

Susan D. Ritenour  
Secretary and Treasurer  
and Regulatory Manager

One Energy Place  
Pensacola, Florida 32520-0781

Tel 850.444.6231  
Fax 850.444.6026  
SDRITENO@southernco.com



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COMMISSION  
CLERK

Ms. Ann Cole, Commission Clerk  
Florida Public Service Commission  
2540 Shumard Oak Boulevard  
Tallahassee, FL 32399-0850

Dear Ms. Cole:

Re: Docket No. 120075-EI

Enclosed are the original and five copies of Gulf Power Company's responses to Staff's First Data Request in the Underground Residential Differential docket.

Please call if you have any questions.

Sincerely,

mw

Enclosures

COM \_\_\_\_\_  
AFD \_\_\_\_\_  
APA \_\_\_\_\_  
ECO 4 \_\_\_\_\_  
ENG \_\_\_\_\_  
GCL 1 \_\_\_\_\_  
IDM \_\_\_\_\_  
TEL \_\_\_\_\_  
CLK \_\_\_\_\_

cc: Beggs & Lane  
Jeffrey A. Stone, Esq.  
Florida Public Service Commission  
Ralph Jaeger, Senior Attorney

DOCUMENT NUMBER-DATE

04874 JUL 20 12

FPSC-COMMISSION CLERK

1. Please explain why the high density subdivision per lot differential charge has increased from \$263 to \$427, showing the change in each component with an explanation why the change occurred.

RESPONSE:

The differential amounts presented in question no. 1 are for the Low Density (210 Lot) Subdivision. The predominant increase in the amount of \$100 is associated with changing the operating cost basis to cost per conductor foot. Detail of the component differences between the 2010 and 2012 filings for the Low Density (210 Lot) Subdivisions is shown in the table below.

**TYPICAL SUBDIVISION COMPARISON (APRIL 2010 FILING VERSUS APRIL 2012 FILING)**

**LOW DENSITY (210 LOT)**

LINE #	OVERHEAD			UNDERGROUND		
	2010	2012	CHANGE	2010	2012	CHANGE
	(a)	(b)	(c) = (b) - (a)	(d)	(e)	(f) = (e) - (d)
MATERIAL = (1)	\$575	\$615	\$40	\$848	\$935	\$87
LABOR = (2)	\$951	\$1,086	\$135	\$1,171	\$1,323	\$152
SUBTOTAL = (3)	\$1,526	\$1,701	\$175	\$2,019	\$2,258	\$239
OPERATING COST = (4)	\$949	\$509	(\$440)	\$719	\$379	(\$340)
TOTAL = (5)	\$2,475	\$2,210	(\$265)	\$2,738	\$2,637	(\$101)
DIFFERENTIAL						
LINE #	2010	2012	CHANGE			
	(g) = (d) - (a)	(h) = (e) - (b)	(i) = (h) - (g)			
MATERIAL = (6)	\$273	\$320	\$47			
LABOR = (7)	\$220	\$237	\$17			
SUBTOTAL = (8)	\$493	\$557	\$64			
OPERATING COST = (9)	(\$230)	(\$130)	\$100			
TOTAL = (10)	\$263	\$427	\$164			

Notes:

Columns (b), (e) and (h)	Page 4 of the March 31, 2010 Filing.
Columns (a), (d) and (g)	Page 4 of the March 30, 2012 Filing.
Column (i) Line (6)	Higher percentage increase for underground base material was the predominant cost change.
Column (i) Line (7)	Higher underground labor requirements led to slight increase with rising prices.
Column (i) Line (9)	Changing basis to cost per conductor foot lowered cost (See responses to Item Nos. 8 and 12 for Details).

DOCUMENT NUMBER-DATE

04874 JUL 20 02

FPSC-COMMISSION CLERK

2. Please explain why the low density subdivision per lot differential charge has increased from \$259 to \$458, showing the change in each component with an explanation why the change occurred.

RESPONSE:

The differential amounts presented in question no. 2 are for the High Density (176 Lot) Subdivision. The predominant increase in the amount of \$145 is associated with changing the operating cost basis to cost per conductor foot. Detail of the component differences between the 2010 and 2012 filings for the High Density (176 Lot) Subdivisions is shown in the table below.

**TYPICAL SUBDIVISION COMPARISON (APRIL 2010 FILING VERSUS APRIL 2012 FILING)**  
**HIGH DENSITY (176 LOT)**

	LINE #	OVERHEAD			UNDERGROUND		
		2010	2012	CHANGE	2010	2012	CHANGE
		(a)	(b)	(c) = (b) - (a)	(d)	(e)	(f) = (e) - (d)
MATERIAL =	(1)	\$470	\$506	\$36	\$661	\$717	\$56
LABOR =	(2)	\$715	\$819	\$104	\$948	\$1,086	\$138
SUBTOTAL =	(3)	\$1,185	\$1,325	\$140	\$1,609	\$1,803	\$194
OPERATING COST =	(4)	\$737	\$258	(\$479)	\$572	\$238	(\$334)
TOTAL =	(5)	\$1,922	\$1,583	(\$339)	\$2,181	\$2,041	(\$140)
DIFFERENTIAL							
	LINE #	2010	2012	CHANGE			
		(g) = (d) - (a)	(h) = (e) - (b)	(i) = (h) - (g)			
MATERIAL =	(6)	\$191	\$211	\$20			
LABOR =	(7)	\$233	\$267	\$34			
SUBTOTAL =	(8)	\$424	\$478	\$54			
OPERATING COST =	(9)	(\$165)	(\$20)	\$145			
TOTAL =	(10)	\$259	\$458	\$199			

Notes:

Columns (b), (e) and (h)	Page 10 of the March 31, 2010 Filing.
Columns (a), (d) and (g)	Page 10 of the March 30, 2012 Filing.
Column (i) Line (6)	Higher percentage increase for underground base material was the predominant cost change.
Column (i) Line (7)	Higher underground labor requirements led to slight increase with rising prices.
Column (i) Line (9)	Changing basis to cost per conductor foot lowered cost (See responses to Item Nos. 8 and 12 for Details).

3. The 2010 filing included sales tax with cost of materials -- is sales tax included in the cost of materials in the 2012 filing? If not, why?

RESPONSE:

Yes.

4. The 2010 filing included Stores Handling at 13% of all material (less meters and transformers) -- is the same percentage used in the 2012 filing? If not, what percentage is used and why?

RESPONSE:

The 2012 filing includes a Stores Handling rate of 4%. This rate is based on the average monthly handling charges incurred during calendar year 2011.

5. Please explain why the Engineering and Staff adder was changed from 44% in the 2010 filing to 42% in the 2012 filing.

RESPONSE:

The 2012 filing Engineering and Staff "E&S" adder is based on 2011 E&S overheads included with 2011 construction. The adder decreased 2% in part because the actual 2011 E&S construction overheads were 1.3% lower than the 2010 E&S construction overheads and the actual cost of construction for 2011 was up 3.8% compared to 2010.

6. Operating expenses in the 2010 filing were based on 1-year's data, and in the 2012 filing are based on an average of 3-years data -- please explain why this change was made and its impact on the differential charges.

RESPONSE:

FPSC Rule 25-6.078 Schedule of Charges requires that average historical costs be included in the derivation. After obtaining 3 years of operational cost records pursuant to accounting measures required by the rule, the improved methodology uses a 3 year average of operating cost, which reduces the volatility of swings between years. The table below identifies the impacts of utilizing operating cost based on 2009, 2010, 2011 and the average of 2009 – 2011. Comparison of these years show that the 2011 operating cost is lower than the 3 year average, whereas the 2009 and 2010 operating cost are higher than the 3 year average.

DESCRIPTION	DIFFERENTIAL
210 Lot with 2009 Operating Cost =	\$450
176 Lot with 2009 Operating Cost =	\$469
210 Lot with 2010 Operating Cost =	\$451
176 Lot with 2010 Operating Cost =	\$471
210 Lot with 2011 Operating Cost =	\$381
176 Lot with 2011 Operating Cost =	\$434
210 Lot with 2009 - 2011 Avg Operating Cost =	\$427
176 Lot with 2009 - 2011 Avg Operating Cost =	\$458

7. For each of the O&M categories listed in the table on page 15 of the 2012 filing, please explain what caused the increase or decrease as compared to the 2010 filing.

RESPONSE:

Utilizing a 3 year average of historical operating expense captures important program expenditures that may cross years and makes sure that trend variations are included. The table below compares this 3 year average used with the 2012 filing, to the 2010 filing which was based on 1 year of data and does not include the effect of escalation.

<u>OPERATIONS &amp; MAINTENANCE CATEGORY</u>	<u>2012 FILING</u>	<u>2010 FILING</u>
<b>ENGINEERING &amp; SUPERVISION 'E&amp;S' OVERHEADS</b> E&S labor & overheads were lowered starting with 2009 business.	\$6,936,255	\$8,514,945
<b>INSTALL &amp; REMOVE OVERHEAD TRANSFORMERS</b> Overhead Transformer Operations work increased slightly with averaging.	\$614,620	\$519,048
<b>OVERHEAD LINES - OTHER OPERATION EXPENSES</b> Mainline Equipment Inspection emphasis, along with increased Switching & Patrolling.	\$2,169,697	\$1,687,598
<b>INSTALL &amp; REMOVE UNDERGROUND TRANSFORMERS</b> Underground Transformer operations have decreased with averaging.	\$244,909	\$359,412
<b>UNDERGROUND LINES - OTHER OPERATION EXPENSES</b> Underground General Expenses have been static.	\$657,209	\$672,253
<b>MISCELLANEOUS DISTRIBUTION EXPENSES</b> General Expenses are almost static with escalation.	\$3,930,370	\$3,648,684
<b>OVERHEAD LINE CLEARING</b> Vegetation Management has increased (Hardening Initiative).	\$5,028,590	\$3,720,193
<b>OVERHEAD LINE MAINTENANCE</b> Overhead Line Maintenance on Mainline Equipment has increased.	\$4,957,217	\$3,994,986
<b>POLE LINE INSPECTION/MAINTENANCE EXPENSES</b> Pole Line Maintenance has increased (Hardening Initiative).	\$953,651	\$532,624
<b>OVERHEAD STORM EXPENSE</b> Overhead Storm Restoration Expenses are almost static, slight decrease.	\$675,302	\$681,317
<b>UNDERGROUND LINE MAINTENANCE</b> Underground Line Maintenance repair needs have increased.	\$2,266,304	\$1,783,054
<b>UNDERGROUND STORM EXPENSE</b> Underground Storm Restoration Expenses were identified within the 3 year review.	\$11,298	\$0
<b>OVERHEAD LINE TRANSFORMER MAINTENANCE</b> Overhead Transformer Maintenance has been almost static, slight increase.	\$704,887	\$675,101
<b>UNDERGROUND TRANSFORMER MAINTENANCE</b> Underground Transformer Maintenance has consistently averaged less.	\$66,864	\$80,777



8. Referring to the assumptions and calculations used to determine the cost multipliers, please explain why:
  - a. O&M Expense is being calculated differently in the 2012 filing as compared to the 2010 filing.
  - b. O&M Annual Escalation Percent was changed from 2.00% in the 2010 filing to 2.30% in the 2012 filing.

RESPONSE:

- a. The 2012 O&M expense is based on the net present value of the average 2009-2011 historical operating expenses as a function of total feeder conductor lengths, detailed separately for underground and overhead facilities.

The 2010 O&M expense was based on the 2008 operating expenses as a function of total investment (Fixed Charge Rate Method), detailed separately for underground and overhead facilities.

In 2011, Gulf Power performed an analysis to identify the drivers of O&M cost and determined that the most equitable method of allocating O&M cost for residential and conversion projects is based on the length of conductor. Distribution O&M cost are primarily required to repair and maintain conductors and their connections. Therefore, conductor length is a more appropriate basis for allocating operating cost.

- b. Annually, internal guidance is provided in regard to various financial assumptions to be used in performing financial analyses. The escalation rate used in the 2012 filing reflects the assumptions in effect at the time the 2012 filing was prepared. Likewise, the 2010 filing incorporated the assumptions in effect at the time it was prepared.

9. Please explain how the Indirect Operating Cost Multiplier was derived in the 2012 filing and how the calculation and inputs may differ from the 2010 filing.

RESPONSE:

The 2012 filing's Indirect Operating Cost Multiplier (Factor) derivation utilizes the same base formulae as the overhead and underground lines cost factors. The 2012 filing's Indirect Operating Cost Factor is the net present value of the average 2009-2011 historical indirect operating expenses as a function of total feeder conductor lengths.

The 2010 filing's Indirect Operating Cost Multiplier (Factor) derivation utilized the same base formulae as the overhead and underground lines cost factors. The Indirect Operating Cost Factor included in the 2010 filing's O&M expense value was based on the 2008 operating expenses as a function of total investment.

Input Changes:

<b>2012 Indirect Operating Cost Multiplier Assumptions</b>		<b>2010 Indirect Operating Cost Multiplier Assumptions</b>	
Revenue Requirements Life	32	Revenue Requirements Life	32
O&M Expense Per Conductor Feet (\$10,866,625 / 68,499,522 = 15.864 Cents/Ft)	\$0.15864	O&M Expense as a % of Investment (\$12,163,629 / \$833,600,589 = 1.459%)	1.459%
O&M Annual Escalation Percent	2.30%	O&M Annual Escalation Percent	2.00%
Discount Rate	7.07%	Discount Rate	7.92%
<b>Calculation of Indirect Operating Cost Multiplier</b>		<b>Calculation of Indirect Operating Cost Multiplier</b>	
O&M Cumulative PV	\$ 180,892,102	O&M Cumulative PV	\$ 178,353,917
divided by:		divided by:	
Year-End 2011 System Conductor Feet	68,499,552	2008 Capital Investment	\$ 833,600,589
PV Operating Cost Factor	<b>2.64078</b>	PV Operating Cost Factor	<b>0.21396</b>

10. How was the amount of conductor feet determined?

RESPONSE:

Conductor distances are determined by taking the circuit mile lengths and expanding into single-phase, two-phase and three-phase portions for each circuit. After expansion the measure is changed to conductor miles and then is converted to conductor feet. Detail of the calculations describing how conductor feet are determined is shown in the table below:

Year-End 2011 Circuit Miles and Conductor Feet Summary

Distribution Lines Category =	Underground			Overhead		
	Length of Single Phase portion of the Feeder Circuit	Length of 2 Phase portion of the Feeder Circuit	Length of 3 Phase portion of the Feeder Circuit	Length of Single Phase portion of the Feeder Circuit	Length of 2 Phase portion of the Feeder Circuit	Length of 3 Phase portion of the Feeder Circuit
Description	(a)	(b)	(c)	(d)	(e)	(f)
<b>Line #</b>						
(1) Distance (Circuit Miles) =	1,309.9	103.2	398.0	3,454.5	524.0	1,920.2
(2) Conductor (Phasing) =	1	2	3	1	2	3
(3) Distance (Conductor Miles) <sup>(I)</sup> =	1,309.9	206.4	1,194.0	3,454.5	1,048.0	5,760.6
(4)	2,710.3			10,263.1		
(5) Distance (Conductor Feet) <sup>(II)</sup> =	6,916,272	1,089,792	6,304,320	18,239,760	5,533,440	30,415,968
(6)	14,310,384			54,189,168		
(7)	68,499,552					

Notes:

- (I) Distance (Conductor Mi.) Example:  $c3 = c1 \times c2 = 398.0 \text{ circuit miles} \times 3 \text{ phases} = 1,194 \text{ conductor miles}$
- (II) Distance (Conductor Ft) Example:  $c5 = c3 \times 5,280 = 1,194 \text{ conductor mi.} \times 5,280 \text{ ft / mi.} = 6,304,320 \text{ conductor ft}$

11. Is the discount rate of 7.07% a pre-tax or after-tax rate?
- Was the 7.07% rate the approved discount rate in the last rate case? If not, why should the 7.07% rate be used instead of the approved rate?
  - Please show how the 7.07% discount rate was derived.

RESPONSE:

- No, the 7.07% discount rate applied in this filing is not the weighted average cost of capital approved in Gulf's last rate case. The discount rate of 7.07% is an after-tax weighed average cost of capital utilized in an internal financial analysis tool to evaluate life cycle revenue requirements over a future period of time. This discount rate reflects Gulf's current authorized rate of return on common equity of 10.25% on a pre-tax basis along with the other two external sources of capital, long-term debt and preferred securities. The debt and preferred security cost rates are estimates of marginal cost rates and are typically revised each year to reflect current conditions in the capital markets. This tool has been the source for the discount rate used in Gulf's previous underground residential differential filings.
- The 7.07% discount rate was derived as shown below.

Cost of Capital Calculation

	Capital Ratio (A)	Pre Tax Capital Cost (B)	Weighted Cost (C)	After Tax Capital Cost (@ 38.575%) (D)
Debt	50.00%	6.80%	3.40%	2.09%
Preferred Securities	5.00%	7.30%	0.37%	0.37%
Common Equity	45.00%	10.25%	4.61%	4.61%
Total	100.00%		8.38%	7.07%

Column C = Column A x Column (B)  
Column D<sub>Debt</sub> = Column C x (1 - Tax Rate)

12. To the extent not addressed in a prior response:
- please identify and explain any design changes to the low and high density subdivisions since the 2010 filing and describe their impact on the differential charges.
  - please identify and explain any changes to the overhead and underground operating cost multipliers since the 2010 filing and describe their impact on the differential charges.

RESPONSE:

- There have been no design changes since the 2010 filing.
- The operating cost multiplier methodology described in Item 8 impacts the charge calculations by lowering the per unit operating cost for both overhead and underground, which are detailed in the table below:

**APRIL 2012 FILING**

Line #	DESCRIPTION	OVERHEAD (a)	UNDERGROUND (b)	OPERATING COST DIFFERENTIAL (c) = (a) - (b)
(1)	210 Lot Conductor Feet =	14,685	12,405	
(2)	176 Lot Conductor Feet =	6,235	6,528	
(3)	PV Operating Cost Factor (Cost/ Conductor Ft) =	7.28062	6.41737	
(4)	210 Lot Operating Cost <sup>(I)</sup> =	\$509	\$379	\$130
(5)	176 Lot Operating Cost <sup>(II)</sup> =	\$258	\$238	\$20

NOTES:

- (I) 210 Lot Operating Cost Example:  $a4 = (a1 * a3) / 210 = (14,685 \text{ Ft} * \$7.28062/\text{FT}) / 210 \text{ Lots} = \$509$   
(II) 176 Lot Operating Cost Example:  $a5 = (a2 * a3) / 176 = (6,235 \text{ Ft} * \$7.28062/\text{FT}) / 176 \text{ Lots} = \$258$

**APRIL 2010 FILING**

DESCRIPTION	OVERHEAD (d)	UNDERGROUND (e)	OPERATING COST DIFFERENTIAL (f) = (d) - (e)
(6) 210 Lot Construction Cost Per Unit =	\$1,526	\$2,019	
(7) 176 Lot Construction Cost Per Unit =	\$1,185	\$1,609	
(8) PV Operating Cost Factor (% of Construction Cost) =	0.62184	0.35591	
(9) 210 Lot Operating Cost <sup>(III)</sup> =	\$949	\$719	\$230
(10) 176 Lot Operating Cost <sup>(IV)</sup> =	\$737	\$572	\$165

NOTES:

- (III) 210 Lot Operating Cost Example:  $d9 = (d6 * d8) = (\$1,526/\text{Lot} * 0.62184) = \$949$   
(IV) 176 Lot Operating Cost Example:  $d10 = (d7 * d8) = (\$1,185/\text{Lot} * 0.62184) = \$737$