

Robert L. McGee, Jr.
Regulatory & Pricing Manager

One Energy Place
Pensacola, Florida 32520-0780

Tel 850.444.6530
Fax 850.444.6026
RLMCGEE@southernco.com

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FPSC - COMMISSION CLERK



July 13, 2016

Ms. Carlotta Stauffer
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee FL 32399-0868

Re: Docket No. 160108-EI – Petition for approval of 2016-2018 storm hardening plan, pursuant to Rule 25-6.0342, F.A.C., by Gulf Power Company

Dear Ms. Stauffer:

Attached is Gulf Power Company's response to Staff's First Data Request in the above-referenced docket.

Sincerely,

A handwritten signature in blue ink that reads "Robert L. McGee, Jr.".

Robert L. McGee, Jr.
Regulatory and Pricing Manager

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Attachments

cc w/att.: Beggs and Lane
Jeffrey A. Stone, Esquire
Division of Engineering
Penelope D. Buys

1. Referring to page 9, Joint-Use Pole Attachment Audits, since the joint-use attachment audit is on a five-year cycle, are all of the joint-use attachments inspected in one year or over five years?

RESPONSE:

The Joint-Use Pole Attachment Audit is conducted every five years, and the inspections are completed during that calendar year.

2. On page 10, Storm Hardening Activities for Transmission Structures, Gulf reports 355 cross-arm replacements left to be completed.
- Other than the cross-arm replacements, are there any other types of storm hardening activities for transmission structures?
 - Please complete the table below describing all transmission structure hardening projects. Please provide this information for the years 2007 through 2018.

	Total	Number Hardened	O&M Cost	Capital Cost	Total Cost
Project					
Project					

RESPONSE:

- Yes. Gulf Power will continue to perform the six year inspection cycle for transmission structures.
-

Project	Total	Number Hardened	O&M Cost	Capital Cost	Total Cost
2007-2009 Storm Guy wooden H-frame	770	770	\$0	\$2,100,000	\$2,100,000
2007-2009 Wooden Crossarm Replacement	774	774	\$0	\$4,024,800	\$4,024,800
2010 Storm Guy wooden H-frame	161	161	\$0	\$483,000	\$483,000
2010 Wooden Crossarm Replacement	163	163	\$0	\$847,600	\$847,600
2011 Storm Guy wooden H-frame	578	578	\$0	\$1,734,000	\$1,734,000
2011 Wooden Crossarm Replacement	232	232	\$0	\$1,206,400	\$1,206,400

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Project	Total	Number Hardened	O&M Cost	Capital Cost	Total Cost
2012 Storm Guy wooden H-frame	475	475	\$0	\$1,425,000	\$1,425,000
2012 Wooden Crossarm Replacement	382	382	\$0	\$1,986,400	\$1,986,400
2013 Wooden Crossarm Replacement	210	210	\$0	\$1,040,000	\$1,040,000
2014 Wooden Crossarm Replacement	200	200	\$0	\$2,850,000	\$2,850,000
2015 Wooden Crossarm Replacement	175	175	\$0	\$4,792,068	\$4,792,068
2016 Wooden Crossarm Replacement	203	203	\$0	\$5,000,000	\$5,000,000
2017 Wooden Crossarm Replacement	152	152	\$0	\$6,360,000	\$6,360,000

* Gulf does not break out the individual costs of hardening, so costs provided are estimated.

**From 2007 – 2009, Gulf did not break out the storm guy installations and crossarm replacements by year.

3. Referring to page 11, GIS, are all of Gulf's distribution and transmission systems inputted in Gulf's GIS databases?

RESPONSE:

Yes.

4. Referring to page 15, Gulf's Company Emergency Management Center, what are the private weather services that Gulf uses?

RESPONSE:

To ensure that it has accurate and reliable weather information when planning for weather events, Gulf Power contracts with two private weather services as part of its planning process: StormGeo and the Coastal Weather Research Center. Both companies provide localized information for the Gulf Coast and provide detailed, real-time data, warnings, and forecast electronically by Gulf Power operating district.

5. Referring to pages 17 through 18, Compliance with NESC in regards to Storm Hardening.
 - a. Please describe in detail how Gulf's distribution facilities meet current NESC requirements.
 - b. Please describe in detail how Gulf's transmission facilities meet current NESC requirements.
 - c. Please describe in detail how using ASCE 7 extreme wind loading criteria for structure design and selection for Gulf's substations meets current NESC requirements.

RESPONSE:

- a. Gulf's new distribution facilities are designed and constructed to meet current NESC requirements through the use of overhead and underground construction standards that meet, and often exceed, the minimum requirements in the NESC. Examples of some of these standards, specifically dealing with storm hardening, are included in Appendix 2 and 3 of Gulf's 2016-2018 Storm Hardening Plan. There are numerous specifications covering every aspect of Gulf's construction practices. These standards, along with applications such as PoleForeman, are used by Gulf's engineering and construction personnel to ensure Gulf meets the NESC standards and are updated, as needed, to comply with utility best practices and the latest code changes.
- b. All of Gulf's new transmission facilities are designed to comply with the current edition of the NESC. Existing facilities were designed with the NESC standards that were in effect at the time of their design. Rule 13B2 of the 2012 NESC edition states that existing facilities that comply with previous editions of the NESC are not required to be modified to meet the rules of the current edition.
- c. ASCE 7 is a standard for minimum design loads for buildings and other structures created by the American Society of Civil Engineering. This Standard provides means for determining gravity and environmental loads on structures. Gulf substation structures and foundations are designed based on the loading criteria set forth in ASCE 7, including Chapter 6 which addresses wind loads. Since ASCE 7-05 complies with and forms a part of the NESC, per Section 3 of the current NESC 2012 edition, the substations are meeting the latest requirements of NESC. One example of this correlation can be found in Figure 250-2(b) titled "Basic Wind Speed" on page 196 of the NESC

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2012 edition, which references ASCE 7-05 as the source on minimum design loads for buildings and other structures.

6. Referring to page 18, Adoption of Extreme Wind Loading Standards.
- a. What were the EWL pilot projects?
 - b. Has Gulf learned any lessons from the EWL pilot projects? Please explain your answer.
 - c. Referring to Appendix 1, if a service area district is located between two different wind zones, what wind zone is the service area system constructed to withstand?

RESPONSE:

- a. Interstate Crossings - Installed extra down guys to existing wooden poles to bring them to EWL standards.

Feeders Serving Critical Loads – Critical loads include hospitals, major sewage treatment plants and fuel depots. Depending on the feeder locations, Gulf piloted E-truss installations to existing poles, replaced wood poles with concrete poles and added extra down guys. These installations brought the feeder up to EWL standards.

Multi-feeder Pole Lines – In coastal areas serving critical loads, existing wooden poles were replaced with grade B concrete poles.

- b. No. Due to the lack of a major storm since Gulf's storm hardening plan was initiated in 2007, the EWL construction practices have not been tested.
- c. If a district service area encompasses two different wind zones as defined by the NESC standard, then that district would have multiple construction standards. Gulf would refer to its construction standards which are illustrated by Appendix 1 and are based on figure 250-2(d) of the NESC and construct each specific pole to the defined wind zone rating for that location.

7. Referring to pages 20 through 21, Additional Proposed Storm Hardening Initiatives.

- a. For the three different types of projects listed, please identify the areas where these projects have been completed and/or proposed.
- b. Please complete the table below describing all distribution hardening projects. Please provide this information for the years 2007 through 2018.

	Total	Number Hardened	O&M Cost	Capital Cost	Total Cost
Project					
Project					

RESPONSE:

- a. The three types of projects listed: Distribution Automation (DA), Automated Overhead Fault Circuit Indicators (FCIs) and Distribution Supervisory Control and Data Acquisition (DSCADA) are key components of Gulf's system automation plan and together are known in the industry as "Smart Grid". The DA and FCI devices are strategically installed in each of Gulf's three service areas (Western, Central and Eastern) from Pensacola to Panama City. Gulf uses the DSCADA system, which is located in Pensacola, to remotely monitor and operate these DA and FCIs devices in the field.

- b. The Additional Proposed Storm Hardening Initiatives were first introduced in the 2010-2012 Storm Hardening Plan filing. The implementation of the first DA and DSCADA projects started in 2010, whereas the first FCIs project start in 2012.

DA Project

Year	Recloser Total	Capacitor Bank Total	Number Hardened Poles ***	O&M Cost	Capital Cost	Total Cost
2010	65	0	65	Note**	Note**	\$3,990,831
2011	217	0	217	Note**	Note**	\$6,356,716
2012	94	0	94	Note**	Note**	\$4,070,853
2013	101	27	101	Note**	Note**	\$5,325,553
2014	93	29	93	Note**	Note**	\$3,569,347
2015	43	17	43	Note**	Note**	\$3,036,832
2016	57*	166*	57*	Note**	Note**	\$3,003,000
2017	28*	97*	28*	Note**	Note**	\$3,619,000
2018	TBD*	TBD*	TBD*	Note**	Note**	\$3,020,000

FCIs Project

Year	Total	Number Hardened Poles	O&M Cost	Capital Cost	Total Cost
2012	8	0	Note**	Note**	\$119,959
2013	11	0	Note**	Note**	\$165,265
2014	16	0	Note**	Note**	\$240,538
2015	5	0	Note**	Note**	\$71,427
2016	13*	0	Note**	Note**	\$195,000
2017	TBD*	0	Note**	Note**	\$107,000
2018	TBD*	0	Note**	Note**	\$111,000

DSCADA Project

This project is associated with the deployment of Smart Grid technologies on Gulf's distribution system. These technical systems include Distribution System Control and Data Acquisition (DSCADA), Distribution Management System (DMS) and Outage Management System (OMS). The DSCADA project includes the necessary infrastructure needed to operate each system. The infrastructure includes: system software, servers, Distribution Control Center computers and other equipment needed to operate these systems. These systems are key components to monitor Gulf's distribution system.

DSCADA Project

Year	Total	Number Hardened Poles	O&M Cost	Capital Cost	Total Cost
2010	N/A	N/A	Note**	Note**	\$209,605
2011	N/A	N/A	Note**	Note**	\$820,079
2012	N/A	N/A	Note**	Note**	\$1,283,511
2013	N/A	N/A	Note**	Note**	\$686,586
2014	N/A	N/A	Note**	Note**	\$691,873
2015	N/A	N/A	Note**	Note**	\$504,291
2016	N/A	N/A	Note**	Note**	\$639,000
2017	N/A	N/A	Note**	Note**	\$384,000
2018	N/A	N/A	Note**	Note**	\$31,000

* These are the estimated number of projects at this time. Gulf evaluates each project before engineering begins to determine the scope of each project. Based on the service areas' changing environment, the total number of projects and scope of the work may be modified for the 2016-2018 time frame.

** Gulf's budget and accounting systems do not separately categorize and track capital expenditures or Operating and Maintenance (O&M) expenses based upon a specific relationship to distribution reliability.

*** For every recloser installed, a poleforeman model was done to ensure the recloser was installed on a grade B pole. Multiple poles could have been changed out during each project, but Gulf did not capture this data.

8. Referring to page 21, Description of the Facilities Affected, including Technical Design Specification, Construction Standards and Construction Methodologies Employed for Distribution, please complete the table below describing critical infrastructure conversion to Grade B construction. Please provide this information for the years 2016 through 2018.

	Service Area	Total	Number Hardened	O&M Cost	Capital Cost	Total Cost
Project						
Project						

RESPONSE:

Years	Service Area	Total *	Number Hardened Poles *	O&M Cost	Capital Cost	Total Cost
2016	Western	6	150	Note**	Note**	\$375,000
	Central	2	50	Note**	Note**	\$125,000
	Eastern	6	150	Note**	Note**	\$375,000
2017	Western	5	125	Note**	Note**	\$312,500
	Central	3	75	Note**	Note**	\$187,500
	Eastern	5	125	Note**	Note**	\$312,500
2018	Western	5	125	Note**	Note**	\$312,500
	Central	3	75	Note**	Note**	\$187,500
	Eastern	5	125	Note**	Note**	\$312,500

* These are the estimated number of projects at this time. Gulf evaluates each project before engineering begins to determine the scope of each project. Based on the service areas changing environment, the total number of projects and scope of the work may be modified for the 2016-2018 time frame.

** Gulf's budget and accounting systems do not separately categorize and track capital expenditures or Operating and Maintenance (O&M) expenses based upon a specific relationship to distribution reliability.

9. Referring to page 23, Gulf's Estimate of Instrumental Cost and Benefits, Gulf reported that due to lack of data, it could not estimate the reductions in storm restoration cost and outages. Please provide any calculations, performed by Gulf, that estimate reductions in storm costs and outages that will result from storm hardening initiatives.

RESPONSE:

Since the implementation of storm hardening in 2007, there has not been a storm of significant magnitude that provides a valid set of data to calculate storm restoration cost and outage impacts. Therefore, Gulf has not performed any calculations that estimate reduction in storm costs and outages. While Gulf has been very active with its storm hardening initiatives since 2007, only a very small percentage of Gulf's distribution system has been constructed using the higher Grade B or EWL standards. Given the amount of Gulf's system that has been constructed using the higher Grade B or EWL standards, Gulf believes that there could be a reduction in storm cost of up to 1%.

10. Referring to page 24, Seeking Input from Attachers.

- a. Did Gulf receive any comments from third-party attachers?
- b. If yes, please provide a summary of the comments received and any updates to Gulf's plan to address the concerns raised by the attachers.

RESPONSE:

- a. Gulf did not receive any comments from third-party attachers concerning the proposed 2016-2018 Storm Hardening Plan.
- b. Not applicable.

Activity (1 & 2)	Any change from current plan (Y/N)	Actual Cost									Estimated Cost									
		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	N	\$382,390	\$1,665,123	\$2,047,513	\$742,371	\$1,620,515	\$2,362,886	\$327,923	\$1,497,852	\$1,825,775	\$475,905	\$1,806,000	\$2,281,905	\$475,905	\$1,873,000	\$2,348,905	\$475,905	\$1,940,000	\$2,415,905	
10 Storm Hardening Initiatives																				
1	A Three-Year Vegetation Management Cycle for Distribution Circuits	N	\$5,593,000	\$0	\$5,593,000	\$5,930,277	\$0	\$5,930,277	\$5,271,390	\$0	\$5,271,390	\$5,948,707	\$0	\$5,948,707	\$5,948,840	\$0	\$5,948,840	\$5,948,978	\$0	\$5,948,978
2	An Audit of Joint-Use Attachment Agreements	N	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$500,000	\$0	\$0	\$0	\$0	\$0	\$0
3	A Six-Year Transmission Structure Inspection Program	N	\$112,785	\$0	\$112,785	\$355,748	\$0	\$355,748	\$194,717	\$0	\$194,717	\$238,398	\$0	\$238,398	\$242,140	\$0	\$242,140	\$246,054	\$0	\$246,054
4	Hardening of Existing Transmission Structures	N	\$0	\$1,040,000	\$1,040,000	\$0	\$2,850,000	\$2,850,000	\$0	\$4,792,068	\$4,792,068	\$0	\$5,000,000	\$5,000,000	\$0	\$6,360,000	\$6,360,000	\$0	\$0	\$0
5	Transmission and Distribution GIS	N	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6	Post-Storm Data Collection and Forensic Analysis	N	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
7	Collection of Detailed Outage Data Differentiating Between the Reliability Performance of Overhead and Underground Systems	N	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
8	Increased Utility Coordination with Local Governments	N	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9	Collaborative Research on Effects of Hurricane Winds and Storm Surge	Y	\$31,059	\$0	\$31,059	\$30,059	\$0	\$30,059	\$31,059	\$0	\$31,059	\$32,000	\$0	\$32,000	\$32,000	\$0	\$32,000	\$32,000	\$0	\$32,000
10	A Natural Disaster Preparedness and Recovery Program	N	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Totals			\$5,736,844	\$1,040,000	\$6,776,844	\$6,316,084	\$2,850,000	\$9,166,084	\$5,497,166	\$4,792,068	\$10,289,234	\$6,219,105	\$5,000,000	\$11,719,105	\$6,222,980	\$6,360,000	\$12,582,980	\$6,227,032	\$0	\$6,227,032
Any Other Key Elements or Proposed Initiatives																				
Distribution Hardening			\$195,313	\$3,135,030	\$3,330,343	\$309,175	\$3,493,848	\$3,803,023	\$177,621	\$3,021,952	\$3,199,573	\$213,148	\$3,527,463	\$3,740,611	\$215,227	\$3,634,344	\$3,849,571	\$217,423	\$3,753,726	\$3,971,149
Preventative Capital Maintenance			\$0	\$281,291	\$281,291	\$0	\$290,876	\$290,876	\$0	\$176,672	\$176,672	\$0	\$186,000	\$186,000	\$0	\$193,000	\$193,000	\$0	\$200,000	\$200,000
Distribution Automation			\$0	\$6,177,404	\$6,177,404	\$0	\$4,501,758	\$4,501,758	\$0	\$3,612,550	\$3,612,550	\$0	\$3,745,000	\$3,745,000	\$0	\$4,110,000	\$4,110,000	\$0	\$3,162,000	\$3,162,000

Notes:

- 1) Cost associated with Items 5, 7, 8, and 10 are a part of normal business, included in other budgets, and not broken out as storm hardening.
- 2) For Item 6 there has not been a major event to trigger a data collection.

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 Attachment A