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August 15, 2016

VIA: ELECTRONIC FILING

Ms. Carlotta S. Stauffer
Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: Docket No. 160105-EI – Petition for approval of 2016-2018 storm hardening plan, pursuant to Rule 25-6.0342, F.A.C., by Tampa Electric Company

Dear Ms. Stauffer:

Attached for filing in the above docket is Tampa Electric Company's Responses to Staff's Second Data Request (Nos. 1-7) dated July 25, 2016.

Thank you for your assistance in connection with this matter.

Sincerely,

James D. Beasley

JDB/pp
Attachment

cc: Penelope D. Buys (w/attachment)

TAMPA ELECTRIC COMPANY
DOCKET NO: 160105-EI
STAFF'S 2ND DATA REQUEST
REQUEST NO. 1
PAGES: 1 OF 1
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1. Referring to page 62, Joint Use Pole Attachment Audit, please provide a breakdown, by transmission and distribution, of non-utility poles that TECO was attached to for the years 2010 through 2015. Please include the percentage of TECO's system that this represents.

A. The table below shows the breakdown, by transmission and distribution, of non-utility poles that Tampa Electric is attached to for the years 2010 through 2015, also included in the table is the percentage that these poles represent in comparison to attachments to the company's poles:

Tampa Electric Attachments to non-utility Poles			
Year	**Transmission**	**Distribution**	**Percentage of System**
2010	**0**	**13,733**	**4.5**
2011	**0**	**13,733**	**4.5**
2012	**0**	**13,733**	**4.5**
2013	**0**	**13,379**	**4.4**
2014	**0**	**13,379**	**4.4**
2015	**0**	**13,379**	**4.4**

2. Please complete and verify the spreadsheet attached.

Activity		Actual Cost (Million)									Estimated Cost (Million)								
		2013			2014			2015			2016			2017			2018		
		O&M	Capital	Total	O&M	Capital	Total	O&M	Capital	Total	O&M	Capital	Total	O&M	Capital	Total	O&M	Capital	Total
8-Year Wooden Pole Inspection Program		$2.7	$40.2	$42.9	$3.1	$41.7	$44.8	$2.5	$35.9	$38.4	$1.2	$40.4	$41.5	$2.9	$32.5	$35.4	$2.9	$32.5	$35.4
10 Storm Hardening Initiatives																			
1	A Three-Year Vegetation Management Cycle for Distribution Circuits	$9.2		$9.2	$9.6		$9.6	$11.7		$11.7	$9.4		$9.4	$9.6		$9.6	$9.9		$9.9
3	A Six-Year Transmission Structure Inspection program	$1.5		$1.5	$1.6		$1.6	$1.3		$1.3	$0.8		$0.8	$1.2		$1.2	$1.2		$1.2
4	Hardening of Existing Transmission Structures																		
	Replacing wood structures with non-wood structures																		
	Replacement of insulators																		
	Subtotal		$1.0	$1.0		$0.7	$0.7		$0.6	$0.6		$0.8	$0.8		$0.8	$0.8		$0.8	$0.8
Feeder Hardening Projects																			
	CIF																		
	Interstate Crossings																		
	Relocation																		
	Remediation																		
	Conversions																		
	Other types																		
	Subtotal																		
OH/UG Conversions																			
	Totals																		

A. Tampa Electric has completed and verified the spreadsheet in reference to the company's response to Staff's first data request, request number nine. The completed spreadsheet is attached below on the following page:

	Activity	Actual Cost (Million)									Estimated Cost (Million)								
		2013			2014			2015			2016			2017			2018		
		O&M	Capital	Total	O&M	Capital	Total	O&M	Capital	Total	O&M	Capital	Total	O&M	Capital	Total	O&M	Capital	Total
8-Year Wooden Pole Inspection Program		$2.7	$40.2	$42.9	$3.1	$41.7	$44.8	$2.5	$35.9	$38.4	$1.2	$40.4	$41.5	$2.9	$32.5	$35.4	$2.9	$32.5	$35.4
10 Storm Hardening Initiatives																			
1	A Three-Year Vegetation Management Cycle for Distribution Circuits	$9.2		$9.2	$9.6		$9.6	$11.7		$11.7	$9.4		$9.4	$9.6		$9.6	$9.9		$9.9
3	A Six-Year Transmission Structure Inspection program	$1.5		$1.5	$1.6		$1.6	$1.3		$1.3	$0.8		$0.8	$1.2		$1.2	$1.2		$1.2
4	Hardening of Existing Transmission Structures																		
	Replacing wood structures with non-wood structures		$0.99	$0.99		$0.64	$0.64		$0.61	$0.61		$0.64	$0.64		$0.64	$0.64		$0.64	$0.64
	Replacement of insulators	See Note1																	
	Subtotal		$1.0	$1.0		$0.7	$0.7		$0.6	$0.6		$0.8	$0.8		$0.8	$0.8		$0.8	$0.8
Feeder Hardening Projects																			
	CIF		$0.8	$0.8					$0.1	$0.1		$1.6	$1.6		$3.8	$3.8			
	Interstate Crossings	See Note2						$0.00	$0.00	$0.00									
	Relocation				$0.4	($0.4)	$0.0		$0.1	$0.1		$1.0	$1.0		$4.0	$4.0		$1.5	$1.5
	Remediation					$0.8	$0.8		$1.0	$1.0		$0.8	$0.8		$0.8	$0.8		$0.8	$0.8
	Conversions																		
	Other types																		
	Subtotal																		
OH/UG Conversions																			
	Totals	$10.7	$2.79	$13.49	$11.6	$1.74	$13.34	$13.0	$2.41	$15.41	$10.2	$4.84	$15.04	$10.8	$10.04	$20.84	$11.1	$3.74	$14.84

Note 1: The Hardening of Existing Transmission Structures spending represents almost entirely the corrective replacement of poles. The costs associated with insulator replacements are negligible.

Note 2: There was one interstate crossing converted to underground in 2015. This was a reimbursable project due to a federally funded interchange improvement project. Tampa Electric incurred zero costs for this conversion.

TAMPA ELECTRIC COMPANY
DOCKET NO: 160105-EI
STAFF'S 2ND DATA REQUEST
REQUEST NO. 3
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Please refer to TECO's response to staff's first data request, request number nine.

3. Please explain what is involved in a feeder remediation.

A. Tampa Electric's feeder remediation process improves the performance of the feeder and extends its useful life. The process involves improvements along the length of the feeder such as replacing foundations, reinforcing poles, replacing insulators, replacing or repairing conductor, replacing or repairing static wire, replacing connection hardware or other minor materials like bolts and washers.

4. Why is TECO relocating circuit 66042?

A. Tampa Electric is relocating circuit 66042 underground due to two conditions that will require its relocation. The circuit was initially built in the early 1960's on the coastline of Tampa Bay. One area of the circuit is over a now navigable waterway which makes it necessary to increase the height of that portion to allow for the safe passage of boat traffic. The other condition requiring the relocation of the circuit is the portion of the circuit that is in the airspace of the glide path for the Tampa International Airport. The company evaluated alternatives for relocation and the option of undergrounding the circuit was selected due to safety and reliability concerns.

5. What is involved in the hardening of Port of Tampa, Downtown Network, and Tampa International Airport?

A. The following outlines what was involved with hardening of the Port of Tampa, The Downtown Network and the Tampa International Airport.

Port of Tampa:

The Port of Tampa is a critical facility that serves ten petroleum distribution customers that deliver 40 percent of the gasoline in the state of Florida. Approximately six miles of transmission and distribution feeder were rebuilt to meet extreme wind requirements. Additional details and pictures can be found in the company's 2009 Storm Implementation Plan and Annual Reliability Reports that was revised and filed on April 6, 2010. The information is located under the section on Extreme Wind Pilot Projects starting on Bate stamped page 50 of that report.

The Downtown Network:

The Downtown Network has 56 network vaults. Ten of these vaults are located in areas that would be prone to flooding. There are 18 network protectors located in these vaults. The protectors are designed to be waterproof. Each year, Tampa Electric performs pressure tests on a percentage of network protectors to ensure that they remain waterproof. If any are found to be leaking, a work order is submitted and work is conducted to repair or replace the gasket to ensure the network protector remains waterproof. In addition, Tampa Electric has replaced 14 network protectors located in areas at risk of flooding. Tampa Electric continues to remotely monitor the network protectors daily, address any issues that arise and visually inspects each unit at least once biannually.

The Tampa International Airport:

Tampa International Airport has been significantly expanding its infrastructure over the past few years. As a result, Tampa Electric has taken and continues to take the opportunity to put in place an electrical infrastructure to increase the reliability of the distribution system. These activities include the following:

- In 2009, installed 7.7 miles of new feeder cable to add three new distribution circuits from Tampa Bay Substation that is elevated higher than Skyway Substation where all six circuits once originated. This also

improved reliability to the airport by not having all six circuits originate from a single substation.

- In 2014 and 2015, Tampa Electric replaced two breakers with submersible breakers and replaced six older submersible breakers with new breakers. The company also Installed six submersible padmounted switchgear.
- In 2015 and 2016, Tampa Electric installed 20 submersible switchgears, two 1800 kVAR underground capacitor banks, 4.6 miles of underground feeder and added two additional circuits from two separate substations serving the airport for additional load needs. The company also replaced copper wire with fiber communications in the substation for the two new circuits.

Tampa Electric expects and plans for the expansion activities at the Tampa International Airport to continue. The company has a good operational relationship with the Tampa International Airport and will ensure the distribution system is hardened and supports the same design standard as above.

6. Why is the "Number Hardened" greater than "Total" for Concrete Foundation Remediation, Trans Ckt 230018 Remediation, and Circuit 230014 Remediation?

A. Tampa Electric interpreted the question as the "total" would be for the overlying project and the "number hardened" equaled the number of facilities that were actually hardened within the project. For example, the company had a concrete foundation remediation project in which eight foundations were hardened. This same interpretation was used to answer the question on the transmission circuit 230018 and circuit 230014 remediation.

7. Please provide the number of feeders hardened per year for each feeder project listed in TECO's response for the years 2010 through 2018.

A. The table below shows the number of feeders hardened per year for each feeder that was listed in the company response for the years 2010 and 2018:

Critical Infrastructure Feeders Hardened per Year		
Year	**Number of Feeders Hardened**	**Critical Infrastructure Served**
2010	**2**	**Port of Tampa - 1** **Saint Joseph's Hospital - 1**
2011	**0**	
2012	**0**	
2013	**2**	**City of Tampa Tippins Water Treatment Plant - 2**
2014	**0**	
2015	**0**	
2016	**0**	
2017	**0**	
2018	**0**	