

Matilda Sanders

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Subject: E-Filing

Attachments: Rule 25-6.034 Revised Cost Impact.doc



Rule

4 Revised Co

A. James D. Beasley
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B. Docket No. 060172-EU
In 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.

and Docket No. 060173-EU
In re: Proposed amendments to rules regarding overhead electric facilities to allow more stringent construction standards than required by National Electric Safety Code.

C. Tampa Electric Company

D. Document consists of 2 pages

E. The attached document is Tampa Electric Company's revised cost impacts to Tampa Electric as requested by Staff at the May 19, 2006 workshop.

- CMP _____
- COM _____
- CTR _____
- ECR _____
- GCL _____
- OPC _____
- RCA _____
- SCR _____
- SGA _____
- SEC 1
- OTH Kim P.

DOCUMENT NUMBER-DATE
04608 MAY 26 06
FPSC-COMMISSION CLERK

Cost Impact to Tampa Electric of Proposed Changes to Rule 25-6.034 Standard of Construction Revised May 26, 2006

(5)(a) New Overhead construction cost impact for a 120 mph wind zone

Assumptions:

- 50% of the poles have equipment (i.e., transformers, capacitors etc)
- 150 foot spans or 35 poles per mile (50% more poles)
- Two joint users
- Hardening pole replacements
 - 45H2 wood poles w/equipment
 - 45H1 wood poles w/o equipment

Impacts:

The incremental new 3 phase wood pole construction to annually build 19 miles to extreme wind-loading criteria is estimated to be \$354,445.

(b) Expansion, rebuild, or relocation of existing facilities for a 120 mph wind zone

Assumptions:

- 75% of the poles have equipment (i.e., transformers, capacitors etc)
- 150 foot spans or 35 poles per mile (50% more poles)
- Two joint users
- Hardening pole replacements
 - 45H2 wood poles w/equipment
 - 45H1 wood poles w/o equipment
- Includes Additional poles + incremental stronger pole cost + road widening

Impacts:

Annual cost to build to extreme wind for expansion, rebuild and relocation including road widenings of 3 phase wood pole lines is estimated to be \$5,334,313.

(c) Targeted critical infrastructure facilities and major thoroughfares¹

Hillsborough Co	521 miles
Polk Co	127 miles
Pasco	<u>48 miles</u>
Total	696 miles

Assumptions:

- Assume a ten year hardening plan @ approximately 70 miles/year
- 75% of the poles have equipment (i.e., transformers, capacitors etc)
- 150 foot spans or 35 poles per mile
- Two joint users
- Hardening pole replacements
 - 45H2 wood poles w/equipment
 - 45H1 wood poles w/o equipment

Impacts:

The annual cost to build targeted critical infrastructure facilities and major thoroughfares to extreme wind is \$6,396,950. A ten year plans is unrealistic but is used here for normalization and comparison purposes.

¹From "FDOT's Public Road mileage and Miles Traveled, 2004" report using *Other Principle Arterials* and *Minor Arterials* Categories. Further assumptions were made pertaining to partial service territories in counties.

(6)(a)(b)&(c) New construction cost impact for Cat 3 Flood Zone

Assumption:

Based on 2005 UG New Construction	\$ 30,407,527
25% of \$ is in Cat 3 Surge Zone	\$ 7,601,881
Annual 30% adder to harden the UG facilities ³	\$ 2,280,564

Impacts:

The annual minimum incremental new UG construction cost to build in Cat 3 Surge Zone is estimated to be \$2,280,584. This high level estimate was based on dollars spent with an assumed hardening adder. The company is unable to provide an accurate estimate for parts b and c of the proposed rule. The extent and characteristics of facilities located in the Cat 3 Flood Zone is unknown at this time.

(8) Expansion, rebuild, relocation & OH to UG conversions to front edge of property

OH to OH conversions to front edge of property

Expansion, rebuild, relocation

Assumptions

- 10% of OH system is rear lot = 700 miles
- Single phase OH line
- 40% of the poles have equipment (i.e., transformers, capacitors, etc.)
- 150 foot spans or 35 poles per mile
- Two joint users
- Hardening pole replacements
 - 45H2 wood poles w/equipment
 - 45H1 wood poles w/o equipment
- 2.5 difficulty factor is included for rear lot work

Impacts:

The annual relocation cost of an overhead single phase wood pole line from a rear lot location to the front of property using 70 miles per year is estimated to be \$6,274,800.

OH to UG conversions to front edge of property

Assumptions

- Davis Islands conversion cost was used in the cost per mile average of \$571,428.
- 1% of the rear lot communities request underground facilities to be placed to the front of the property = 70 miles
- 10 year plan to complete = 7 miles per year

Impacts:

The annual relocation cost of an overhead single phase wood pole line from a rear lot location to relocate and underground to the front of property is \$5,250,000.

Combined conversion annual cost is \$11,524,800.

³Hardening of the Underground facilities consist of water proof switchgear (Vistagear), strand-filled cable and submersible secondary TX connectors). All equipment will be bolted to pad.