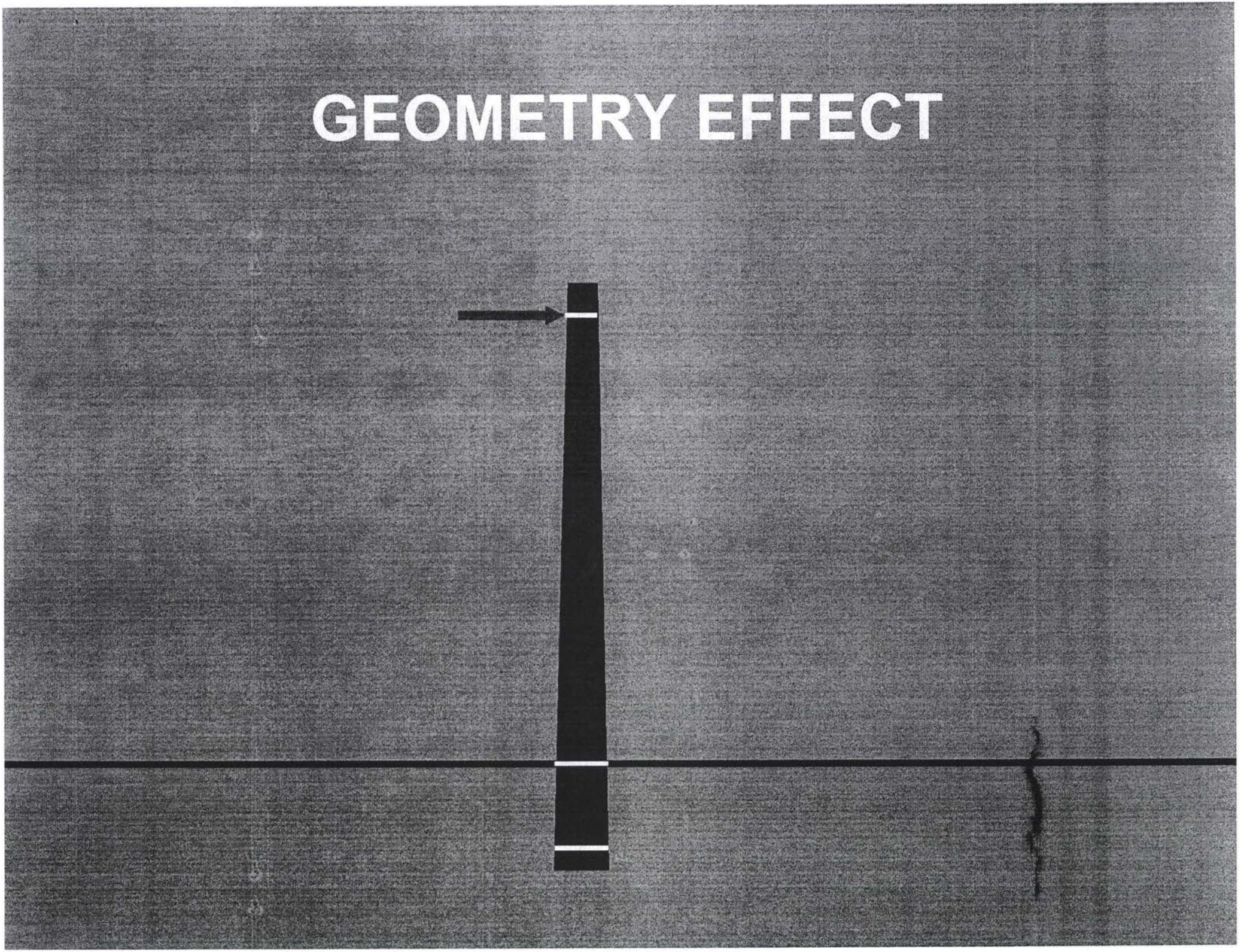
Strength

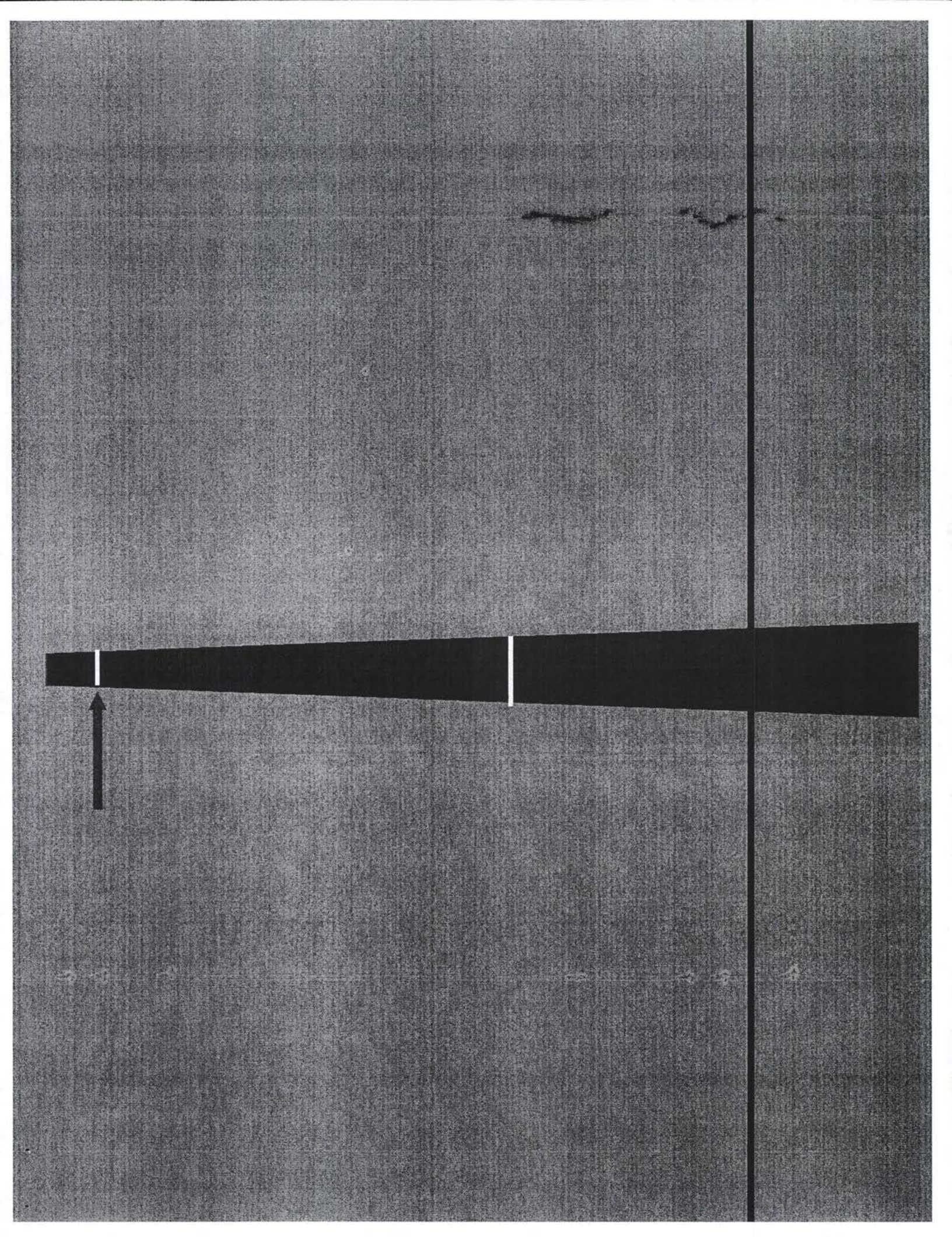


Bending Capacity > **Applied Bending Load**

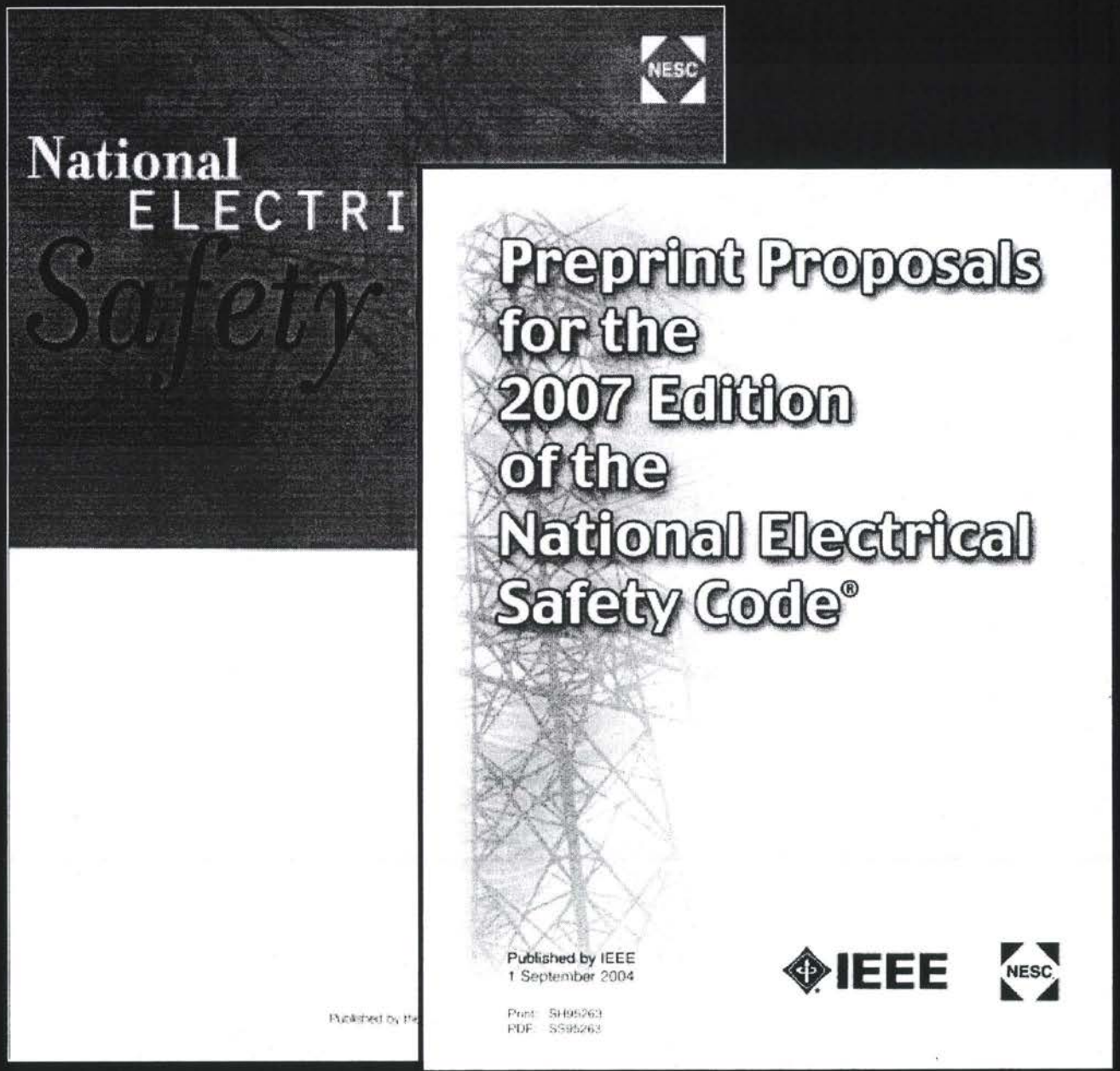
$k \times \text{fiber strength} \times C^3$ (ft-lb) > $L_c \times D$ (ft-lb)

GEOMETRY EFFECT

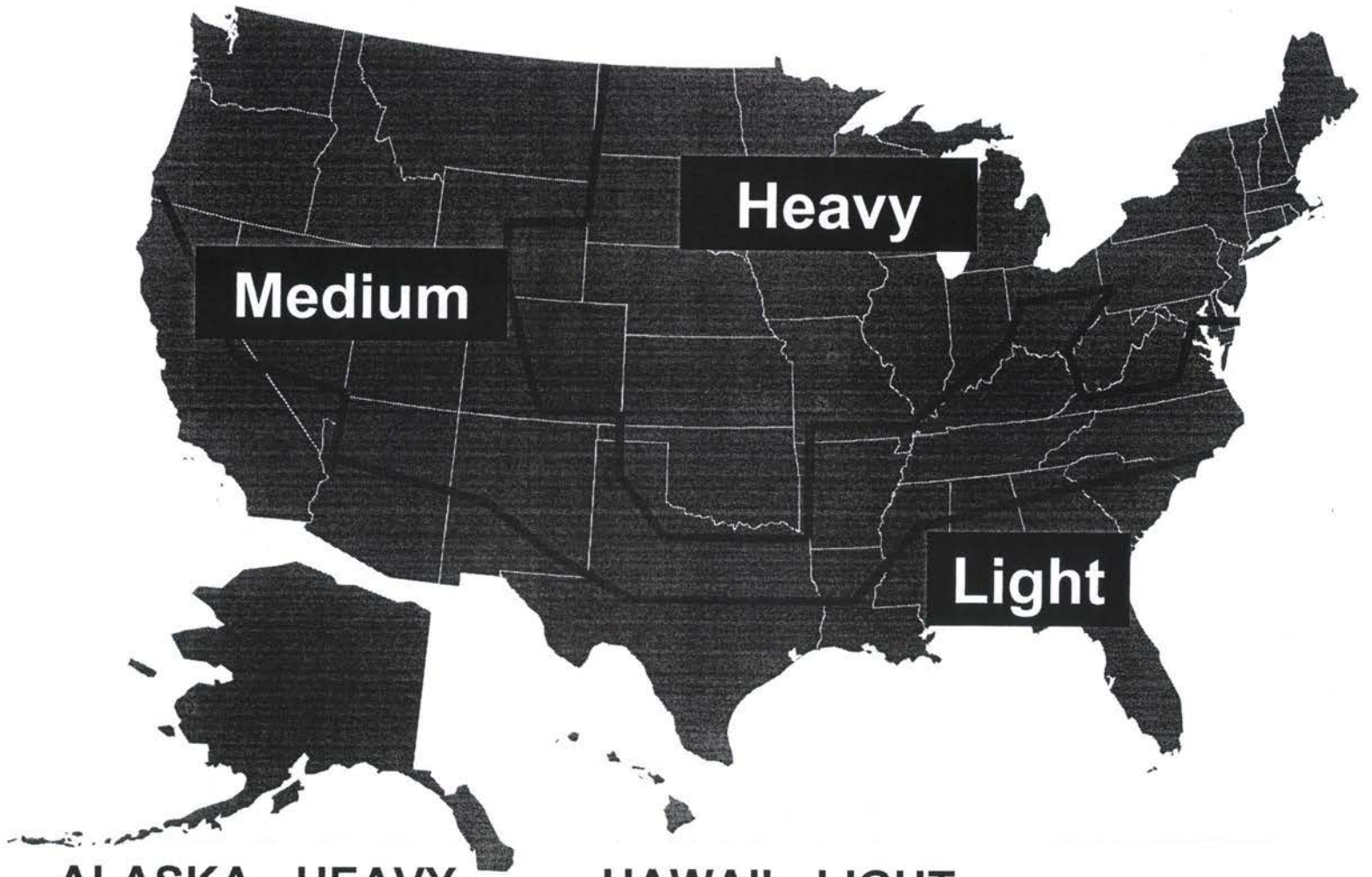




National Electrical Safety Code



NESC Loading Districts

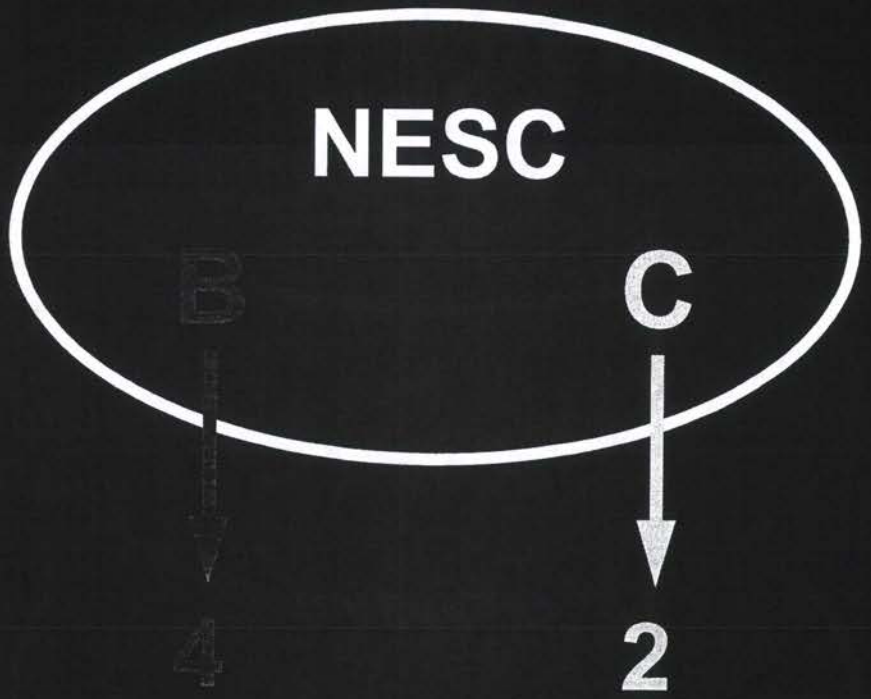


NESC Storm Load

Light Loading District

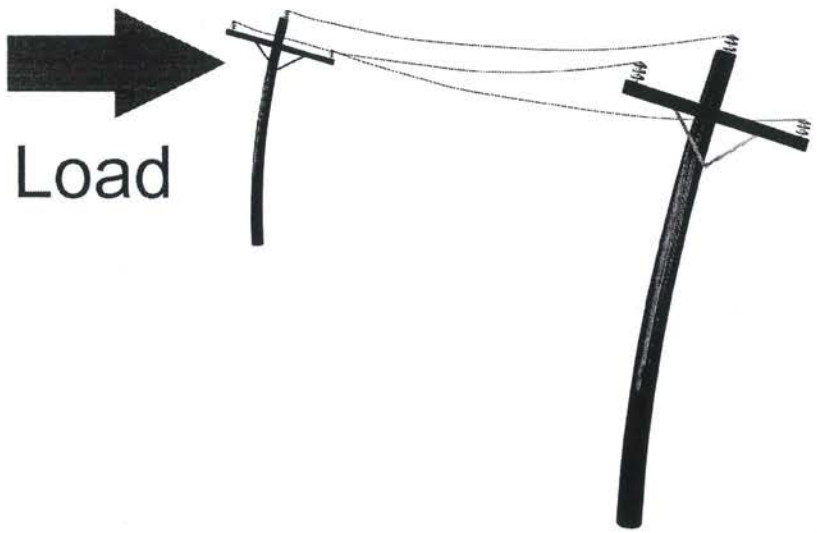
Durability

Grade of Construction



NESC Grade of Construction

Crossing Limited Access Hwy	B	4
Crossing Railroads	B	4
Crossing Some Wires	B	4
Otherwise	C	2, 2.67



Bending Capacity > **Applied Bending Load**

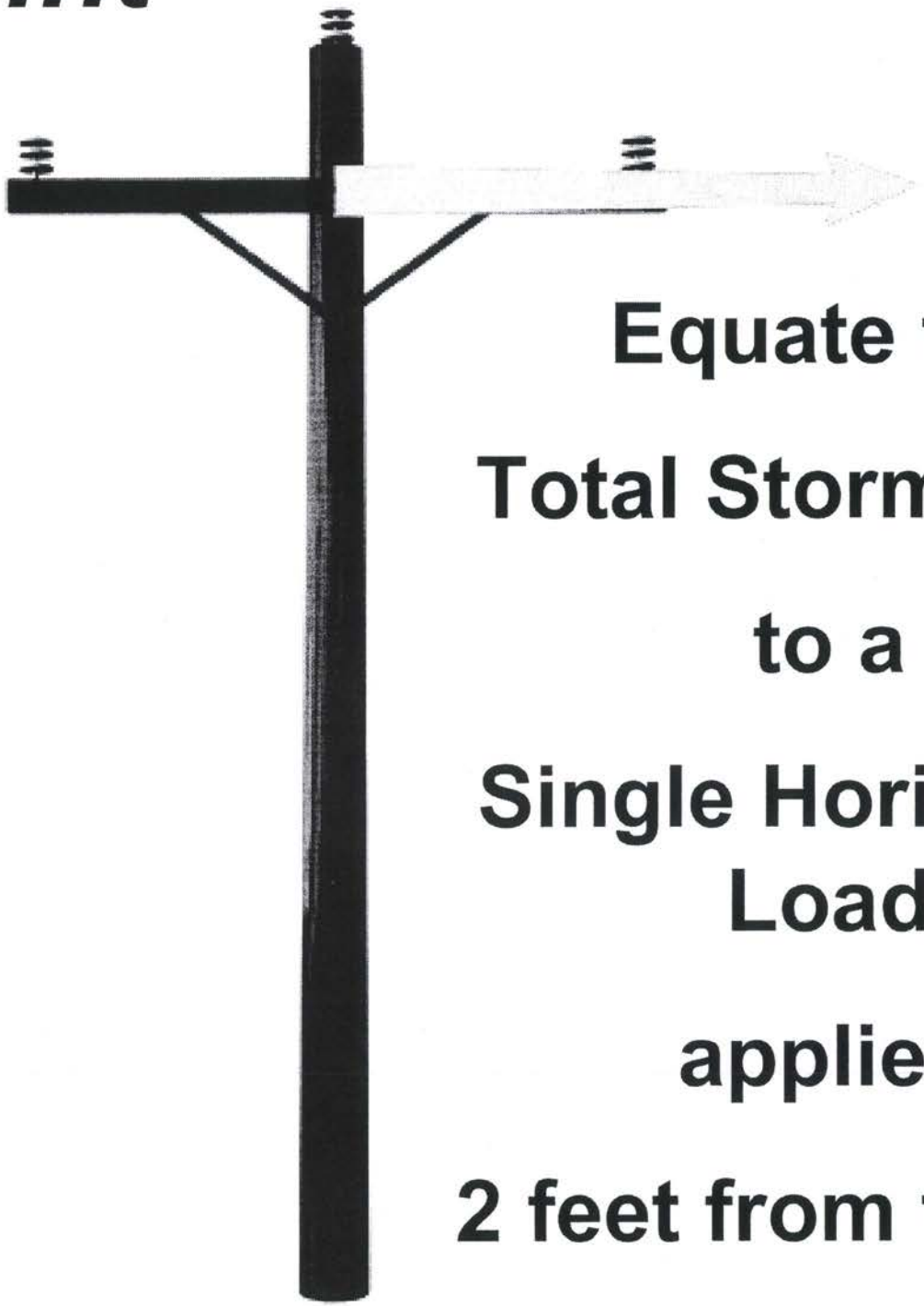
$k \times \text{fiber strength} \times C^3$ (ft-lb) > $L_c \times D$ (ft-lb)

Grade B	4 x Storm Load
Grade C Load	2 x Storm

Example

Light Loading District

Single Point Load



Equate the

Total Storm Load

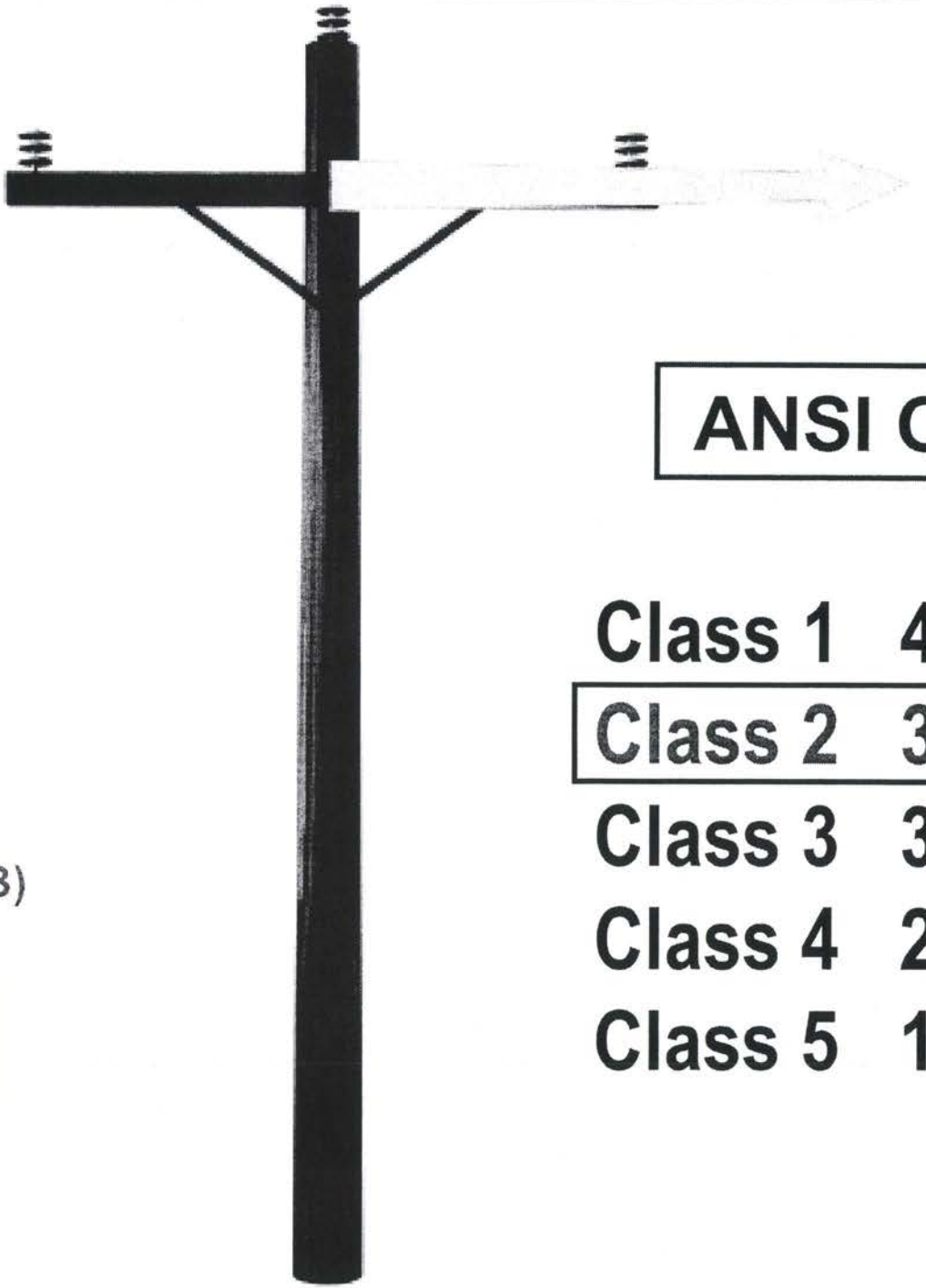
to a

Single Horizontal Load

applied

2 feet from the tip.

Load < Strength



NESC

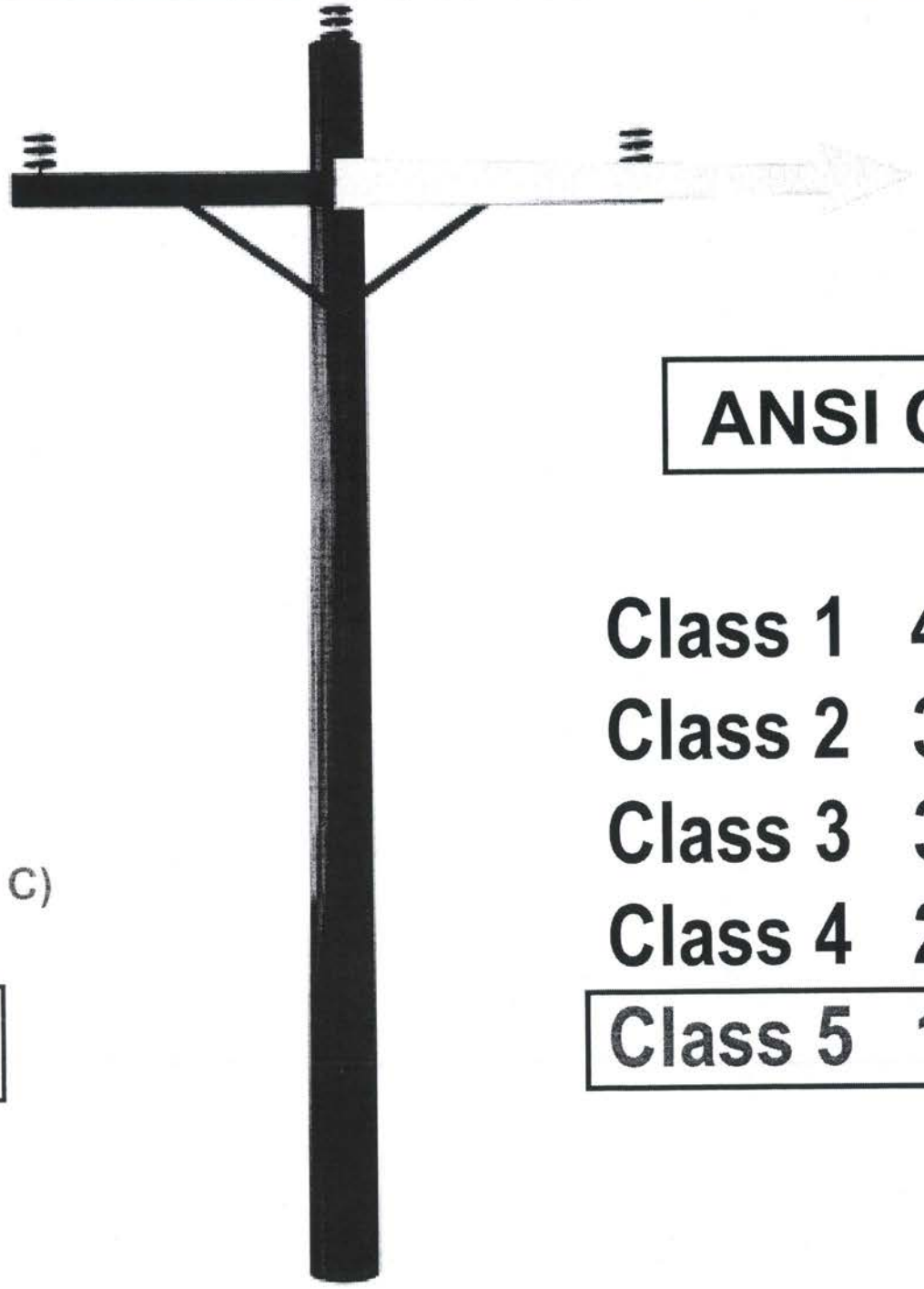
900 lb
Storm Load
x 4 (Grade B)

= 3600 lb

ANSI O5.1

Class 1	4500 lb
Class 2	3700 lb
Class 3	3000 lb
Class 4	2400 lb
Class 5	1900 lb

Load < Strength



NESC

900 lb
Storm Load
x 2 (Grade C)

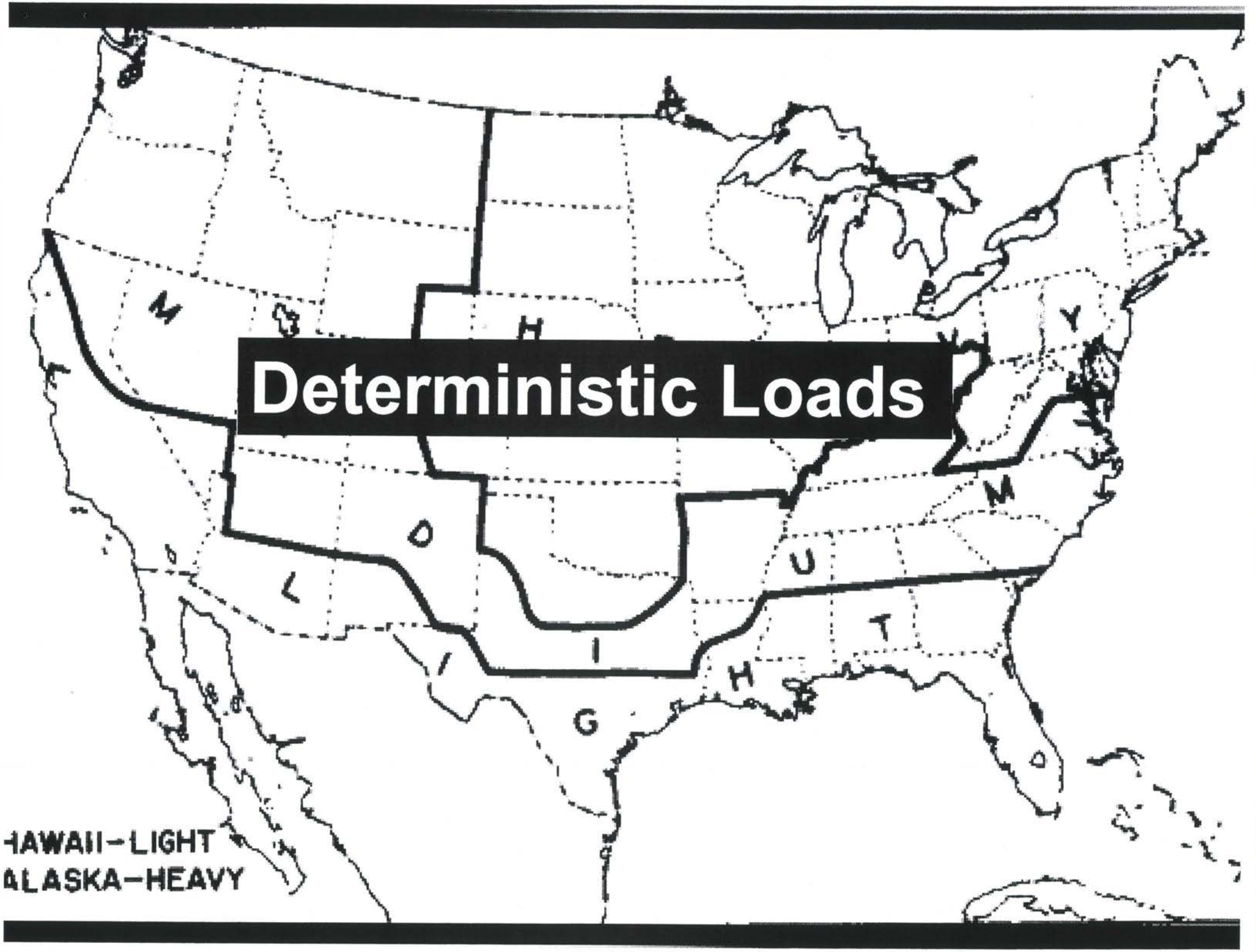
= 1800 lb

ANSI O5.1

Class 1	4500 lb
Class 2	3700 lb
Class 3	3000 lb
Class 4	2400 lb
Class 5	1900 lb

NESC Load Cases

- Rule 250 B - Combined Ice & Wind
  - Light
  - Medium
  - Heavy


Deterministic Loads
HAWAII–LIGHT
ALASKA–HEAVY

NESC Load Cases

- Rule 250 B - Combined Ice & Wind
  - Light 0" Ice 60 mph
  - Medium ¼" Ice 40 mph
  - Heavy ½" Ice 40 mph

Example Storm Load

Medium Loading District

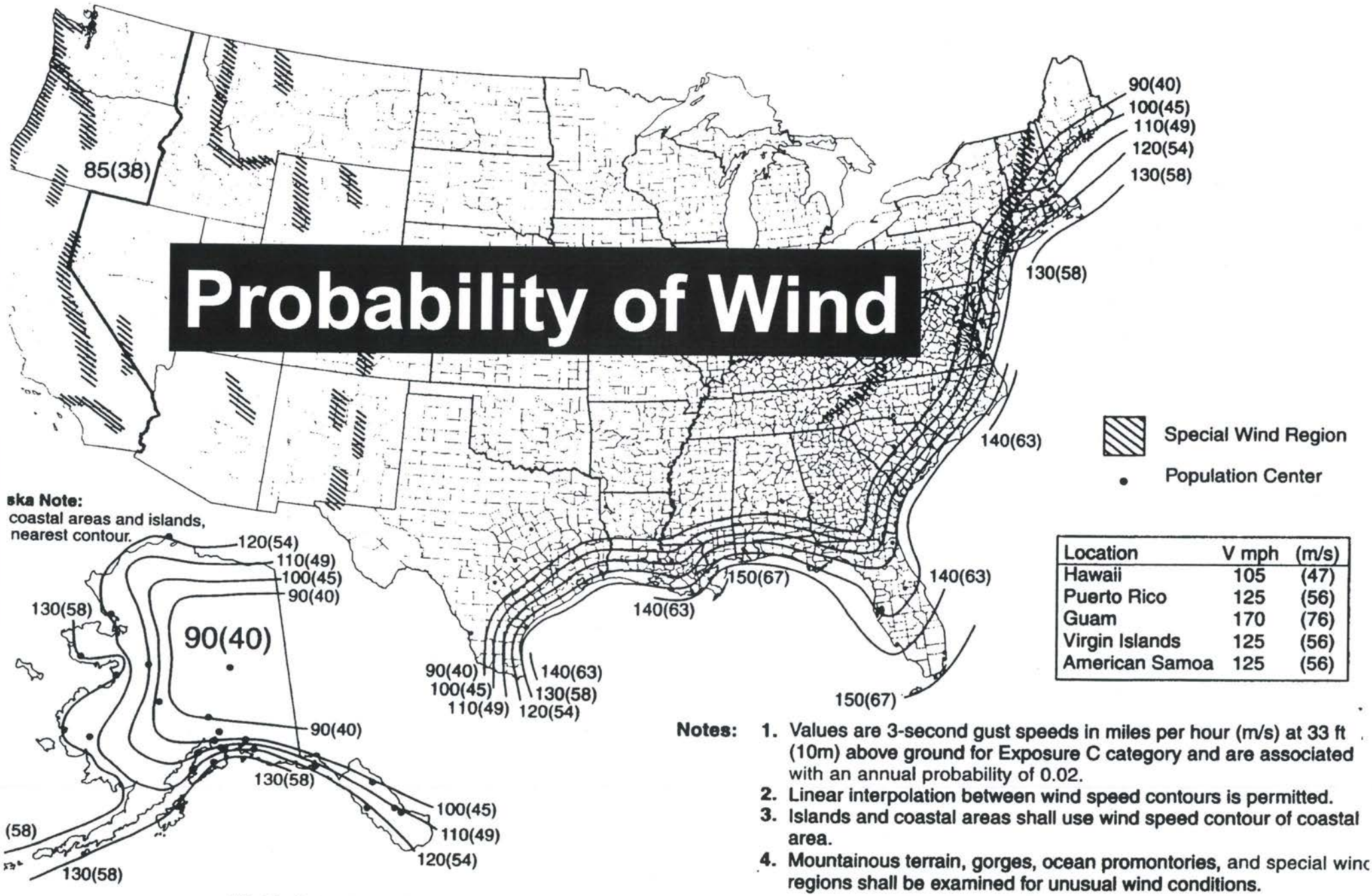
Deterministic Loads

1977 NESC - Extreme Wind Added

- Central United States
- Summer Storms
- High Winds with No Ice
- Transmission Failures
- Distribution not Affected
- 60 ft Exclusion
- New Weather Data @ 33 ft

NESC Load Cases

- Rule 250 B - Combined Ice & Wind
  - Light 0" Ice 60 mph
  - Medium ¼" Ice 40 mph
  - Heavy ½" Ice 40 mph
- Rule 250 C - Extreme Wind
  - Probability of wind occurring



Location	V mph	(m/s)
Hawaii	105	(47)
Puerto Rico	125	(56)
Guam	170	(76)
Virgin Islands	125	(56)
American Samoa	125	(56)

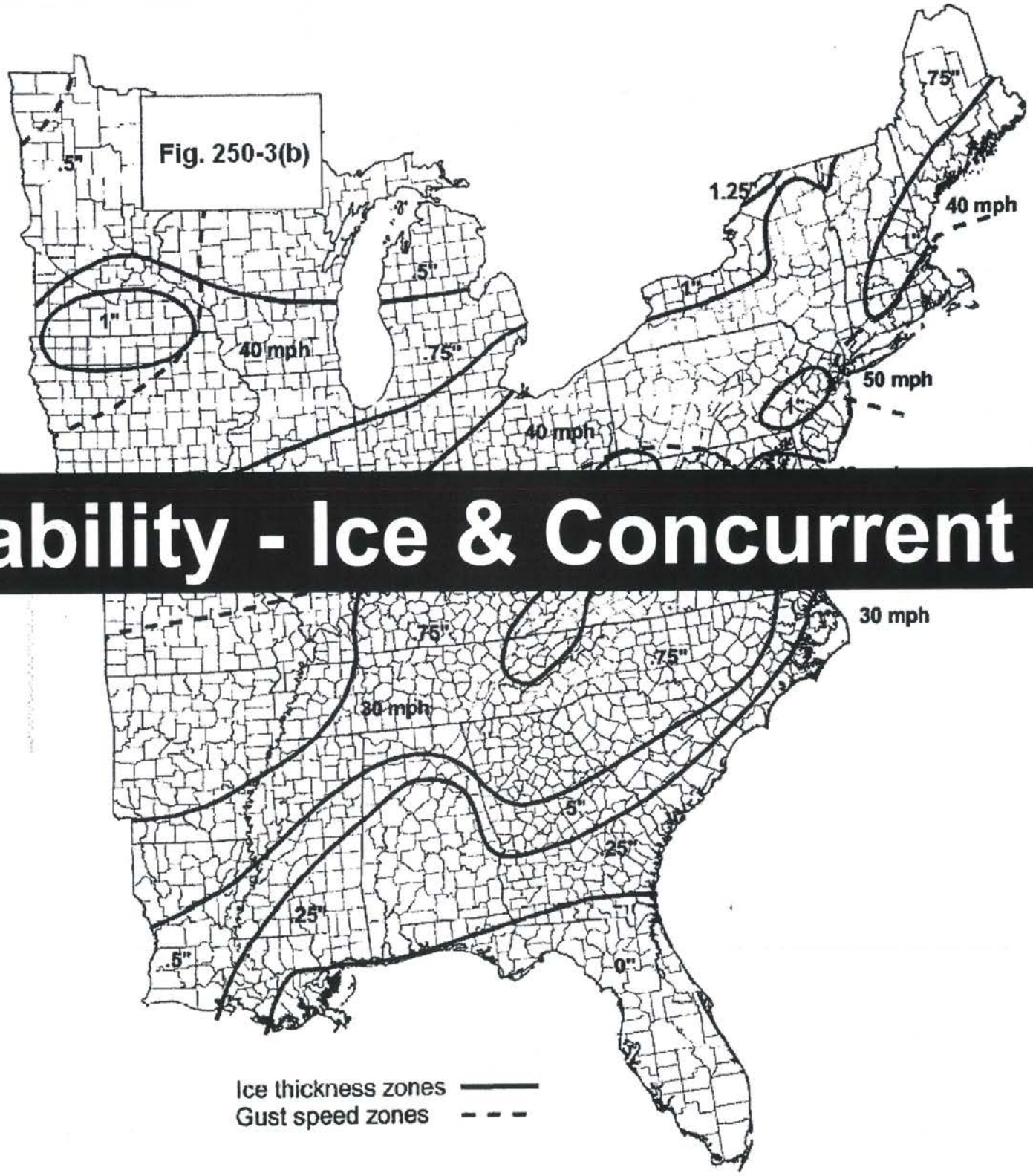
Notes:

1. Values are 3-second gust speeds in miles per hour (m/s) at 33 ft (10m) above ground for Exposure C category and are associated with an annual probability of 0.02.
2. Linear interpolation between wind speed contours is permitted.
3. Islands and coastal areas shall use wind speed contour of coastal area.
4. Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.

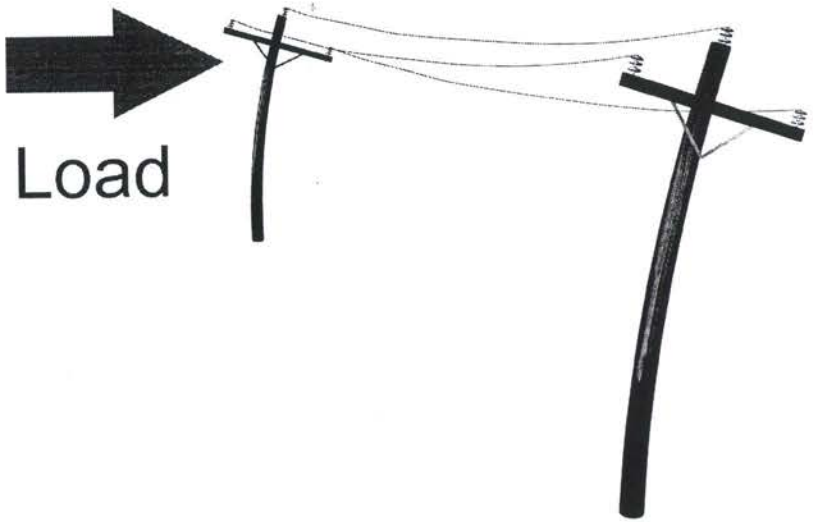
FIG. 6-1. Basic Wind Speed

NESC Load Cases

- Rule 250 B - Combined Ice & Wind
  - Light 0" Ice 60 mph
  - Medium ¼" Ice 40 mph
  - Heavy ½" Ice 40 mph
- Rule 250 C - Extreme Wind
  - Probability of wind occurring
- Rule 250 D - Extreme Ice & Concurrent Wind
  - Probability of ice with concurrent wind occurring



Probability - Ice & Concurrent Wind



Load

Rule 250B – Deterministic

Rule 250C – Probability of Wind

Rule 250D – Probability of Ice & Concurrent Wind

Load < Strength

CP's to Remove 60 ft Exclusion

	Grade B	Grade C
Extreme Wind OL	1.0	.87 (.93 speed)
		.75 (.87 speed) if 100 mph +

CP's to Remove 60 ft Exclusion

	Grade B	Grade C
Extreme Wind OL	1.0	.87 (.93 speed) .75 (.87 speed) if 100 mph +
Poles < 60ft	22.5 psf max (94 mph)	15 psf max (77 mph)

CP's to Remove 60 ft Exclusion

	Grade B	Grade C
Extreme Wind OL	1.0	.87 (.93 speed)
		.75 (.87 speed) if 100 mph +
Poles < 60ft	22.5 psf max (94 mph)	15 psf max (77 mph)
Saffir-Simpson Hurricane Scale		Cat 2 = 96-110mph
Fujito Tornado Damage Scale		F1 = 73-112 mph

Remove 60 ft Exclusion Limit Commentors

- North & South Carolina Cooperatives
- Allegheny Power

167 Comments

- AEP
- PacifiCorp
- Consumers Energy
- 20+ Additional Cooperatives

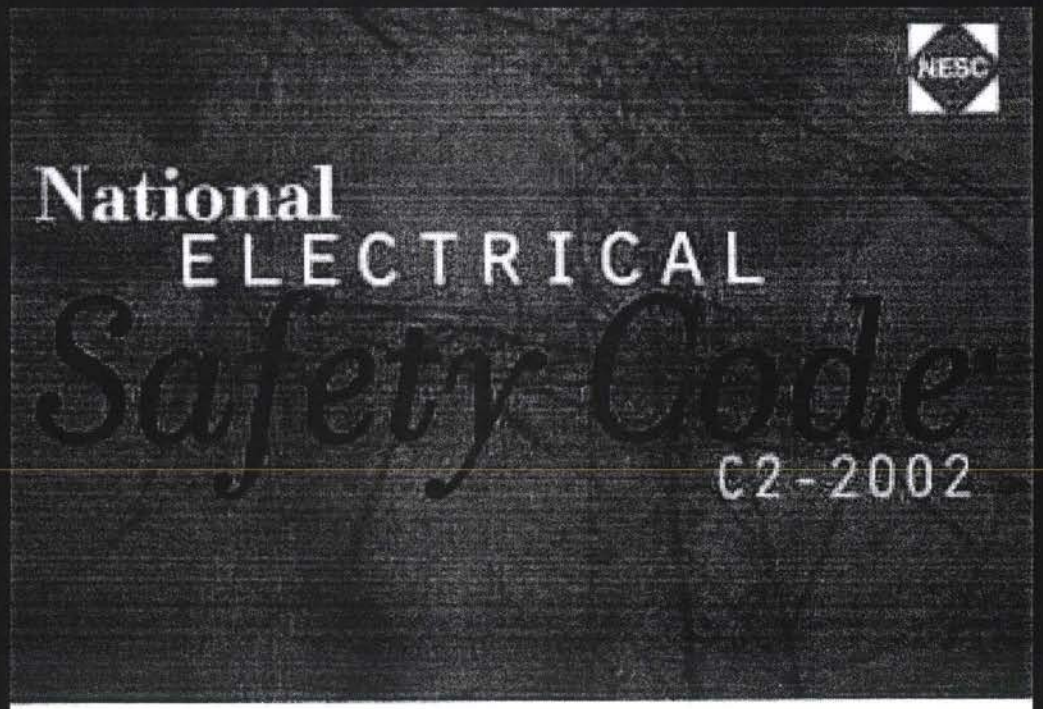
60 ft Exclusion Limit Comments

- Storm Damage caused by Trees & Debris
- [illegible]
- [illegible]
- [illegible]
- No Support
- Caps show existing criteria are adequate

Rejected

Florida Considerations

- Differentiate where collateral damage occurs
  - Urban - debris
  - Rural - open, wind only
- Wire tension
  - Urban – lower tension lessens transfer of load from pole to pole
  - Rural – high tension ok
- Foundation
- Pole strength beyond other limitations



National ELECTRICAL Safety Code

C2-2002

IEEE

Published by the Institute of Electrical and Electronics Engineers, Inc

Florida Public Service Commission Workshop

April 17, 2006

Tallahassee, FL

NESC & ANSI O5

Pole Strength & Load

Nelson Bingel

Osmose Utilities Services, Inc

Principal Member – NESC SC 5

Chairman – ANSI O5

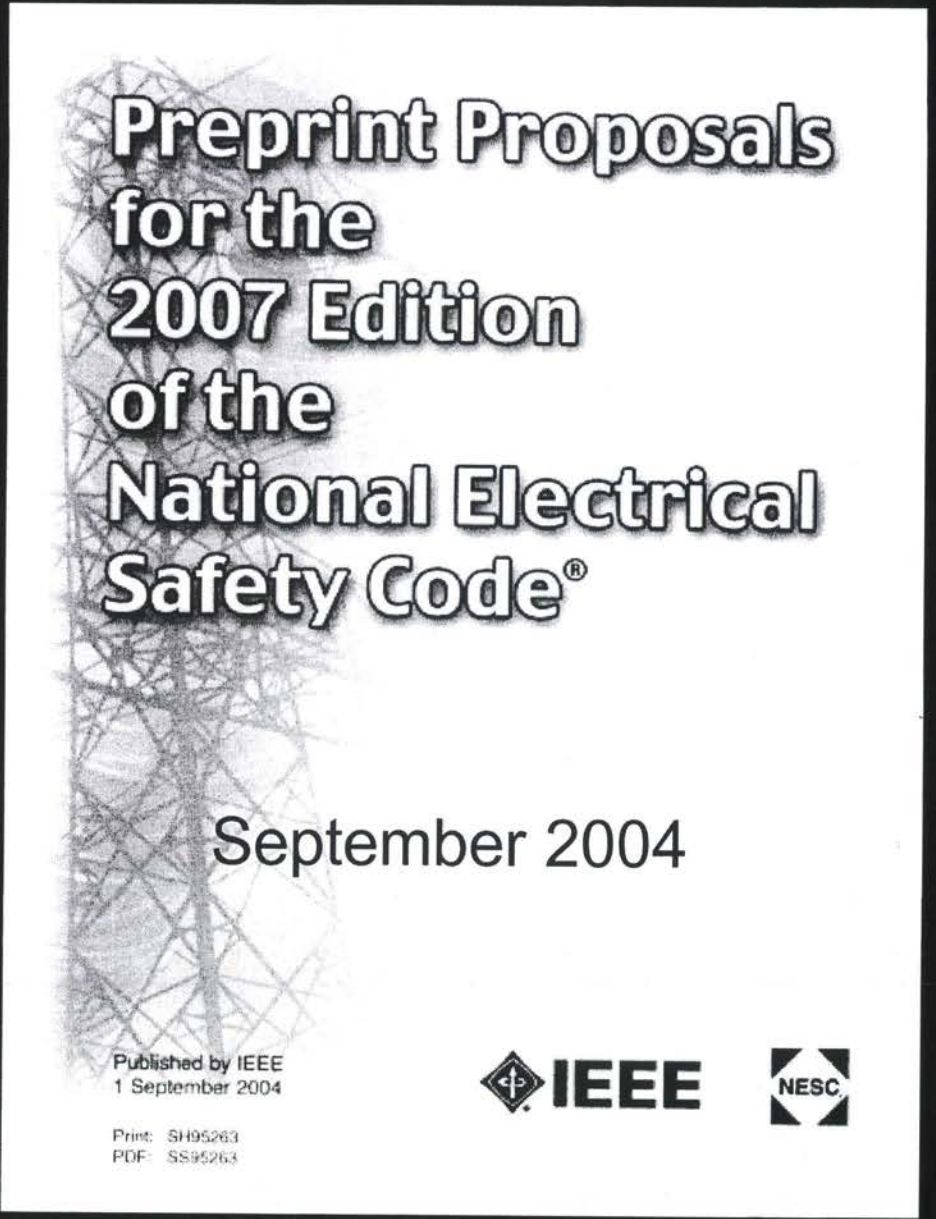
The NESC Zone

www.standards.ieee.org/nesc

2007 NESC

- 327 Change Proposals

2007 NESC


Preprint Proposals
for the
2007 Edition
of the
National Electrical
Safety Code®
September 2004
Published by IEEE
1 September 2004
Print: SH95263
PDF: SS95263
IEEE
NESC

2007 NESC

- 327 Change Proposals
- 1050 Comments Received
- 60% of Comments to SC 5

2007 NESC Change Proposals

- Introduce new ASCE Ice & Wind Map
- Introduce FRP structures
- Remove Average Strength of 3 Poles
- Remove Alternate Wood OL Factors
- Remove 60 ft Exclusion Limit
- CP 2737 – Major Rewrite
- Introduce new ASCE RBD Manual

2007 NESC Change Proposals

- Introduce new ASCE Ice & Wind Map 18
- Introduce FRP structures 3
- Remove Average Strength of 3 Poles 23
- Remove Alternate Wood OL Factors 32
- Remove 60 ft Exclusion Limit 167
- CP 2737 – Major Rewrite 76
- Introduce new ASCE RBD Manual 3

322

New Ice & Wind Map – ASCE 7-05

- New Rule 250D
- Another extreme load case
- Ice thickness & concurrent wind speed
- Weather map published in ASCE 7-05

Note: SC 4 voted to use traditional L,M,H loading districts for clearances

NESC 2002 Extreme Wind vs 2007 Rule 250 D

Wire Diameter = 1"

2002 Extreme Wind	90 mph	100 mph	110 mph	120 MPH	130 MPH	140 MPH
Pounds Force /Ft of Conductor	1.7280	2.1333	2.5813	3.0720	3.6053	4.1813
	100%	100%	100%	100%	100%	100%

2007 Rule 250D

Wind-mph	Ice-in.	Percentage of 2002 Extreme Wind Force					
30	0.0"	11%	9%	7%	6%	5%	5%
30	0.25"	17%	14%	11%	9%	8%	7%
30	0.50"	22%	18%	15%	13%	11%	9%
50	1.00"	93%	75%	62%			
50	1.25"	108%	88%	72%			
50	1.50"	123%	100%	83%	69%	59%	51%
60	.50"	89%	72%	60%	50%	43%	37%
60	.75"	111%	90%	74%	63%	53%	46%
60	1.00"	133%	108%	89%	75%	64%	55%
60	1.25"	156%	126%	104%	88%	75%	64%

NESC 2002 Extreme Wind vs 2007 Rule 250 D
Wire Diameter = .25"

2002 Extreme Wind Pounds Force /Ft of Conductor	90 mph	100 mph	110 mph	120 MPH	130 MPH	140 MPH
	0.4320	0.5333	0.6453	0.7680	0.9013	1.0453
	100%	100%	100%	100%	100%	100%

2007 Rule 250D

40	0.50"	99%	80%	66%	56%	47%	41%
40	0.75"	138%	112%	93%	78%	66%	57%
40	1.00"	178%	144%	119%	100%	85%	73%
40	1.25"	217%	176%	145%	122%	104%	90%
50	0.25"	93%	75%	62%	52%	44%	38%
50	0.50"	154%	125%	103%	87%	74%	64%
50	0.75"	216%	175%	145%	122%	104%	89%
50	1.00"	278%	225%	186%	156%	133%	115%
50	1.25"	340%	275%	227%	191%	163%	140%
50	1.50"	401%	325%	269%	226%	192%	166%
60	.50"	222%	180%	149%	125%	107%	92%
60	.75"	311%	252%	208%	175%	149%	129%
60	1.00"	400%	324%	268%	225%	192%	165%
60	1.25"	489%	396%	327%	275%	234%	202%

60	.75"	311%	252%	208%	175%	149%	129%
60	1.00"	400%	324%	268%	225%	192%	165%
60	1.25"	489%	396%	327%	275%	234%	202%

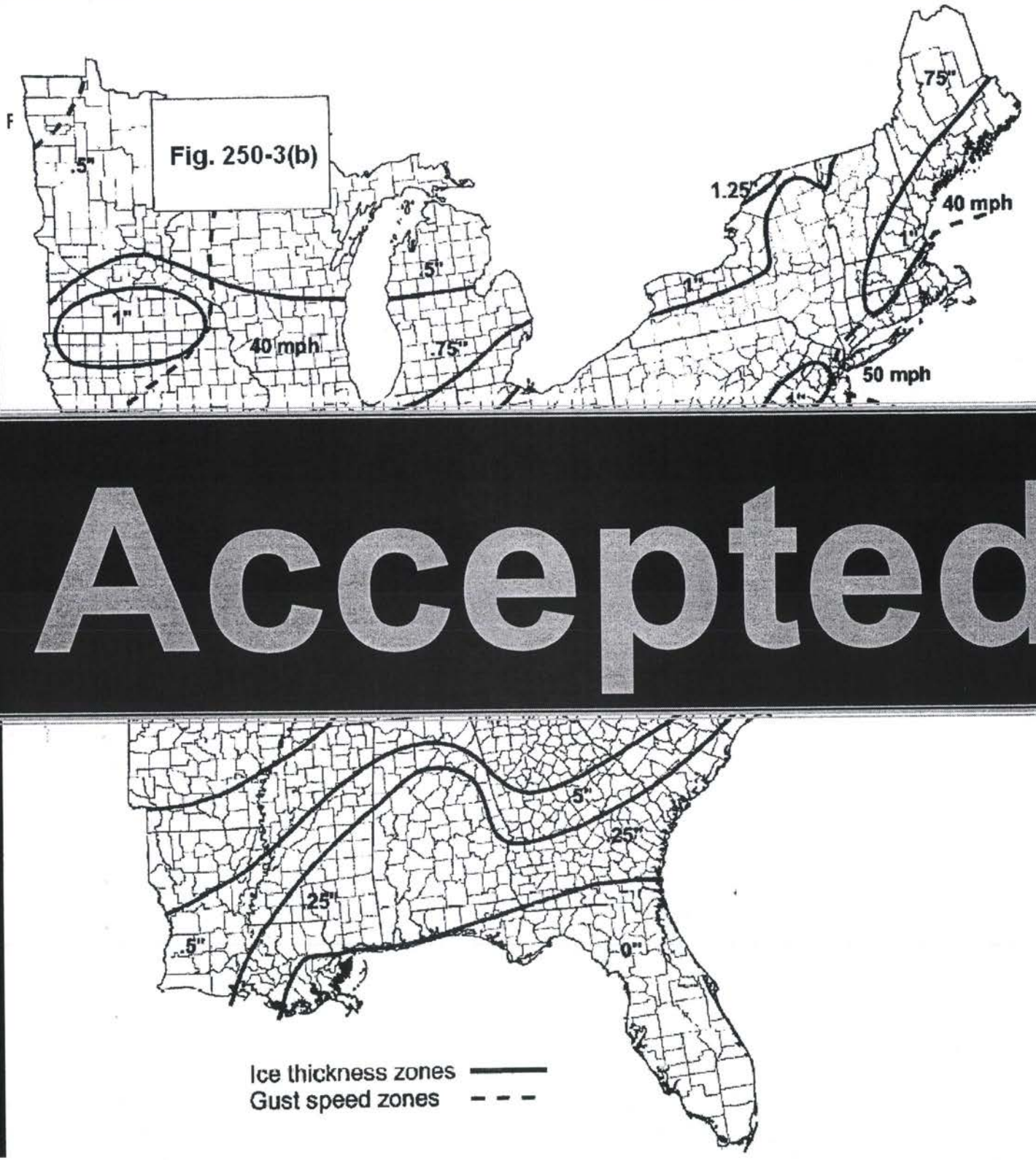


Fig. 250-3(b)
.5"
1"
40 mph
.5"
.75"
1.25"
1"
.75"
40 mph
50 mph
5"
25"
25"
5"
0"
Ice thickness zones
Gust speed zones

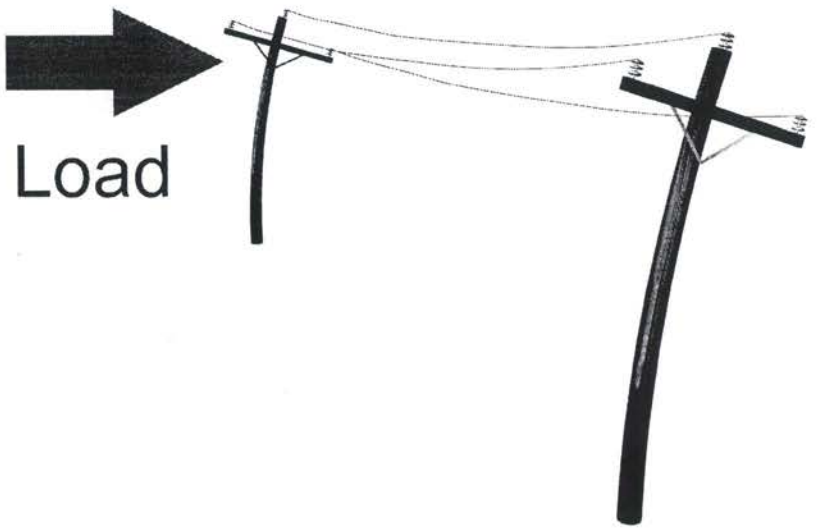
Delete Alternate OL for Wood

- Accepted – Delete Table 253-2

Accepted As Modified

Transverse loads				
Wind (at crossings)	4.00	2.67	2.67	1.33

"The alternate method, including alternate overload factors of Table 253-2 and strength factors of Table 261-1B, shall not be used after July 31, 2010"



Load **Strength**

Storm Load x 2.5 ~~(B)~~ 3.85 ~~le Strength x~~ .65

Storm Load x 1.75 ~~(C)~~ 2.06 ~~le Strength x~~ .85

Alternate Method

Storm Load x 4 (B) < Pole Strength

Storm Load x 2 (C) < Pole Strength

Delete Alternate OL for Wood

- Accepted – Delete Table 253-2

Accepted

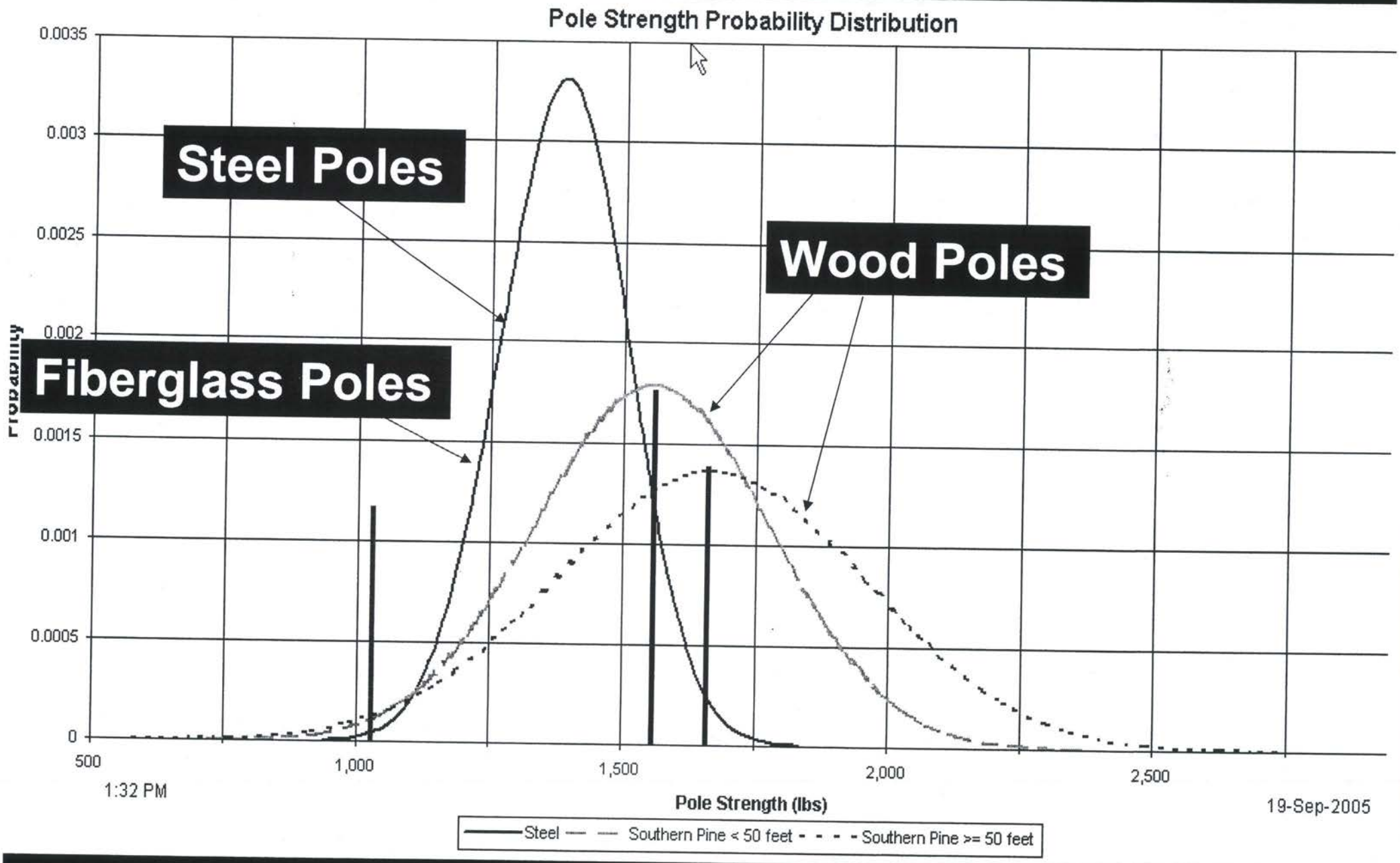
As Modified

Transverse loads				
Wind (at crossings)	4.00	2.67	2.67	1.33

"The alternate method, including alternate overload factors of Table 253-2 and strength factors of Table 261-1B, shall not be used after July 31, 2010"

Fiberglass Poles

- Installed for Many Years
- Wood Pole Overload Factors
- Engineered Product
- Less Variation than Wood


Pole Strength Probability Distribution
Steel Poles
Wood Poles
Fiberglass Poles
Probability
0.0035
0.003
0.0025
0.002
0.0015
0.001
0.0005
0
500
1,000
1,500
2,000
2,500
1:32 PM
Pole Strength (lbs)
19-Sep-2005
Steel
Southern Pine < 50 feet
Southern Pine >= 50 feet

Introduce FRP Structures

- Several Rules affected
- Same Strength & Load Factors as Metal
- 5% LEL Strength Established by Manufacturers

Table 261-1A

Strength Factors for Structures, Crossarms, Support Hardware, Guys, Foundations, and Anchors for Use with Overload Factors of Table 253-1

	Grade B	Grade C
Strength factors for use with loads of Rule 250B		
Metal and Prestressed-Concrete Structures [6]	1.0	1.0
Wood a		.85
Fiber-R		1.0
Suppor		1.0
Guy W		0.9
Guy An		1.0
Strength factors for use with loads of Rule 250C		
Metal and Prestressed-Concrete Structures [6]	1.0	1.0
Wood and Reinforced-Concrete Structures [3,4]	0.75	0.75
Fiber-Reinforced Polymer Structures [6]	1.0	1.0
Support Hardware	1.0	1.0
Guy Wire [5,6]	0.9	0.9
Guy Anchor and Foundation [6]	1.0	1.0

Average Strength of 3 Poles

- Accepted to Delete this Rule

e. Average Strength of Three Poles

A pole (single-base structure) not individually meeting the transverse strength requirements will be permitted when reinforced by a stronger pole on each side, if all of the following are met:

(1) The average strength of the three poles meets the transverse strength requirements

(2)

(3)

Accepted

head

An extra pole inserted in a normal span for the purpose of supporting a service drop may be ignored in this strength determination.

EXCEPTION 2: This rule does not apply to crossings over railroads, communication lines, or limited access highways.

CP 2737 – Major Revision

- Conditionally Accepted
- Pending Results of Task Force 5.2.1
- Some Concepts
  - New Ice & Wind Map – ASCE 7
  - Apply Extreme Wind to all Structures
  - Include .87 Grade C Strength Factor
  - Grade B / C differential @ 1.5

LOADS - 2002 NESC & CP2737 Combined Ice & Wind

	Light		Medium		Heavy	
	Wind-mph	*Ice*	*Wind-mph*	*Ice*	*Wind-mph*	*Ice*
2002 NESC	60	0"	40	0.25"	40	0.50"
CP 2737	30	0"	30	0.5"	40	0.50"
	30	0.25"	30	0.75"	40	0.75"
	30	0.50"	30	1.00"	40	1.00"
			40	0.25"	40	1.25"
			40	0.50"	50	0.50"
			50	0.25"	50	1.00"
			50	0.50"	50	1.25"
			60	0.75"	60	0.75"
			60	1.00"	60	1.00"
			60	1.25"	60	1.25"

LOADS - 2002 & 2007 NESC & CP2737 Extreme Wind

	Wind-mph	*Ice*
2002 NESC	90	0"
2007 NESC	90	0"
CP 2737	90	0"

FACTORS - NESC Combined Ice & Wind

		Load Factor	Strength Factor	
2002 NESC	Grade B	2.5	0.65	3.85
	Grade C	1.75	0.85	2.06
CP 2737	Grade B	1.00	0.65	1.54
	Grade C	1.00	0.85	1.18

FACTORS - NESC Extreme Wind

		Load Factor	Strength Factor	k_z	G_{RF}	F_G Open Terrain	F_G Sheltered Terrain	P_F	
2002 NESC	Grade B	1.00	0.75	Varies	Varies	-	-	-	1.33
	Grade C	1.00	0.75	Varies	Varies	-	-	-	1.33
CP 2737	Grade B	1.00	0.65	-	-	1.00	1.00	Varies	1.54
	Grade C	1.00	0.85	-	-	0.87	0.87	Varies	1.03

CP 2737 – Major Revision Commentors

- Gulf Power
- North & South Carolina Cooperatives
- Savannah Electric
- AEP
- Georgia Power
- CLECO
- Unitil
- Bell South
- Florida Power & Light
- Portland General Electric
- Southeastern Electric Exchange
- 20+ Additional Cooperatives

CP 2737 – Major Revision Comments - 76

- 15 Unitil
- 22 South Carolina Coops

CP 2737 – Major Revision Comments - 76

- Trees and Debris in Storms
- Soil Failures

Rejected

- No Increase in Safety or Reliability
- Additional Design Time Required
- Not Warranted
  - History not support

Introduce ASCE RBD Manual

- Three variations submitted
  - Refer to the manual
- **Rejected**
  - Manual only addresses single, un-guyed
  - Not a consensus document
  - Several "To Be Determined" values

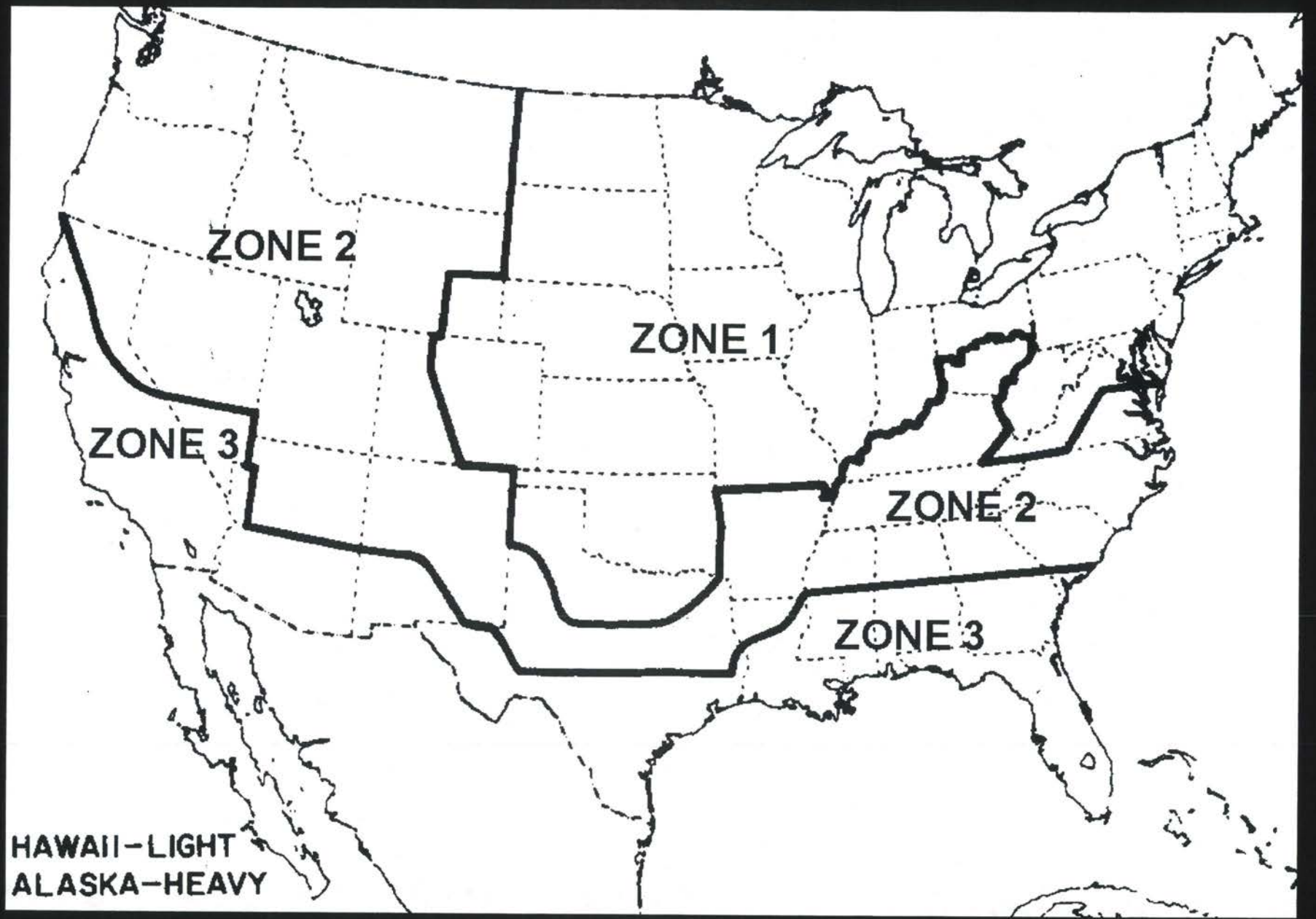
2007 NESC Change Proposals

- Introduce new ASCE Ice & Wind Map
  - Rule 250D
- Introduce FRP structures
- Remove Average Strength of 3 Poles
- Remove Alternate Wood Overload Factors
- ~~CP 2707 – Major Rewrite~~
- ~~60 ft Exclusion Limit~~
- ~~Introduce new ASCE RBD Manual~~

Rule 230B

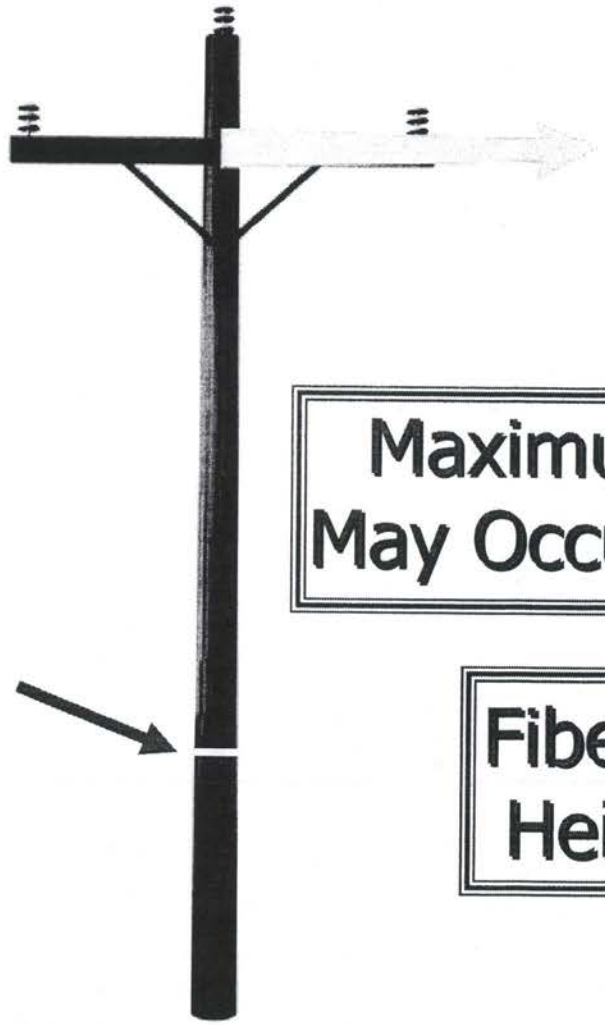
- Places the existing Figure 250-1 and Table 250-1 into Section 23
- Re-labels the *Loading Districts* as *Ice Zones*.
- The radial ice, wind pressure and temperature combination is used in calculating inelastic deformation included in sag at 32°F.

Figure 230-1. Clearance Zone Map



ANSI O5.1 - 2002

Taller Poles



Taper

Maximum Stress Point
May Occur Above Ground

Fiber Strength
Height Effect

Fiber Strength Height Effect

$$F_H = F_{G/L} (1 - 0.5 * H/L)$$

Maximum Reduction = 25%

@ Midpoint

$$F_{35} = 8000psi (1 - 0.5 * 35/70)$$

$$F_{35} = 6000psi$$

Net Result of Changes

Distribution – Little Change

Transmission – Maybe Larger Poles

Conservative

ANSI Dimension Data Collection

ANSI Dimension Data Collection

- **Coastal Douglas fir** — **6,997 poles**
  - 9 Producers; 11 Locations
- **Southern Yellow Pine** — **6,634 poles**
  - 11 Producers; 16 Locations
- **Western Red Cedar** — **6,982 poles**
  - 5 Producers; 9 Locations
- **Northern Red Pine** — **2,266 poles**
  - 2 Producers; 4 Locations

Grand Total 22,859 poles

ANSI Dimension Data Collection

Poles Less than 60 feet in Length

Oversize at Guy Attachments

>

½ Class Oversize

+

Fiber Strength Height Reduction

Letter Ballot in 2005

Committee in Agreement

- Fiber Strength Height Effect
  - Does Not Apply to Poles < 60 ft in length
  - Does Not Apply to Braced Multi-Pole Structures
    - Pole Oversize
    - Load Sharing
    - Not part of ANSI O5.1 Scope

Committee Unsure

- Poles 60 ft and Taller
  - Additional Analysis of These Pole Sizes

Ballot Later in 2006

- Consider modifying pole taper
  - Not changing pole dimensions
  - For determining maximum stress location
  - For applying Fiber Strength Height Reduction

Tropical Hardwood Poles

ELECTRIFY THE WORLD

EPRI

Drying?

Kiln Temperature?

Checking?

Ring Counts?

Effect of Knots?

Is there more than one producer?

Other criteria that differs from softwood specifications?

PREPARED FOR & PRESENTED TO