

AUSLEY & McMULLEN

ATTORNEYS AND COUNSELORS AT LAW

123 SOUTH CALHOUN STREET
P.O. BOX 391 (ZIP 32302)
TALLAHASSEE, FLORIDA 32301
(850) 224-9115 FAX (850) 222-7560

September 24, 2013

HAND DELIVERED

RECEIVED-FPSC
13 SEP 24 PM 1:37
COMMISSION
CLERK

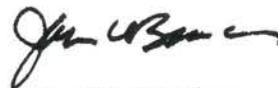
Ms. Melissa L'Amoreaux
Engineering Specialist
Division of Engineering
Florida Public Service Commission
Room 205J – Gerald L. Gunter Building
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Re: Petition for approval of 2013-2015 storm hardening plan, pursuant to Rule 25-6.0342, F.A.C., by Tampa Electric Company;
FPSC Docket No. 130138-EI

Dear Ms. L'Amoreaux:

Enclosed are Tampa Electric Company's responses to Staff's First Data Request (Nos. 1-21) that were contained in your August 29, 2013 letter to the undersigned.

Sincerely,



James D. Beasley

JDB/pp
Enclosure

cc: Mr. Clayton Lewis (w/enc.)
Ms. Penny Buys (w/enc.)
Ms. Julia Gilcher (w/enc.)
Ms. Ann Cole (w/enc.)

TAMPA ELECTRIC COMPANY
DOCKET NO. 130138-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 1
PAGE 1 OF 1
FILED: SEPTEMBER 16, 2013

1. Please refer to page 11 of the updated storm hardening plan.
 - a. Please state the dollar amount removed from the reserve for every named storm in 2012.
 - b. Has TECO experienced any storms affecting its service area for 2013?

- A.
 - a. For Tropical Storm Debbie, \$1,184,804 was charged against the storm reserve account. For Tropical Storm Isaac, \$1,015,395 was charged against the reserve.
 - b. For 2013 to date, Tampa Electric has not experienced any named storms affecting the service area.

TAMPA ELECTRIC COMPANY
DOCKET NO. 130138-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 2
PAGE 1 OF 1
FILED: SEPTEMBER 16, 2013

2. Please refer to page 13 of the updated storm hardening plan. Please explain why the standard for all new construction of distribution poles is wooden poles.
 - A. Although Tampa Electric uses a variety of pole materials including wood, concrete, steel and fiberglass, the company has determined that the Grade B construction with a wood pole is the most cost effective in most construction applications. The wood pole typically lasts for forty years and costs a fraction of what a comparable concrete, steel or fiberglass pole costs.

TAMPA ELECTRIC COMPANY
DOCKET NO. 130138-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 3
PAGE 1 OF 1
FILED: SEPTEMBER 16, 2013

3. Please refer to page 14 of the updated storm hardening plan. TECO indicates the use of the "PoleForeman" software. Please state if there have been any updates to this software and any cost associated with these updates.
 - A. Tampa Electric has typically received PoleForeman updates annually. The updates consist of updated framing standard plates and the inclusion of new material items. The annual fee for maintenance and support is \$22,200.

TAMPA ELECTRIC COMPANY
DOCKET NO. 130138-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 4
PAGE 1 OF 1
FILED: SEPTEMBER 16, 2013

4. Please refer to page 15 of the updated storm hardening plan. TECO states "Upgrading the material from mild steel to stainless steel or aluminum makes it more durable and typically extends equipment life after saltwater contamination."
 - a. Please state the number of upgrades performed in 2012 and planned for 2013, 2014, and 2015.
 - b. Please state the expected cost associated with these upgrades.

- A.
 - a. In 2012 Tampa Electric replaced 1,926 underground transformers, 104 switchgears and 12 load break cabinets. These types of equipment upgrades to stainless steel or aluminum occur as the company performs maintenance on the system. As such, there is no proactive equipment replacement planned for future years.
 - b. The 2012 cost for these upgrades totaled \$12,354,000.

TAMPA ELECTRIC COMPANY
DOCKET NO. 130138-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 5
PAGE 1 OF 1
FILED: SEPTEMBER 16, 2013

5. Please refer to page 17 of the updated storm hardening plan.
- a. Please state the number of relocations TECO has preformed for each year starting from 2010 to present.
 - b. What is the number of relocations TECO has planned for 2013, 2014, and 2015?
 - c. Please state the number of inquires regarding the relocation of overhead facilities from rear-lot locations to the front of customers' properties since 2010.
- A.
- a. Tampa Electric has not performed any relocations at the request of communities, homeowner associations or individual customers during the period from 2010 to present.
 - b. At this time, Tampa Electric does not have any relocations planned for 2013, 2014 or 2015.
 - c. Since 2010, inquiries for relocation of overhead facilities have primarily originated from the older south Tampa area of the company's service territory. The inquiries usually stem from a homeowner demolishing an older home and subsequently requesting to have electrical facilities relocated to the front of the property. The company has not kept "official records" on these types of inquiries. The inquiries are answered quickly and the relocations have not materialized due to the prohibitive cost to the customer or a rejection by the City of Tampa.

TAMPA ELECTRIC COMPANY
DOCKET NO. 130138-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 6
PAGE 1 OF 1
FILED: SEPTEMBER 16, 2013

6. Please refer to page 18 of the updated storm hardening plan.
- a. Please identify any CIF planned for 2013 -2015.
 - b. Please identify completed CIF projects from the last three years.
- A.
- a. The City of Tampa ("COT") Tippins Water Treatment plant will be storm hardened by the end of 2013. The plant is a primary source of water for the COT. The plant is relay customer served by two circuits. One circuit will be hardened to extreme wind loading and the other circuit will have its poles upgraded to ensure that current NESC Grade B construction is met. Portions of both circuits will be placed underground to minimize the possibility of damage from fallen trees. In addition, the two substations from which these circuits originate will have animal protection installed and breakers and relays replaced on the circuits feeding the plant.

Additionally, Tampa Electric is expected to complete its hardening activity for Tampa International Airport ("TIA") landside by September 2013. Currently, there are no other CIF storm hardening plans for 2014 or 2015.
 - b. The CIF projects that have been completed during the 2010-2012 period include The Port of Tampa and the Alafia River Crossing projects. The Port of Tampa serves 40 percent of Florida's petroleum needs. The project, designed to harden approximately six miles of transmission and distribution feeder to meet extreme wind requirements, was divided into three phases with the last phase being completed in early 2011. The Alafia River Crossing involved hardening four critical 230 kV transmission circuits across the Alafia River to 150 mph extreme wind standards. Three of these circuits provide the only direct connection between the company's Big Bend Power Station and primary load centers in Hillsborough County. The Alafia River Crossing project was completed in 2012.

TAMPA ELECTRIC COMPANY
DOCKET NO. 130138-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 7
PAGE 1 OF 1
FILED: SEPTEMBER 16, 2013

7. Please refer to page 21 of the updated storm hardening plan. Please describe in detail the two types of methodologies used to analyze pole strength.
- A. The ultimate strength analysis method for steel and prestressed concrete structures is designed using both NESC and Tampa Electric loading wherein the loads with any appropriate safety factors are compared with the yield strength of the material for steel and for concrete with the ultimate design strength of the structure. Wood structures are designed for NESC loading cases using the appropriate NESC over load capacity factors and material strength reduction factors for the material in the current NESC Code. They are also designed for Tampa Electric loading and checked against the fiber strength of the wood material.

The second alternative method for checking wood structures is referred to internally by Tampa Electric as the "working stress method". Wood structures can be checked using the NESC Code under which the structure was built. This involves utilizing the applicable over load capacity factors against the fiber strength of the wood material without any strength reduction factors.

TAMPA ELECTRIC COMPANY
DOCKET NO. 130138-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 8
PAGE 1 OF 1
FILED: SEPTEMBER 16, 2013

8. Please refer to page 22 of the updated storm hardening plan. Please identify the number of 230 kV facilities where 150 mph wind speed is applied.

- A. In 2012 the existing Alafia River crossing structures supporting four 230 kV circuits were replaced with monopole structures. The new monopole structures were designed to meet or exceed the NESC extreme wind loading requirement using 150 mph wind speed.

TAMPA ELECTRIC COMPANY
DOCKET NO. 130138-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 9
PAGE 1 OF 1
FILED: SEPTEMBER 16, 2013

9. Please refer to page 22 of the updated storm hardening plan. Please identify how often maintenance for substation and switchyards ranging from 13.2 to 230 kV are performed.
 - A. Each substation and switchyard that Tampa Electric owns is inspected three times per year. The inspection is designed to gather data on the operating equipment inside the facilities. Based upon data gathered during these inspections, the required maintenance on equipment (transformers, circuit breakers, switches) is performed. For example, the operations data of 69 kV breakers within the facilities are gathered each quarter and stored in the company's asset management system. Upon either 20 circuit breaker operations for system faults, 300 operations for switching or eight years of time, the asset management system will initiate a work order to perform and complete maintenance on the equipment.

TAMPA ELECTRIC COMPANY
DOCKET NO. 130138-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 10
PAGE 1 OF 1
FILED: SEPTEMBER 16, 2013

10. Please refer to page 22 of the updated storm hardening plan. Please state how many animal protection covers have been installed since 2010 and planned for 2013, 2014, and 2015.

A. The number of animal protection covers installed since 2010 and planned for 2013, 2014, and 2015 are as follows:

2010 – 11
2011 – 5
2012 – 7
2013 – 9
2014 – 8
2015 – 8

TAMPA ELECTRIC COMPANY
DOCKET NO. 130138-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 11
PAGE 1 OF 1
FILED: SEPTEMBER 16, 2013

11. Please refer to page 24 of the updated storm hardening plan. TECO states that the company "... has multiple transmission construction projects which have recently been completed or will be completed within the next three years."
- a. Please state each completed project and the cost associated with each project.
 - b. In addition, identify any future projects or project currently not completed, along with the estimated cost for each project.

- A. a. The completed projects and costs are listed below.

<u>Project</u>	<u>Cost (000)</u>
Sandhill Circuit 66656 Extension	\$ 476
Hampton to Alexander Circuit 66406 Rebuild	4,208
Davis 230kV Substation to Thonotosassa	24,268
Circuit 66051 T Ford – D. Mabry Rerate	471
Alafia River Rebuild	5,048
Big Bend to SR60 N 230kV Ckt.	8,241
SR60 to Woodberry 66035 Rerate	423

- b. Future projects or projects not completed and their estimated costs are listed below.

<u>Project</u>	<u>Cost (000)</u>
Circuit 66026 Rebuild	\$2,696
Foundation Remediation – 22 nd & Causeway	732
Circuit 66022 Juneau to Waters Rebuild	1,650
Circuit 66042 Clearview/Gray/Cypress Rebuild	4,700
Circuit 66032 Juneau to Pine Lake Rebuild	1,600

TAMPA ELECTRIC COMPANY
DOCKET NO. 130138-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 12
PAGE 1 OF 1
FILED: SEPTEMBER 16, 2013

12. Please refer to page 25 of the updated storm hardening plan.
- a. Please state the number of feeder and lateral lines TECO has in its service area.
 - b. Please state the number of feeder and lateral lines cleared for 2010-2012 and projected clearing for 2013-2015.
 - c. Please state for each year above the cost associated with clearing both feeder and lateral lines.
- A. Currently Tampa Electric has a total of 753 circuits comprised of feeder and lateral lines. The company only tracks its circuits by miles and not by the number of individual feeders and laterals associated with those circuits. Therefore, the information below is consistent with the reporting protocol used by the company in its reliability and hardening report filed on March 1 of each year.
- a. 2010 – Feeder: 1,797 Lateral: 4,591
2011 – Feeder: 1,697 Lateral: 4,616
2012 – Feeder: 1,710 Lateral: 4,591
2013 – Feeder: 1,710 Lateral: 4,591
2014 – Feeder: 1,710 Lateral: 4,591
2015 – Feeder: 1,710 Lateral: 4,591
 - b. 2010 – Feeder: 617 Lateral: 1,634
2011 – Feeder: 605 Lateral: 1,514
2012 – Feeder: 435 Lateral: 1,717
2013 – Feeder: 426 Lateral: 1,152
2014 – Feeder: 426 Lateral: 1,152
2015 – Feeder: 426 Lateral: 1,152
 - c. 2010 – \$12,375,631
2011 – \$10,525,432
2012 – \$7,980,303
2013 – \$7,866,643
2014 – \$8,261,622
2015 – \$8,468,163

TAMPA ELECTRIC COMPANY
DOCKET NO. 130138-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 13
PAGE 1 OF 1
FILED: SEPTEMBER 16, 2013

13. Please refer to page 27 of the updated storm hardening plan. Please provide the projected cost for 2014 and 2015 as it relates to groundline inspections.
 - A. The projected costs for the transmission groundline inspections for 2014 and 2015 are \$132,800 and \$136,100, respectively.

TAMPA ELECTRIC COMPANY
DOCKET NO. 130138-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 14
PAGE 1 OF 1
FILED: SEPTEMBER 16, 2013

14. Please refer to page 28 of the updated storm hardening plan.
- a. Please provide the total number of above ground inspections from 2010-2012 and the projected number of inspections for 2013-2015.
 - b. Please provide the cost for each year associated with this inspection.
- A.
- a. The total number of above ground inspections for 2010-2012 and projected for 2013-2015 are provided below.
 - 2010 – 3,865
 - 2011 – 2,843
 - 2012 – 1,035
 - 2013 – 5,199
 - 2014 – 5,103
 - 2015 – 5,103
 - b. The actual cost for above ground inspections for 2010-2012 and the projected cost for 2013-2015 are provided below.
 - 2010 – \$138,990
 - 2011 – \$104,636
 - 2012 – \$65,790
 - 2013 – \$268,200
 - 2014 – \$263,400
 - 2015 – \$270,000

TAMPA ELECTRIC COMPANY
DOCKET NO. 130138-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 15
PAGE 1 OF 1
FILED: SEPTEMBER 16, 2013

15. Please refer to the bottom of page 28 and the top of page 29 of the updated storm hardening plan. Please explain the maintenance database and how it prioritizes and manages required remediation.
- A. The maintenance database receives the information from the various inspections performed on the transmission system. This information includes the pole location, inspection date, transmission circuit number, GPS coordinates inspection date, priority, name of the inspector, name of the company performing the inspections, inspection type, work location, structure type, structure height, description of damage found and any additional comments helpful to the remediation process.

The remediation work is then scheduled by priority levels. The company uses three levels: P1, P2 and P3. A priority level of P1 consists of repairs that need to be made as soon as possible. When P1 damage is found, the inspector notifies Tampa Electric on the same day to facilitate immediate repairs. Repairs classified as a P2 are not immediately critical to the ongoing delivery of safe, reliable service and can be repaired within six months of the reporting of the inspection data. Finally, repairs classified as a P3 are added to the list of work to be completed at a future date. The P3 damage is generally repaired in chronological order starting with the oldest inspection data and ending with the most recent.

Once the remediation work is completed, each record is updated with the work request number, responsible engineer or technician, work request approval date, work completion date and whether the work was completed by a Tampa Electric crew or contractor crew.

Utilizing the above information the company can track the amount of work that has been completed, as well as what items remain to be completed.

TAMPA ELECTRIC COMPANY
DOCKET NO. 130138-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 16
PAGE 1 OF 1
FILED: SEPTEMBER 16, 2013

16. Please refer to page 29 of the updated storm hardening report. Please state the cost of the 775 structure replacements.
 - A. The projected cost for the 775 structure replacements is \$12.8 million.

TAMPA ELECTRIC COMPANY
DOCKET NO. 130138-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 17
PAGE 1 OF 1
FILED: SEPTEMBER 16, 2013

17. Please refer to page 30 of the updated storm hardening plan.
 - a. Please explain the schedule TECO is planning to test for the approximately eight network protectors per year in the 12 low-lying vaults.
 - b. Will this testing be performed annually?

- A.
 - a. Subsequent to filing its 2013-2015 Storm Hardening Plan, Tampa Electric reviewed the elevation of vaults in the downtown Tampa network area. This review identified eight below grade vaults instead of the twelve previously reported. On an annual basis, the company will inspect the protectors in those eight below grade vaults.
 - b. Yes, this testing will be performed annually.

TAMPA ELECTRIC COMPANY
DOCKET NO. 130138-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 18
PAGE 1 OF 1
FILED: SEPTEMBER 16, 2013

18. Please refer to page 31 of the updated storm hardening plan. Has any post-storm data collection or forensic analysis been completed since 2010?
- A. No. Although minimal damage occurred on Tampa Electric's system in 2012 due to Tropical Storms Debby and Isaac, the strength of those storms did not cause the level of damage necessary for the collection of meaningful system performance data through the company's established forensic analysis methodology. Concerning the company's post-storm data collection and forensic analysis readiness, each year Tampa Electric exercises a storm readiness drill to ensure preparedness in the event the service area is impacted by a major storm. Part of the preparedness drill incorporates a review of the post-storm data collection and forensic analysis procedures.

TAMPA ELECTRIC COMPANY
DOCKET NO. 130138-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 19
PAGE 1 OF 1
FILED: SEPTEMBER 16, 2013

19. Please refer to page 32 of the updated storm hardening plan. TECO stated it had implemented a two-phase project to feed approximately half of TIA' s load from Tampa Bay substation. In addition, the final phase was scheduled for completion by May 2013.
- a. Was this project completed?
 - b. What was the cost associated with this project?
- A.
- a. The final phase of the TIA project, landside conversion, was designed to install six network protectors. That final phase has commenced and is now scheduled for completion in September 2013.
 - b. The total projected cost for this project is \$3.8 million.

TAMPA ELECTRIC COMPANY
DOCKET NO. 130138-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 20
PAGE 1 OF 1
FILED: SEPTEMBER 16, 2013

- 20.** Please refer to page 33 of the updated storm hardening plan. Please state the completion date for the project serving the Port of Tampa. Please state the cost associated with this project.
- A.** The pilot hardening project for the Port of Tampa was conducted in three phases. The final completion date was January 2011 with an associated cost of \$3.2 million.

TAMPA ELECTRIC COMPANY
DOCKET NO. 130138-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 21
PAGE 1 OF 2
FILED: SEPTEMBER 16, 2013

21. Please complete the table below:

	ACTIVITY	ACTUAL/ESTIMATED COST					
		2010	2011	2012	2013	2014	2015
	8 YEAR WOODEN POLE INSPECTION PROGRAM						
	10 STORM HARDENING INITIATIVES						
1	A THREE YEAR VEGETATION MANAGEMENT CYCLE FOR DISTRIBUTION CIRCUITS						
2	AN AUDIT OF JOINT-USE ATTACHMENT AGREEMENTS						
3	A SIX YEAR TRANSMISSION STRUCTURE INSPECTION PROGRAM						
4	HARDENING OF EXISTING TRANSMISSION STRUCTURES						
5	TRANSMISSION AND DISTRIBUTION GIS						
6	POST-STORM DATA COLLECTION AND FORENSIC ANALYSIS						
7	COLLECTION OF DETAILED OUTAGE DATA DIFFERENTIATING BETWEEN THE RELIABILITY PERFORMANCE OF OVERHEAD AND UNDERGROUND SYSTEMS						
8	INCREASED UTILITY CORRDINATION WITH LOCAL GOVERNMENTS						
9	COLLABORATIVE RESEARCH ON EFFECTS OF HURRICANE WINDS AND STORM SURGE						
10	A NATURAL DISASTER PREPAREDNESS AND RECOVERY PROGRAM						
	TOTAL						
	ANY OTHER KEY ELEMENTS OR PROPOSED INITIATIVES						

TAMPA ELECTRIC COMPANY
DOCKET NO. 130138-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 21
PAGE 2 OF 2
FILED: SEPTEMBER 16, 2013

A.

ACTIVITY		ACTUAL/ESTIMATED COST (\$000)					
		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
8 YEAR WOODEN POLE INSPECTION PROGRAM		24,600	29,200	37,800	41,800	42,800	24,400
10 STORM HARDENING INITIATIVES							
1	A THREE-YEAR VEGETATION MANAGEMENT CYCLE FOR DISTRIBUTION CIRCUITS	13,100	11,600	8,800	8,500	9,000	9,200
2	AN AUDIT OF JOINT-USE ATTACHMENT AGREEMENTS	1	1	1	330	660	1
3	A SIX-YEAR TRANSMISSION STRUCTURE INSPECTION PROGRAM	1,400	1,500	1,100	1,100	1,100	1,200
4	HARDENING OF EXISTING TRANSMISSION STRUCTURES	200	600	700	600	600	600
5	TRANSMISSION AND DISTRIBUTION GIS	100	100	0	100	0	0
6	POST-STORM DATA COLLECTION AND FORENSIC ANALYSIS	0	0	0	0	0	0
7	COLLECTION OF DETAILED OUTAGE DATA DIFFERENTIATING BETWEEN THE RELIABILITY PERFORMANCE OF OVERHEAD AND UNDERGROUND SYSTEMS	0	0	0	0	0	0
8	INCREASED UTILITY COORDINATION WITH LOCAL GOVERNMENTS	16	18	32	33	33	33
9	COLLABORATIVE RESEARCH ON EFFECTS OF HURRICANE WINDS AND STORM SURGE	0	0	0	0	0	0
10	A NATURAL DISASTER PREPAREDNESS AND RECOVERY PROGRAM	400	400	400	400	400	400
TOTAL		\$39,817	\$43,419	\$48,833	\$52,863	\$54,593	\$35,834
ANY OTHER KEY ELEMENTS OR PROPOSED INITIATIVES							

Footnotes:

1. (for No. 2) Field audit of attachments scheduled for 2013-2014.
2. (for No. 6 & 7) No major storms have occurred; therefore no expenditures.
3. (for No. 9) Previous R&D efforts completed (underground model, wind monitoring stations and vegetation management workshop). Currently, no R&D work planned.