

BEFORE THE  
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 110138-EI

TESTIMONY AND EXHIBIT  
OF  
MICHAEL L. BURROUGHS

COM \_\_\_\_\_  
APA \_\_\_\_\_  
ECR \_\_\_\_\_  
GCL \_\_\_\_\_  
RAD \_\_\_\_\_  
SSC \_\_\_\_\_  
ADM \_\_\_\_\_  
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04663 JUL-8 =  
FPSC-COMMISSION CLERK

1 GULF POWER COMPANY

2 Before the Florida Public Service Commission  
3 Prepared Direct Testimony of  
4 Michael L. Burroughs  
5 Docket No. 110138-EI  
6 In Support of Rate Relief  
7 Date of Filing: July 8, 2011

8 Q. Please state your name and business address.

9 A. My name is Michael L. Burroughs. My business address is One Energy  
10 Place, Pensacola Florida, 32520.

11 Q. What is your position?

12 A. I am Vice President of Gulf Power Company (Gulf or the Company) with  
13 responsibility for Power Generation, and in that capacity I am Senior  
14 Production Officer.

15 Q. What are your responsibilities as Vice President of Power Generation and  
16 Senior Production Officer?

17 A. I am responsible for Power Generation, Fuel, Supply Side Renewable  
18 Development and Generation Planning. This includes responsibilities for  
19 all of Gulf's wholly owned and jointly owned plants and all power purchase  
20 agreements.

21 Q. Please state your prior work experience and responsibilities.

22 A. I was hired by Alabama Power Company in 1991 as a Junior Engineer at  
23 Plant Barry in Mobile, Alabama. I progressed through various positions  
24

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1 until I transferred to Gulf, assuming the role of Planning and Engineering  
2 Manager at Plant Smith in Panama City, Florida in 1999. During the  
3 following eight years, I held positions of Maintenance Manager as well as  
4 Compliance and Engineering Manager. In May 2006, I was selected to be  
5 the Assistant to the Executive Vice President and Chief Production Officer  
6 of Southern Company Generation and Alabama Power Company. In  
7 September 2007, I was named Plant Manager of Yates Generating Plant  
8 in Newnan, Georgia with Georgia Power Company. I assumed my current  
9 position as Vice President of Power Generation and Senior Production  
10 Officer of Gulf Power in August 2010.

11

12 Q. What is your educational background?

13 A. I graduated with a Bachelor of Science degree in Mechanical Engineering  
14 from the University of Alabama – Birmingham in 1990.

15

16 Q. What is the purpose of your testimony?

17 A. My testimony discusses Gulf's generation resources used and useful in  
18 the provision of electric service to our customers. My testimony also  
19 addresses the operation of Gulf's Power Generation Fleet, including  
20 Production Safety Performance and Plant Performance. My testimony  
21 explains Gulf's Production capital additions, Operation & Maintenance  
22 (O&M) expense and fuel inventory levels necessary for Gulf's continued  
23 provision of reliable generation. My testimony explains and justifies Gulf's  
24 decision to purchase a generating unit site that preserves a  
25 prospective nuclear plant option for Gulf's customers. Finally, my

1 testimony sets forth Gulf's approach to renewable generation. Gulf  
2 Witness Grove provides more detail regarding Gulf's generation  
3 resources, Production investment, Production O&M expenses and the  
4 resource planning process.

5

6 Q. Are you sponsoring any exhibits?

7 A. Yes. I am sponsoring Exhibit MLB-1, Schedules 1 through 8. Exhibit  
8 MLB-1 was prepared under my direction and control, and the information  
9 contained therein is true and correct to the best of my knowledge and  
10 belief.

11

12 Q. Are you sponsoring any of the Minimum Filing Requirements (MFRs)  
13 submitted by Gulf?

14 A. Yes. A list of MFRs I sponsor or co-sponsor is included on Schedule 1 of  
15 my Exhibit MLB-1. The information contained in the MFRs I sponsor or  
16 co-sponsor is true and correct to the best of my knowledge and belief.

17

18

19

## I. GULF'S GENERATION RESOURCES

20

21 Q. Please describe Gulf's generating resources.

22 A. Gulf generates or purchases electricity from a diverse group of resources,  
23 including: (a) units owned solely by Gulf; (b) units owned jointly with other  
24 Operating Companies within the Southern Electric System (SES); (c) units  
25 in the SES available to Gulf through the SES Intercompany Interchange

1 Contract (IIC); and (d) units available to Gulf under power purchase  
2 agreements (PPAs). The fuels used for the generation resources  
3 available to Gulf include coal, oil, natural gas, landfill gas and municipal  
4 solid waste.

5  
6 Q. Please describe the generation forecasted to be owned, operated and  
7 used by Gulf Power Company to serve its retail customers in 2012.

8 A. Exhibit MLB-1, Schedule 2 provides a list of the units owned and operated  
9 or co-owned by Gulf. With the exception of the new Perdido landfill gas-  
10 to-energy facility (Perdido), which was placed in service in October of  
11 2010, all of these generating facilities were included in Gulf's rate base in  
12 its last rate case proceeding, and most of their O&M expenses were  
13 considered in computing Gulf's net operating income in Gulf's last rate  
14 case.

15  
16 Q. Please briefly describe the Perdido facility.

17 A. The Perdido facility has two 1.6 megawatt (MW) generators connected to  
18 internal combustion engines that burn landfill methane gas as their fuel.  
19 Gulf submitted a bid for the purchase of methane gas from the landfill in  
20 August 2008. The project began commercial operation in October 2010.  
21 The investment in the Perdido project will be in service in 2012 and will be  
22 used and useful in providing electric service to Gulf's customers. The  
23 associated O&M expenses will be necessary and reasonable to provide

24  
25

1 retail electric service to Gulf's customers. Mr. Grove will provide a  
2 discussion of the analysis used to develop the Perdido project.

3

4 Q. What PPAs will Gulf have in place and use to provide electric service in  
5 2012?

6 A. Schedule 3 of Exhibit MLB-1 provides a list of the power purchase  
7 resources available to Gulf during 2012 and information regarding the  
8 fuels and technologies used by these generating resources. Mr. Grove,  
9 who is responsible for Gulf's planning process and who assisted in the  
10 negotiation of these contracts, will discuss these contracts in detail in his  
11 testimony. All of these agreements have been approved by the Florida  
12 Public Service Commission (FPSC or the Commission).

13

14 Q. Other than the environmental capital projects addressed through Gulf's  
15 Environmental Cost Recovery Clause (ECRC), what major changes have  
16 been made to Gulf's generation resources since Gulf's last base rate  
17 proceeding?

18 A. Since Gulf's last rate case, Gulf retired Units 1, 2, and 3 at Plant Crist,  
19 added four PPAs, and added the Perdido project. Mr. Grove will provide a  
20 detailed discussion of each of these items.

21

22 Q. What effect have the changes in your generation resources had on Gulf's  
23 customers?

24 A. The retirement of Units 1, 2, and 3 at Plant Crist reduced Gulf's reserve  
25 margin by 80 MW. However, there was no discernable impact related to

1 energy production, since these units had very high operating costs and  
2 were not routinely run. Each of the four PPAs that were added since the  
3 last rate case provides benefits to Gulf's customers in the form of capacity,  
4 energy and fuel diversity. In addition, these contracts avoided capital  
5 investments for additional generating capacity that Gulf would have  
6 otherwise been required to construct to reach an acceptable capacity  
7 reserve margin. Lastly, the Perdido project was constructed at or below  
8 avoided cost and has a neutral cost impact on our customers. In addition,  
9 Perdido is a renewable resource that enhances fuel diversity and has a  
10 positive environmental impact.

## 11 12 13 **II. GULF'S PRODUCTION SAFETY PERFORMANCE**

14  
15 Q. Please address Production safety at Gulf Power.

16 A. Safety is the first priority for every employee at Gulf Power. Safety is a  
17 core value, and it is our desire that we work every day and every job  
18 safely. The overall objective of our safety program is zero accidents.

19  
20 The Power Generation organization is very proud of our safety record.  
21 For the ten-year period ended 2010, Power Generation experienced only  
22 28 Occupational Safety and Health Administration (OSHA) recordable  
23 incidents, with Plant Scholz having experienced no recordable incidents  
24 for over ten years. This compares favorably with the ten-year period  
25 ending 1990, when Power Generation experienced 255 recordable

1 incidents, or to the ten-year period ending in 2000, when Power  
2 Generation experienced 162 recordable incidents. Over the course of the  
3  
4 last two decades, Gulf's Power Generation Safety record has improved by  
5 89 percent.

6  
7 Gulf's Production safety performance has not only improved internally but  
8 also compares favorably with the industry. Since 2003 Gulf's OSHA  
9 Recordable Incident Rate (RIR) has been 0.77 compared to the industry  
10 average RIR of 1.596. Stated differently, Gulf's RIR has been 51.74  
11 percent better than the industry for the period 2003 through 2010.

12  
13 Gulf's remarkable improvement in safety performance in Power  
14 Generation is shown graphically on Exhibit MLB-1, Schedule 4. The  
15 success we have experienced is driven by our philosophy that  
16 management at Gulf will provide an environment where we send every  
17 employee home every day as healthy as when they reported to work. This  
18 provides benefits to our employees and our customers through greater  
19 productivity.

20  
21  
22 **III. GULF'S PLANT PERFORMANCE**

23  
24 Q. Please address the performance of Gulf Power's power plants since Gulf's  
25 last base rate proceeding.

1 A. Gulf uses a number of indicators to measure the performance of its  
2 units/plants. They include Equivalent Availability Factor (EAF), heat rate,  
3 Equivalent Forced Outage Rate (EFOR) (both annual and peak season),  
4 and OSHA recordable incidents. Both EAF and heat rate are tracked in  
5 the Commission's Generation Performance Improvement Factor (GPIF)  
6 program. Gulf considers heat rate and EFOR to be the primary indicators  
7 of efficiency and reliability, respectively, and uses them to evaluate the  
8 effectiveness of our planned outage and maintenance programs.

9

10 Q. What does EFOR measure?

11 A. EFOR measures a generating unit's inability to provide electricity when  
12 dispatched and is the primary tool used by Gulf to track unit reliability.  
13 EFOR is reported in terms of the hours when a generating unit could not  
14 deliver electricity as a percentage of all the hours during which that unit  
15 was called upon to deliver electricity. Our customers directly benefit from  
16 Gulf's efforts to minimize EFOR. Whenever a generating unit is forced off  
17 line, the energy lost must be replaced, which often increases fuel expense  
18 recovered through the fuel clause. Gulf focuses maintenance and outage  
19 planning efforts to ensure our units do not experience forced outages and  
20 instead remain available for economic dispatch to meet the needs of our  
21 customers.

22

23 Q. What is economic dispatch?

24 A. Economic dispatch is the process of dispatching units based on cost. Gulf  
25 has units committed and on line to serve existing load in addition to

1 spinning reserves. The spinning reserves are units that are on line  
2 (running at less than full load) to support the loss of another unit in the  
3 event a unit is forced off line. Spinning reserves are a critical part of  
4 ensuring the reliability of the system. As customer demands increase,  
5 Gulf commits additional resources to serve those demands. As customer  
6 demands decrease, Gulf takes the highest cost units off line first.  
7 Economic dispatch is designed to ensure the customers receive the  
8 benefits of the least cost units, that is, the units with the lowest  
9 incremental operating costs.

10  
11 Q. Why is it important to ensure units are available for economic dispatch?

12 A. By dispatching the least-cost units first, Gulf ensures our customers  
13 receive the lowest cost resources. This is why it is critical to maintain a  
14 low EFOR, particularly in the peak months. Whenever a low cost unit is  
15 forced off line, the replacement energy will likely be more expensive, and  
16 this impacts our customers through higher fuel costs.

17  
18 Q. What EFOR measures does Gulf track, and why?

19 A. Gulf tracks both Annual EFOR and Peak Season EFOR. Plant  
20 performance goals are set around Peak Season EFOR. This is the period  
21 from May 1 through September 30 each year when the demand for  
22 electricity is the highest.

23  
24  
25

1 Q. What is a heat rate?

2 A. Heat rate is a measure of a unit's ability to convert fuel to energy. It is a  
3 measure of the amount of fuel required to generate a kilowatt hour (kWh).  
4 The lower a unit's heat rate, the more efficiently it converts fuel to energy.  
5

6 Q. Please address why EFOR and heat rate performance are important to  
7 customers.

8 A. Again, EFOR is a measure of a unit's reliability. A low EFOR ensures that  
9 the lowest cost units are producing electricity when called upon to meet  
10 the demands of customers. Also, maintaining a low EFOR ensures that  
11 units are available to make wholesale power sales when opportunities  
12 arise. This results in a reduced fuel cost to our retail customers since  
13 more than 80 percent of the gain from these sales is applied as a credit to  
14 fuel expense. As discussed earlier in my testimony, heat rate is an  
15 efficiency measure. The lower the heat rate, the less fuel consumed to  
16 generate electricity. The customer benefits by paying less in fuel costs  
17 and having lesser amounts of fuel required in inventory.  
18

19 Q. What are the Annual and Peak Season EFOR for Gulf's generating units?

20 A. Exhibit MLB-1, Schedule 5 shows Gulf's Annual and Peak Season EFOR.  
21

22 Q. How does Gulf's EFOR compare to others in the industry?

23 A. As shown on Schedule 5, Gulf's Annual and Peak EFOR performances  
24 compare extremely favorably with peer utilities. Schedule 5, pages 1  
25 and 2 show graphically how Gulf's actual Annual and Peak Season EFOR

1 compare to the peer group averages from 2002 through 2009.  
2 Schedule 5, pages 3 and 4 show where Gulf's actual average  
3 performance for the same period compares to each of the peer utilities.  
4 Gulf's results are exceptional, despite three major hurricane events that  
5 impacted our plants. Gulf's excellent performance is indicative of a well  
6 managed organization, with great employees, all committed to serving our  
7 customers.

8  
9 Q. What is the source of the data Gulf has used to compare its EFOR  
10 performance to that of other utilities?

11 A. Gulf obtained Annual and Peak Season EFOR data from the North  
12 American Electric Reliability Council (NERC). This data became available  
13 approximately 12 to 15 months after the end of 2009 and is the latest data  
14 currently available. Gulf participates in a NERC benchmark analysis with  
15 19 comparable utilities that have a minimum of 4,000 MW of generation  
16 excluding nuclear.

17  
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19 **IV. GULF POWER'S PRODUCTION INVESTMENT**

20  
21 Q. Gulf Witness McMillan shows a total of \$2.6 billion of plant in service  
22 investment in Gulf's 2012 rate base in this case. Other witnesses have  
23 testified that these costs are properly recorded consistent with the Uniform  
24 System of Accounts and generally accepted accounting principles. Are  
25

1 the Production assets associated with these costs used and useful in the  
2 provision of electric service to the public?

3 A. Yes. The Production assets, which comprise a total of \$1,043,349,000 of  
4 plant in service in Gulf's 2012 rate base in this case, are used and useful  
5 in Gulf's provision of electric service.

6  
7 Q. Were these Production costs reasonably and prudently incurred?

8 A. Yes. They were incurred pursuant to our capital budget process as  
9 discussed in Mr. Grove's testimony. These Production investments are  
10 also subject to cost controls used to govern budgeted expenditures. The  
11 investment in Production plant is reasonable, prudent and necessary to  
12 ensure continued excellent reliability.

13  
14 Q. What is Gulf's projected Production capital additions budget for 2011 and  
15 2012, excluding Plant Scherer and environmental projects recovered  
16 through the ECRC?

17 A. Gulf Power Company's Production non-ECRC capital additions budget for  
18 2011 is \$68,334,000 and for 2012 is \$43,738,000.

19  
20 Q. Are the Production capital additions, excluding ECRC, for 2012 reflective  
21 of the level of capital additions for the five-year budget cycle that began in  
22 2011?

23 A. No, they are markedly lower. The amount of Production capital additions  
24 projected in the 2012 test year is conservative when compared to the five-

25

1 year budget cycle. Mr. Grove will provide a summary of major capital  
2 expenditures for 2011 and 2012.

3  
4  
5 **V. GULF'S 2012 PRODUCTION O&M BUDGET**

6  
7 Q. What is Gulf's Production O&M budget for 2012?

8 A. Gulf's Production O&M budget of \$110,888,000 for 2012 is set forth on  
9 Schedule 6 of my exhibit.

10  
11 Q. Is Gulf Power's projected level of Production O&M expenses of  
12 \$110,888,000 million in 2012 reasonable and prudent?

13 A. Yes.

14  
15 Q Is Gulf Power's projected level of Production O&M expenses of  
16 \$110,888,000 in 2012 representative of a going forward level of  
17 Production O&M expenses beyond 2012?

18 A. Yes. Schedule 7 clearly shows the dollars requested in 2012 are  
19 representative of expenses expected through our current budget period  
20 (2011 through 2015).

21  
22 Q. Please explain your conclusion that Gulf Power's projected level of  
23 Production O&M expense of \$110,888,000 for 2012 is reasonable and  
24 prudent.

25

1 A. As addressed by Mr. Grove in more detail, Gulf's 2012 projected level of  
2 Production O&M expenses is the result of a rigorous multi-level budgeting  
3 process, and these O&M expenses are subjected to demanding cost  
4 control programs.

5  
6 Unlike Gulf's 2012 Production capital additions budget, which is lower than  
7 2010 or 2011, Gulf's 2012 Production O&M expense has risen relative to  
8 historical expenses. As Mr. Grove explains in detail in his testimony, this  
9 is necessary. In 2009 and 2010, Gulf responded to the economic  
10 downturn and held Production O&M expenses below budgeted levels in  
11 an effort to forestall a base rate increase. While appropriate at the time,  
12 these temporary reductions cannot be sustained over the long term. More  
13 Production O&M dollars have to be spent in 2012 and future years to  
14 avoid a predictable decline in the unit reliability.

15  
16 Mr. Grove's testimony addresses in detail the numerous drivers of  
17 Production O&M cost escalation and justifies Production O&M benchmark  
18 variances.

19

20

21

## VI. GULF'S 2012 FUEL INVENTORY

22

23 Q. What recovery amount is Gulf requesting for total fuel inventory, including  
24 fuel stock and in-transit fuel?

25

1 A. Gulf is requesting a total fuel inventory of \$86,804,000 to be included in its  
2 2012 rate base. This includes \$76,086,000 for fuel stock and \$10,718,000  
3 for in-transit fuel.

4

5 Q. How does the request for \$86,804,000 in inventory compare to the  
6 inventory levels since the last rate case?

7 A. Exhibit MLB-1, Schedule 8 clearly shows that since 2005, Gulf's inventory  
8 levels have exceeded the inventory level in working capital allowed in  
9 Gulf's last rate case. In fact, since 2008 the inventory levels have been at  
10 least twice the amount allowed in the prior rate case.

11

12 Q. Please describe Gulf's coal inventory policy.

13 A. Gulf's policy is to maintain coal inventory levels sufficient to safeguard  
14 against disruptions in supply, inconsistencies in delivery of coal due to  
15 weather conditions and other factors affecting the coal transportation  
16 sector. Coal inventory levels for each generating plant are evaluated, and  
17 targets are established based on a number of factors such as: plant  
18 specific coal handling and storage limitations; market intelligence on coal  
19 supply availability; coal transportation/logistics information; and the  
20 historical perspective obtained through considerable experience in coal  
21 stockpile management in the Southern Company fuel organization.  
22 Collectively, the Operating Companies of the Southern Company are  
23 among the largest coal consumers in the nation and have a long history of  
24 successfully operating coal fired generating plants.

25

1           These established coal stockpile targets are further evaluated using the  
2           Utility Fuel Inventory Model (UFIM) developed by the Electric Power  
3           Research Institute and the electric utility industry. The UFIM model  
4           evaluates, among other factors, the economic cost of not being able to  
5           serve customer load if coal inventory is depleted and the economics  
6           associated with being forced to procure coal and/or replacement energy in  
7           the spot market during periods when coal supply is disrupted compared to  
8           the financial costs associated with carrying various levels of coal  
9           inventory. The economic cost results derived from the UFIM model runs  
10          are then evaluated along with specific plant coal logistics issues and other  
11          coal market inputs to determine the most economical target plant coal  
12          inventory level for a specific plant.

13  
14          Once the target coal inventory levels are validated, they are formally  
15          approved by the Vice President of Power Generation for use as an input  
16          into the SES fuel budgeting model, FUELPRO, to develop a fuel cost of  
17          generation budget for all plants in the SES. The fuel burn derived from the  
18          hourly load dispatch of each generating unit in the SES fleet and the  
19          current fuel price forecast for each fuel type, including transportation rates,  
20          are also inputs to the FUELPRO model. The output of FUELPRO is a fuel  
21          budget for each plant, which includes monthly fuel purchases, burn and  
22          ending inventory expressed in units of measure (quantity), total dollars,  
23          and dollars per unit. For the test year the coal inventory evaluation  
24          resulted in inventory targets for Gulf's barge-served coal fired plants of

25

1 approximately 40 normal full load (NFL) burn days and for Gulf's rail-  
2 served plants (excluding Scherer), a range from 20 to 40 NFL burn days.

3

4 Q. What is a normal full load (NFL) burn day?

5 A. A NFL burn day is the normal maximum consumption of fuel at a specific  
6 generating facility over a 24 hour period. Normal maximum consumption  
7 does not include output maximums that can be achieved for short periods  
8 by using supplemental firing to operate at "full pressure" on traditional  
9 steam and combined cycle units. The use of NFL burn days allows for the  
10 expression of inventory units in common terms so that fuel inventories of  
11 generating plants with various capacity sizes and capacity factors can be  
12 compared on an "apples to apples" basis. A NFL burn day is calculated  
13 by multiplying the total daily energy output (in kilowatt hours or kWh) of a  
14 generating plant by the weighted average heat rate (British Thermal Units  
15 per kWh or BTU/kWh) of the units at that generating plant. Both the total  
16 daily energy output and the unit heat rates are determined by actual plant  
17 performance measurements over a period of time. The resulting  
18 calculated BTUs per day are then converted to standard units for each fuel  
19 type such as tons for coal and gallons or barrels for oil. This method  
20 explicitly recognizes Gulf's heat rate performance in establishing its  
21 required fuel inventory levels.

22

23 Q. How does the current coal inventory policy compare to the policy used in  
24 Gulf's last case?

25 A. There is no change in coal inventory policy from Gulf's last rate case.

1 Q. Based on this policy, what is Gulf's forecasted coal inventory level for the  
2 test year?

3 A. For all Gulf plants (excluding Scherer), the 13 month average of the  
4 monthly ending coal inventory levels, not including in-transit coal, for the  
5 test year, is a stockpile of 693,196 tons (\$67,958,000) or 34 days NFL  
6 burn supply. This compares to a total of 695,829 tons (\$26,800,000) or 36  
7 days NFL burn supply allowed in the last rate case. The increase in coal  
8 inventory value (dollars) is due to an increase in the delivered market price  
9 of coal since the last rate case.

10

11 Q. The Commission previously established a generic fuel inventory guideline  
12 in Order No. 12645 in Docket No. 830001-EU which may apply if a utility  
13 fails to justify its own inventory policy. For coal inventory, that guideline is  
14 90 days projected burn plus base coal volumes. How does Gulf's  
15 requested coal inventory target expressed in NFL burn days compare to  
16 the same quantity of coal expressed in projected burn days?

17 A. Gulf's requested coal inventory target for the test year expressed in  
18 projected burn days is 64 days, which is less than the Commission  
19 approved 90 day burn guideline.

20

21 Q. How does the average unit cost of coal inventory compare to the amount  
22 used in Gulf's last rate case?

23 A. In Gulf's last rate case, the weighted average unit cost of coal in inventory  
24 was \$38.51 per ton. Since the last rate case the market prices of coal and  
25 coal transportation have increased significantly. The current weighted

1 average unit cost of coal used to project the total cost of Gulf coal  
2 inventory in the test year is \$98.04 per ton. The increase in the market  
3 price of coal is due to a general decline in coal supply combined with  
4 higher worldwide market demands for coal (primarily from developing  
5 nations), higher production costs associated with domestic coal mining,  
6 and higher rail and barge transportation rates charged by coal shippers.

7  
8 Q. Why does Gulf include an amount in working capital for in-transit coal  
9 inventory?

10 A. Gulf pays its coal suppliers upon loading of the coal into Gulf's  
11 transportation equipment at the coal supplier's originating facility.  
12 Therefore, capital is invested in coal that has not yet been received at the  
13 destination generating plants. A major portion of Gulf's coal supply is  
14 delivered by rail and ship (import sources) to an intermediate coal  
15 blending/transfer facility located in Mobile, Alabama and then by barge to  
16 the Crist and Smith generating plants. A considerable amount of time is  
17 involved in the process of transporting coal from the origin mine to the  
18 intermediate blending and barge loading location and then transporting the  
19 coal to the final destination plant stockpile. This investment in coal that is  
20 in-transit should be included in the working capital component of Gulf's  
21 rate base.

22  
23 Q. How does the amount for in-transit coal you have included in your request  
24 for working capital compare to the amount included in the previous rate  
25 case?

1 A. The amount of in-transit coal included in the 2012 test year fuel inventory  
2 request is \$10,718,000. This compares to roughly \$13,000,000 included  
3 in Gulf's last rate case. The decrease is due to a reduction in the average  
4 quantity of coal that is projected to be in-transit during the test year.  
5

6 Q. What is Gulf's natural gas inventory forecast for the test year?

7 A. Gulf's policy is to maintain a certain portion of its natural gas requirements  
8 in storage to provide for pipeline balancing and natural gas supply  
9 interruptions caused by pipeline and compressor station failures,  
10 hurricanes, well freezes, etc. Gas storage for balancing is necessary to  
11 avoid penalties imposed by pipelines for large swings in daily and hourly  
12 demands when the generating unit is economically dispatched or when  
13 other sudden changes, like plant outages, cause a swing in demand.  
14 Currently, for Smith Unit 3, a target inventory level of approximately ten  
15 NFL burn days supply, or 835,702 MCF (thousand cubic feet), has been  
16 set. Gulf has included \$4,759,000 in working capital for gas storage.  
17

18 Q. How does this target natural gas inventory compare to the approved  
19 inventory from the last case?

20 A. There is no change in natural gas inventory target from Gulf's last rate  
21 case.  
22

23 Q. How does the average unit cost of natural gas inventory compare to the  
24 amount used in the last rate case?  
25

1 A. In the last rate case the average unit cost of natural gas in inventory was  
2 \$2.21 per MCF. Since the last rate case the market price of natural gas  
3 has increased due to higher demand, primarily from the electric generating  
4 sector. The current average unit cost of natural gas used to project the  
5 total cost of Gulf natural gas inventory in the test year is \$5.69 per MCF.  
6

7 Q. What is Gulf's forecast distillate oil inventory level for the test year?

8 A. Gulf's projected distillate oil inventory level, including both lighter oil and  
9 combustion turbine generating fuel, for the test year (excluding Scherer) is  
10 49,850 barrels. An amount of \$3,370,000 has been included in working  
11 capital for distillate oil inventory.  
12

13 Q. How does this distillate oil inventory request compare to the oil inventory  
14 amount approved in Gulf's last rate case?

15 A. The amount of distillate oil inventory included in the last rate case was  
16 16,105 barrels, which was primarily for lighter oil inventory. Since the last  
17 rate case Gulf has executed three PPAs in which Gulf has the fuel supply  
18 responsibility. While the units associated with these PPAs are primarily  
19 natural gas fired, Gulf is including combustion turbine generating fuel oil in  
20 the 2012 test year inventory amount to allow for the continued operation of  
21 these PPA generating units during times of natural gas supply disruption.  
22 Natural gas supply is typically disrupted during periods of high demand for  
23 natural gas when incremental gas pipeline transportation is unavailable.  
24 Gulf will maintain an oil inventory level that will allow the PPA units to  
25 operate at full load for approximately 30 hours.

1 Q. How does the average unit cost of distillate oil inventory compare to the  
2 amount used in the last rate case?

3 A. In Gulf's last rate case, the average unit cost of distillate oil in inventory  
4 was \$30.23 per barrel. Since the last rate case the market price of  
5 distillate oil has increased due to higher worldwide demand for all oil  
6 products. The current average unit cost of distillate oil used to project the  
7 total cost of Gulf's distillate oil inventory in the 2012 test year is \$67.60 per  
8 barrel.

9  
10

11

## VII. LAND HELD FOR FUTURE USE

12

13 Q. Please explain Gulf's approach to land held for future use.

14 A. As part of its normal, ongoing planning processes, Gulf Power evaluates a  
15 variety of generation resources to meet future needs. Prudence dictates  
16 that Gulf consider all viable technology types that have the potential to  
17 provide the greatest benefit to customers with regard to economy and  
18 reliability. This broad technology evaluation has implications in Gulf's  
19 approach to land held for future use. It provides no value to the customer  
20 to have a broad evaluation of resources in the resource planning process  
21 if land is unavailable for some of the options being considered. Thus, in  
22 order for Gulf to fully consider all types of resource options, we must make  
23 appropriate investments in land that would support any or all of those  
24 options.

25

1 Q. Have Gulf's recent generating resource additions required the use of Gulf  
2 owned power plant sites?

3 A. No. As Mr. Grove discusses in detail, Gulf has had some unique  
4 opportunities related to our most recent generation additions. Neither  
5 Gulf's 2009 to 2014 PPAs nor the recent agreement with Shell Energy  
6 North America (SENA) required use of a Gulf-owned plant site. As a  
7 result of the PPA with SENA, Gulf's next planned addition for capacity as  
8 reflected in our most recent Ten Year Site Plan is in 2022. One of the  
9 many benefits provided by this agreement is the flexibility it provides from  
10 a planning perspective.

11

12 Q. How has this planning flexibility served Gulf's customers?

13 A. The primary benefit of that planning flexibility has been Gulf's ability to  
14 avoid having to commit to specific generation technologies during a time  
15 of high uncertainties associated with potential environmental  
16 requirements. There are major environmental initiatives being proposed  
17 that could change the face of the electric utility industry. Regulations  
18 regarding greenhouse gases emissions, hazardous air pollutants (HAPS  
19 MACT), coal combustion byproducts, ozone, particulate matter, industrial  
20 boilers and water intake structures are all in various stages of the  
21 regulatory process. Gulf's prospective need for new generation may not  
22 be limited to just system growth, but could involve the retirement of  
23 existing resources driven by regulatory changes. These potential  
24 environmental regulatory requirements could drive new generation  
25 additions.

1

2

Over the past several years Gulf has had to consider many different scenarios related to the potential impacts of carbon legislation, other pending environmental regulatory proposals and fluctuating fuel prices.

3

4

5

Although there are many uncertainties, it is clear that there are situations

6

in which nuclear could be a cost-effective solution for meeting our long-

7

term generation additions. For instance, Florida's 2008 Energy and

8

Climate Change Action Plan identified nuclear as a means to reduce

9

imported fossil fuel, diversify the state's fuel supply and reduce

10

greenhouse gas emissions. Gulf Power agrees with this assessment and

11

believes that nuclear technology is a viable option that benefits customers

12

under a range of scenarios.

13

14

Q. What has Gulf done to preserve a potential nuclear option for its

15

customers?

16

A. For all generation technologies, the pool of potential sites is limited. This

17

is especially true of nuclear technology for which there are significantly

18

greater technical requirements to fulfill before a site can be considered

19

suitable.

20

21

In order to preserve the option of meeting future capacity needs with

22

nuclear generation, Gulf began the process of evaluating potential nuclear

23

sites in Northwest Florida. Gulf performed exploration across the region

24

and investigated multiple locations in Northwest Florida to determine sites

25

suitable for nuclear technology. This search was an exhaustive effort that

1 included site specific assessment of geology, geotechnical factors,  
2 seismic conditions, water supply, transmission, transportation, topography,  
3 environmental factors, emergency planning issues, land availability and  
4 other factors.

5  
6 Gulf considered over two dozen unique locations across our service area.  
7 A subset of these were actively drilled and evaluated for subsurface  
8 conditions to determine those that could potentially meet the geological  
9 requirements as well as water requirements for a potential nuclear site.

10

11 After careful evaluation, Gulf identified a site in North Escambia County as  
12 the only suitable site for a nuclear plant; this site is also suitable for other  
13 generation technologies such as coal, gas, or renewable. The site is in  
14 relative proximity to transmission, natural gas pipelines, railroad, major  
15 highways and access to water, all suitable to meet new generation needs.  
16 An additional consideration was the potential number of individuals and  
17 home owners impacted by our purchase of their land. This site had only  
18 35 property owners, some of whom owned multiple properties. By far the  
19 largest portion of the land was held by timber companies.

20

21 Gulf made the decision to begin the process of procuring this site, and at  
22 the end of 2012 we will have procured 100 percent. The site is 4,000  
23 acres and includes property located directly on the Escambia River to  
24 support the water supply needs for any future generating facility. Gulf has  
25 included \$27,687,000 for this site in land held for future use in the 2012

1 test year rate base. Mr. McMillan discusses in detail the accounting and  
2 amount to be included in land held for future use associated with this site.

3  
4 Gulf's decision to purchase land as a site suitable for new generation,  
5 including possible nuclear generation, is reasonable, prudent and  
6 necessary to continue to provide our customers with the most cost-  
7 effective generating resources in the future.

8

9 Q. Please describe any other land held for future generating sites.

10 A. Gulf currently has two additional sites being held as potential future  
11 generating sites:

12 (1) Approximately 2,200 acres of property in Holmes County, Florida  
13 (Caryville) with a book value of \$1,356,000.

14 (2) Approximately 250 acres of property in Walton County, Florida  
15 (Mossy Head) with a book value of \$296,000.

16

17 Q. Please discuss the value the Caryville site provides to Gulf's customers.

18 A. Caryville is certified under the Power Plant Siting Act and remains one of  
19 the few suitable sites in Northwest Florida for a steam electric generating  
20 plant to meet Gulf's future generation needs. Gulf's customers benefit by  
21 having a certified site ready for use when new generation is needed. The  
22 geological and other site work which was previously completed will be  
23 utilized when a unit is built in the future. It should be noted that Caryville  
24 was evaluated for nuclear and determined not to be viable for that option.  
25 The Commission agreed with Caryville's inclusion in rate base as plant

1 held for future use in Docket Nos. 800001-EI, 810136-EU, 820150-EU,  
2 840086-EI, 891345-EI, and 010949-EI.

3  
4 Q. Please discuss the value the Mossy Head site provides to Gulf's  
5 customers.

6 A. The Mossy Head site is uniquely located in Walton County in close  
7 proximity to both natural gas transportation and transmission. The site  
8 was purchased in 1998 and 1999 as a potential future site for simple cycle  
9 combustion turbines. Mossy Head was included as plant held for future  
10 use in Gulf's prior rate case and was approved in Docket No. 010949-EI.

11  
12  
13 **VIII. RENEWABLE GENERATION**

14  
15 Q. Since Gulf's last rate case, the Legislature has passed statutes  
16 encouraging the development of renewable energy within Florida. What  
17 has Gulf Power's approach been to encouraging renewable generation?

18 A. Renewable energy continues to be an important topic in Florida and  
19 across the nation. Gulf receives inquiries concerning potential providers  
20 of renewable energy on a regular basis. Recognizing the importance of  
21 minimizing the upward pressure on rates charged to customers, Gulf has  
22 chosen not to pursue projects in excess of avoided costs. Gulf will  
23 continue this policy until there are clearer rules or requirements. It should  
24 be noted that Gulf has successfully added renewable generation at or

1 below avoided cost through its PPA with the Bay County municipal solid  
2 waste facility and its Perdido landfill gas-to-energy facility.

### 3 4 5 **IX. CONCLUSION**

6  
7 Q. Please summarize your testimony.

8 A. Gulf maintains and operates a diverse set of generation resources  
9 designed to serve our customers economically and reliably. Gulf has  
10 made sound generation planning decisions that are clearly in the best  
11 interest of our retail customers.

12  
13 At a time when customer demand has increased, Gulf's Production  
14 operation has continued to provide low cost, reliable electricity to our  
15 customers. The reliability of Gulf's generating units and low EFOR are  
16 clear indications that Gulf has executed an effective maintenance program  
17 that continues to provide our customers with reliable service. Gulf is  
18 committed to maintaining our generating facilities through the effective use  
19 of resources that focuses not only on reliability but also efficiency.

20  
21 Gulf's Production O&M expenses are carefully controlled and incurred in a  
22 manner to ensure high availability. The \$110,888,000 budgeted for  
23 Production O&M in the test year is reasonable, prudent, and necessary,  
24 and it is representative of the levels of costs that will continue to be  
25 incurred in the future when new rates resulting from this case are in effect.

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Gulf's Production capital additions are also carefully controlled and are designed to ensure high availability of our generating units. The \$43,738,000 budgeted for Production capital additions in the test year are reasonable, prudent and necessary.

The fuel inventory requested by Gulf is reasonable, prudent and necessary to provide fuel inventory levels that will ensure Gulf's units are prepared to meet the needs of our customers with the lowest cost generation available.

Over the past several years, Gulf has had to consider many different scenarios related to the potential impacts of carbon legislation, other pending environmental proposals and fluctuating fuel prices. Although there are many uncertainties, it is clear that there are situations in which nuclear could be a cost-effective solution for meeting our long-term need for generation additions. In order to preserve the nuclear option, it was necessary and prudent for Gulf to find and procure a site suitable for nuclear generation.

Q. Does this conclude your testimony?

A. Yes.

AFFIDAVIT

STATE OF FLORIDA     )  
                                  )  
COUNTY OF ESCAMBIA )

Docket No. 110138-EI

Before me the undersigned authority, personally appeared Michael L. Burroughs, who being first duly sworn, deposes, and says that he is the Vice President of Power Generation and Senior Production Officer for Gulf Power Company, a Florida corporation, and that the foregoing is true and correct to the best of his knowledge, information, and belief. He is personally known to me.



Michael L. Burroughs  
Vice President of Power Generation and  
Senior Production Officer

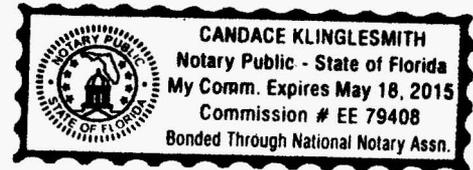
Sworn to and subscribed before me this 6<sup>th</sup> day of July, 2011.



Notary Public, State of Florida at Large

Commission No. EE79408

My Commission Expires 5-18-2015



Florida Public Service Commission  
Docket No. 110138-EI  
GULF POWER COMPANY  
Witness: Michael L. Burroughs  
Exhibit No. \_\_\_\_\_ (MLB-1)  
Schedule 1

Responsibility for Minimum Filing Requirements

<u>Schedule</u>	<u>Title</u>
B-16	Nuclear Fuel Balances
B-18	Fuel Inventory Balances
C-42	Hedging Costs
F-4	NRC Safety Citations
F-5	Forecasting Models
F-8	Assumptions

Florida Public Service Commission  
Docket No. 110138-EI  
**GULF POWER COMPANY**  
Witness: Michael L. Burroughs  
Exhibit No. \_\_\_\_\_ (MLB-1)  
Schedule 2

**Owned and Operated or Jointly Owned Generating Capacity  
2002 Ten Year Site Plan Compared to 2012 Ten Year Site Plan**

UNIT	MW	Operation Date	2002 TYSP Retirement Date	Forecast Life In 2002	2012 TYSP Retirement Date	Forecast Life In 2012
Crist Unit 4	75	7/1/1959	Dec 2014	55	Dec-24	65
Crist Unit 5	75	6/1/1961	Dec 2016	55	Dec-26	65
Crist Unit 6	291	5/1/1970	Dec 2015	45	Dec-35	65
Crist Unit 7	465	8/1/1973	Dec 2018	45	Dec-38	65
Smith Unit 1	162	6/1/1965	Dec 2015	50	Dec-30	65
Smith Unit 2	195	6/1/1967	Dec 2017	50	Dec-32	65
Smith Unit 3	556	4/1/2002	Dec 2027	25	Dec-42	40
Smith Unit A	32	5/1/1971	Dec 2006	35	Dec-27	55
Scholz Unit 1	46	3/1/1953	Dec 2011	58	Note	
Scholz Unit 2	46	10/1/1953	Dec 2011	58	Note	
Pea Ridge Unit 1	4	5/1/1998	Dec 2018	20	Dec-18	20
Pea Ridge Unit 2	4	5/1/1998	Dec 2018	20	Dec-18	20
Pea Ridge Unit 3	4	5/1/1998	Dec 2018	20	Dec-18	20
Perdido Unit 1	1.6	10/1/2010	N/A	N/A	Dec-29	20
Perdido Unit 2	1.6	10/1/2010	N/A	N/A	Dec-29	20
Daniel Unit 1	255	9/1/1977	Dec 2022	45	Dec-42	65
Daniel Unit 2	255	6/1/1981	Dec 2026	45	Dec-46	65

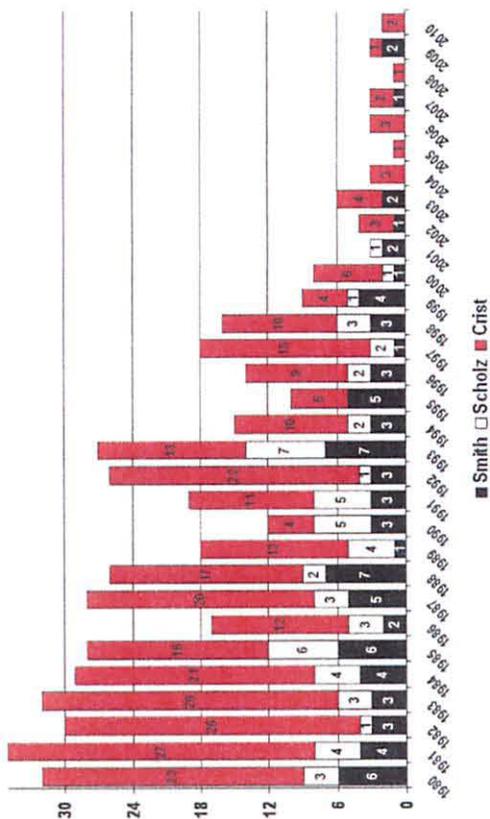
Note - Gulf has not included a retirement date for Plant Scholz in Gulf's Ten-Year-Site plan. Gulf has not made a firm decision or commitment to retire any of these units on the projected retirement dates shown.

Florida Public Service Commission  
Docket No. 110138-EI  
GULF POWER COMPANY  
Witness: Michael L. Burroughs  
Exhibit No. \_\_\_\_\_ (MLB-1)  
Schedule 3

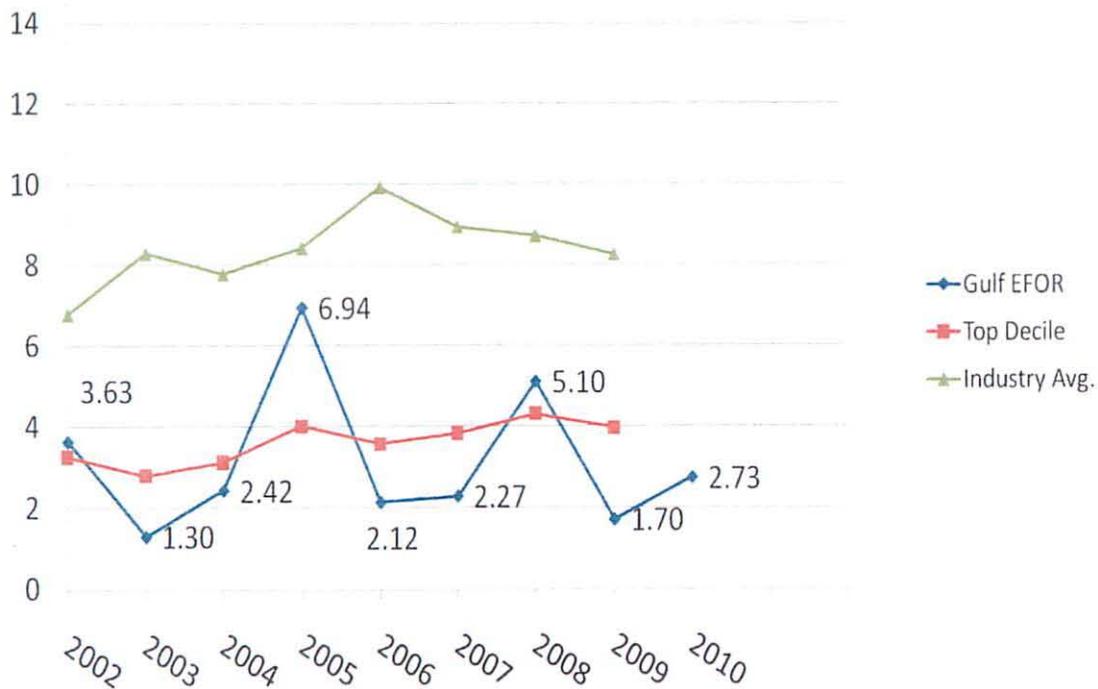
**Power Purchase Agreements**

<u>Agreement</u>	<u>Technology</u>	<u>Fuel</u>	<u>MW</u>	<u>Start Date</u>	<u>End Date</u>
Bay County	Steam	MSW	11	July 2008	July 2014
Coral Baconton	CT	Gas/Oil	196	June 2009	May 2014
Dahlberg	CT	Gas/Oil	292	June 2009	May 2014
Central Ala.	CC	Gas	885	Nov. 2009	May 2023

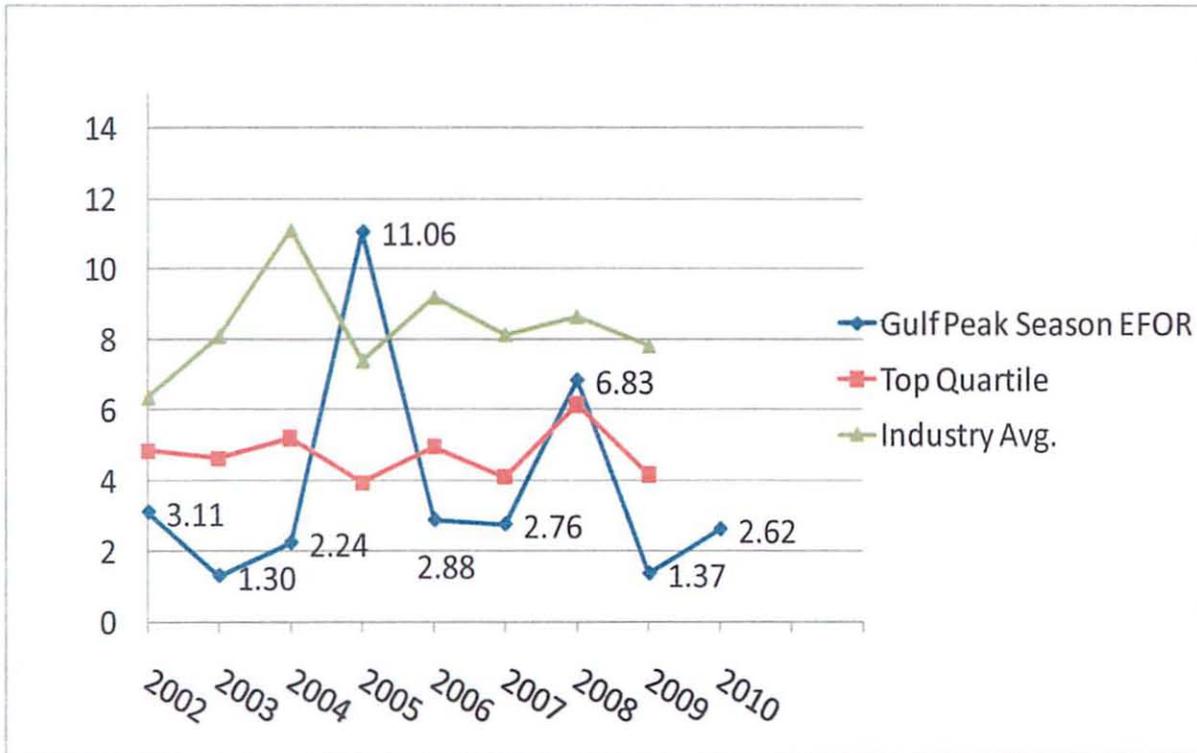
Recordable Incidents from 1980 through 2010



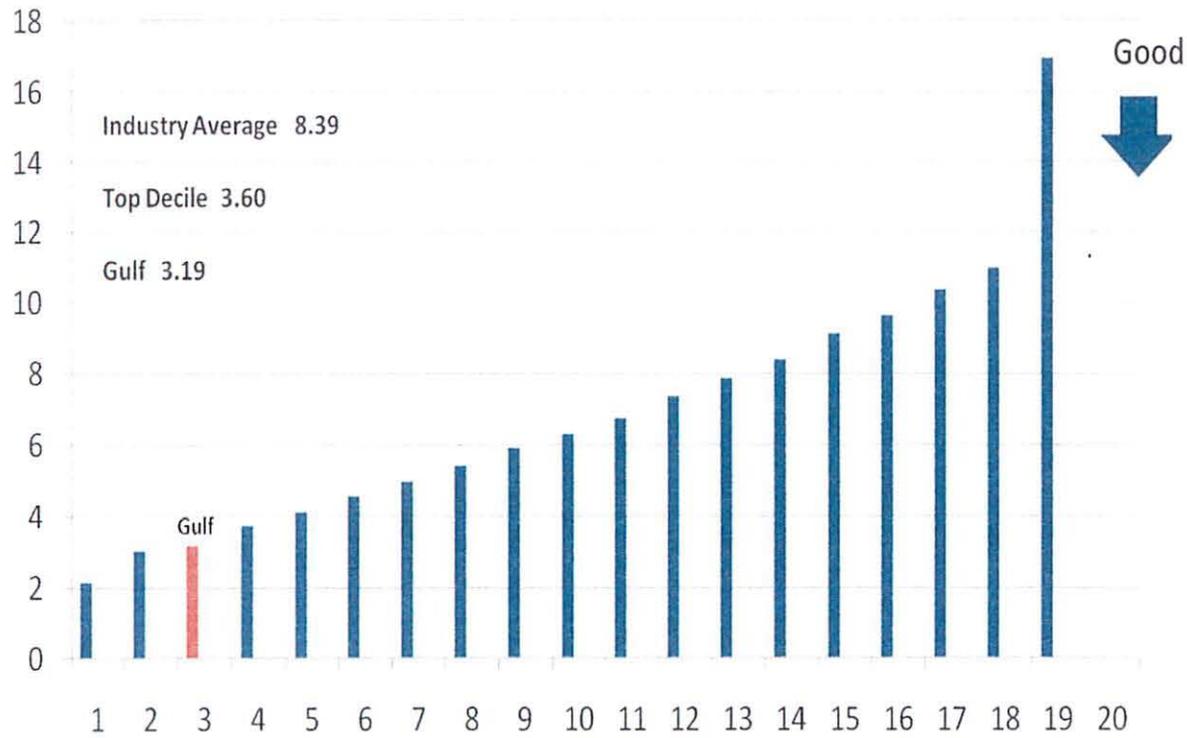
## Equivalent Forced Outage Rate Annual EFOR % Gulf Power



Equivalent Forced Outage Rate  
 Peak Season EFOR %  
 Gulf Power

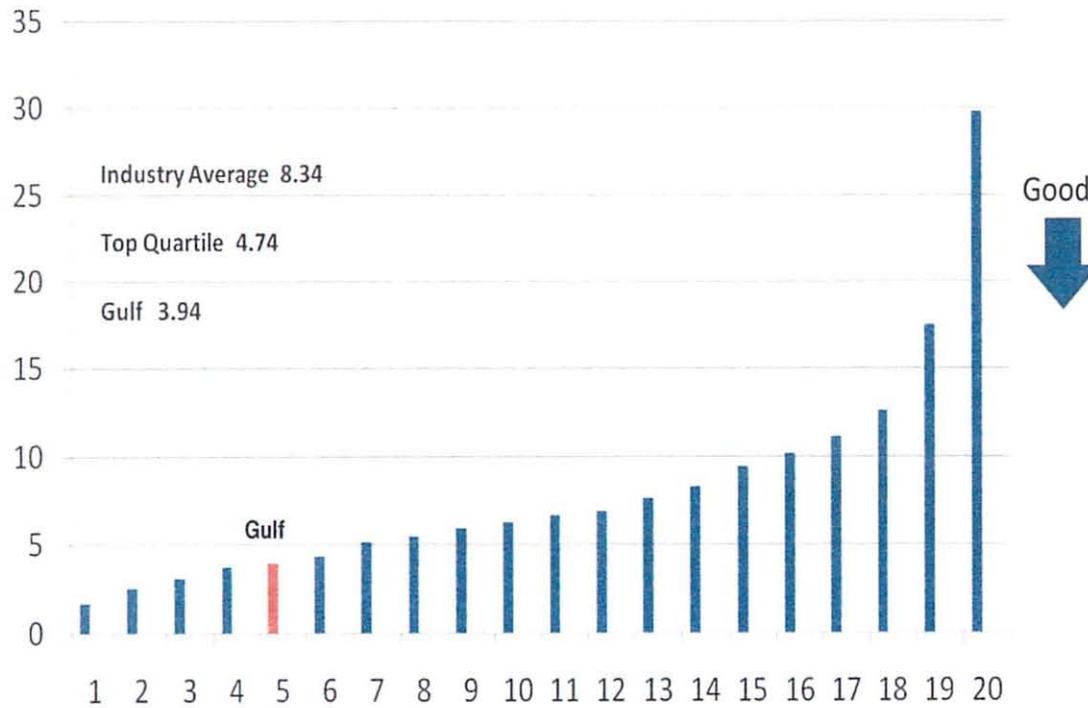


## Gulf Power vs Peer Group Average Annual EFOR 2002 – 2009



# Gulf Power vs Peer Group

## Average Peak Season EFOR 2002 – 2009



Florida Public Service Commission  
Docket No. 110138-EI  
GULF POWER COMPANY  
Witness: Michael L. Burroughs  
Exhibit\_\_\_\_\_ (MLB-1)  
Schedule 6

2012 Production O&M Budget  
(\$000's)

<u>Description</u>	2012 Test Year <u>Amount</u>
Steam Production	98,574
Other Production	7,801
Other Power Supply	<u>4,513</u>
Total Production	<u>110,888</u>

Florida Public Service Commission  
Docket No. 110138-EI  
GULF POWER COMPANY  
Witness: Michael L. Burroughs  
Exhibit \_\_\_\_\_ (MLB-1)  
Schedule 7

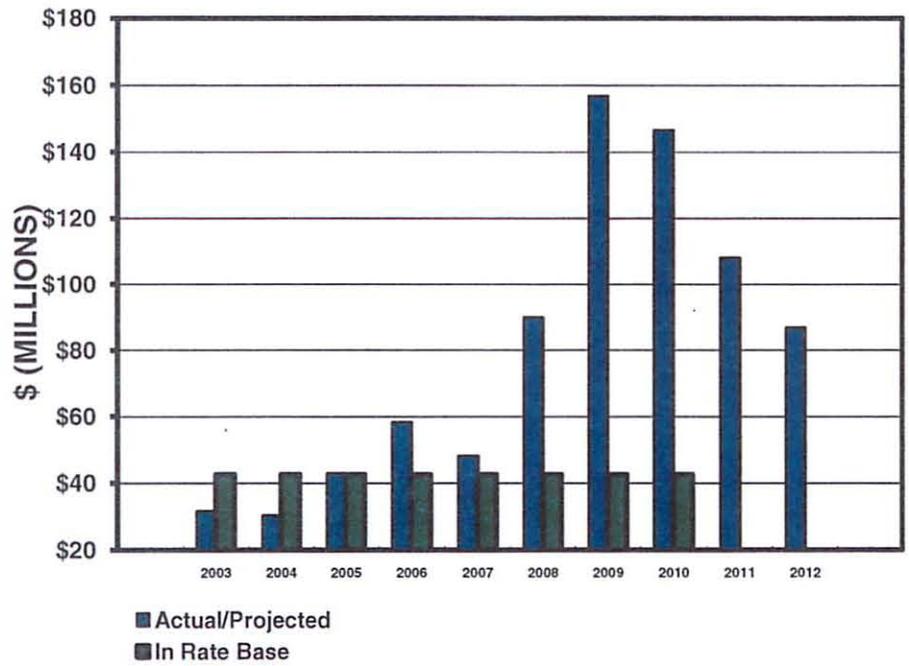
**Gulf Power Company  
Production O&M Expenses  
(\$000)**

	<b>Budget 2011</b>	<b>Budget 2012</b>	<b>Budget 2013</b>	<b>Budget 2014</b>	<b>Budget 2015</b>
Baseline Materials	9,526	8,734	10,055	9,821	10,326
Baseline Other	47,485	47,544	49,430	51,036	55,973
Baseline Labor	<u>30,077</u>	<u>30,828</u>	<u>31,614</u>	<u>32,480</u>	<u>33,371</u>
<b>Total Baseline</b>	<b><u>87,088</u></b>	<b><u>87,106</u></b>	<b><u>91,099</u></b>	<b><u>93,337</u></b>	<b><u>99,670</u></b>
<b>Total Outages</b>	22,960	23,149	18,886	20,195	20,615
<b>Special Projects</b>	387	633	314	355	322
<b>Total Actual/Budget</b>	<b><u>110,435</u></b>	<b><u>110,888</u></b>	<b><u>110,299</u></b>	<b><u>113,887</u></b>	<b><u>120,607</u></b>
<b>Average</b>	<b>113,223</b>				

Excludes Environmental Cost Recovery O&M and Plant Scherer

# Gulf Power Fuel Inventory

Year Ending Value of Coal, Oil, & Gas Inventory  
(Excluding Plant Scherer)



Florida Public Service Commission  
Docket No. 110138-EI  
GULF POWER COMPANY  
Witness: Michael L. Burroughs  
Exhibit \_\_\_\_\_ (MLB-1)  
Schedule 8