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September 17, 2008

Ms. Ann Cole, Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
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COMMISSION
CLERK

Dear Ms. Cole:

RE: Docket No. 080007-EI

Enclosed are an original and fifteen copies of Gulf Power Company's Request for Confidential Classification regarding certain portions of its Environmental Compliance Program Update for the Clean Air Interstate Rule, Clean Air Mercury Rule, and Clean Air Visibility Rule filing in the above-referenced docket.

Sincerely,

mv

COM	_____	Enclosures
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CLK		

DOCUMENT NUMBER-DATE

08807 SEP 18 08

FPSC-COMMISSION CLERK

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: **Environmental Cost
Recovery Clause**)
)
)

Docket No.: **080007-EI**

CERTIFICATE OF SERVICE

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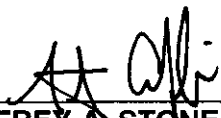
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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

IN RE: Environmental Cost
Recovery Clause

Docket No.: 080007-EI
Date: September 17, 2008

REQUEST FOR CONFIDENTIAL CLASSIFICATION

GULF POWER COMPANY ["Gulf Power", "Gulf", or the "Company"], by and through its undersigned attorneys and pursuant to Rule 25-22.006, Florida Administrative Code, hereby files a request that the Florida Public Service Commission enter an order protecting from public disclosure certain portions of its Environmental Compliance Program Update for the Clean Air Interstate Rule, Clean Air Mercury Rule and Clean Air Visibility Rule (the "Compliance Plan"). As grounds for this request, the Company states:

1. Gulf Power seeks confidential classification for portions of its Compliance Plan which is being filed concurrently with this request. The subject information relates to competitive interests, the disclosure of which would impair the competitive business of Gulf Power and Gulf Power's ability to procure goods and services on a fair and reasonable basis. The information is therefore entitled to confidential classification pursuant to section 366.093(3)(d)-(e), Florida Statutes.

2. Table 3.1-1 identifies in detail Gulf Power's projected capital expenditures, by plant and by project, associated with the Compliance Plan. Disclosure of this information could negatively impact Gulf's ability to negotiate pricing favorable to its customers when contracting with vendors of materials needed by Gulf in order to implement its Compliance Plan. Similarly, Table 3.1-2 identifies in detail Gulf Power's projected operation and maintenance expenses, by plant and by project, associated with the Compliance Plan. Disclosure of this information could negatively impact Gulf's ability to negotiate pricing favorable to its customers when contracting with vendors of services needed by Gulf in order to implement its Compliance Plan.

DOCUMENT NUMBER-DATT

08807 SEP 18 8

FPSC-COMMISSION CLERK

3. Tables 3.3-1 through 3.3-8 provide the results of an economic viability study by Gulf Power of its generating assets. These tables provide detailed unit-specific cost data including O&M costs and capital expenditures for many years into the future as well as the near term. Wholesale competitors as well as suppliers of commodities and services could utilize this information to undermine Gulf's bargaining position in the markets where Gulf must compete to obtain such commodities and services or make purchases or sales of wholesale power. In addition, disclosure of this information could negatively impact Gulf's ability to negotiate pricing favorable to its customers in the event that Gulf determined to sell one or more of its generating assets.

4. Table 4.5-1 identifies Gulf Power's projected allowance needs and estimated costs between 2010 and 2017. Disclosure of this information could negatively impact Gulf's ability to negotiate pricing favorable to its customers when contracting for the purchase of allowances

5. Finally, the Section 3.3.4 of the Compliance Plan contains certain transmission cost assumptions and study results which are specific to Gulf Power's generating plants. Competitors, as well as suppliers of commodities and services, could utilize this information to undermine Gulf's bargaining position in the markets. In addition, disclosure of this information could negatively impact Gulf's ability to negotiate pricing favorable to its customers in the event that Gulf determined to sell one or more of its generating assets.


6. The information filed pursuant to this Request is intended to be, and is treated as, confidential by the Gulf Power and, to this attorney's knowledge, has not been otherwise publicly disclosed.

7. Submitted as Exhibit "A" is one copy of Gulf's Compliance Plan, on which is highlighted the information for which confidential classification is requested. Exhibit "A" should be treated as confidential pending a ruling on this request. Attached as Exhibit "B" are two edited copies of Exhibit "A," which may be made available for public review and inspection. Attached as Exhibit "C" to this request is a line-by-line/field-by-field justification for the request

for confidential classification.

WHEREFORE, Gulf Power Company respectfully requests that the Commission enter an order protecting the information highlighted on Exhibit "A" from public disclosure as proprietary confidential business information.

Respectfully submitted this 17th day of September, 2008.



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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

IN RE: Environmental Cost
Recovery Clause

Docket No.: 080007-EI
Date: September 17, 2008

REQUEST FOR CONFIDENTIAL CLASSIFICATION

EXHIBIT "A"

Provided to the Commission Clerk under separate cover as confidential
information.

EXHIBIT "B"

**BEFORE THE FLORIDA PUBLIC SERVICE
COMMISSION**

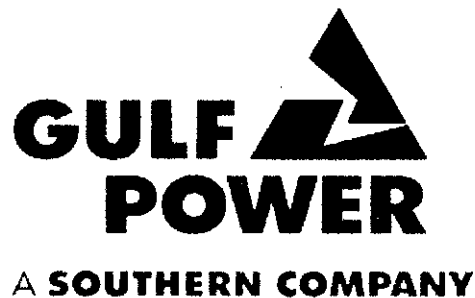
Docket No. 080007-EI

**GULF POWER COMPANY
ENVIRONMENTAL COMPLIANCE
PROGRAM UPDATE**

for the

**Clean Air Interstate Rule
Clean Air Mercury Rule
Clean Air Visibility Rule**

September 18, 2008



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1.0 EXECUTIVE SUMMARY

Since the Clean Air Act Amendments (CAAA) were passed by Congress in 1990, Gulf Power Company (Gulf Power or Gulf) has reviewed and updated its environmental compliance plan as needed on an on-going basis. The goal of this process is to identify reasonable, cost-effective compliance strategies that will minimize the impact on Gulf Power's customers while achieving environmental objectives and assuring compliance with all environmental requirements.

This document is an update of Gulf's original compliance plan approved by the Florida Public Service Commission (Commission or FPSC) in Order No. PSC-07-0721-S-EI. That plan: (a) addressed the requirements of the Clean Air Interstate Rule (CAIR), Clean Air Mercury Rule (CAMR), and the Clean Air Visibility Rule (CAVR); (b) reviewed the decision process for assuring compliance at Gulf Power; and (c) provided cost estimates for incorporating these requirements at Gulf Power. The document reviewed the specific issues, timing, alternatives, process, and costs necessary for compliance with the new federal rules and the corresponding implementation programs developed by the Florida Department of Environmental Protection (FDEP) and the Mississippi Department of Environmental Quality (MDEQ).

On June 22, 2007, the Office of Public Counsel (OPC), the Florida Industrial Power Users' Group (FIPUG) and Gulf filed a petition for approval of a stipulation regarding the substantive provisions of Gulf's compliance plan. That stipulation identified 10 specific components, Phase I, of Gulf's plan as being reasonable and prudent for implementation and set forth a process for review in connection with the three remaining components of the plan. On August 14, 2007, the Commission voted to approve the stipulation with the proviso that Gulf provide an annual status report regarding cost-effectiveness and prudence of the phases in its Plan into which the Company is moving.

Since the Commission's approval of Gulf's compliance plan, there have been a number of developments. Gulf has addressed in several of its intervening filings changes to schedules of approved projects, such as the addition and cancellation of Activated Carbon Injection (ACI) at Plant Daniel and other compliance plan changes. However, there have been two significant court decisions that will have further impact on Gulf's compliance plan. In February 2008 the District of Columbia Court of Appeals vacated the CAMR rule. In July 2008 the District of Columbia Court of Appeals vacated the CAIR rule.

The impact of these decisions on Gulf's compliance plan is not fully apparent. Nonetheless, many of the projects in Gulf's compliance plan will continue for a variety of reasons. This document addresses Gulf's ongoing compliance projects and the reasons Gulf plans to continue these projects.

A capital and operations and maintenance (O&M) cost summary for Gulf's CAIR, CAMR, and CAVR compliance plan is provided in Table 1.0-1. Detailed capital and O&M costs are provided in Section 3 of this document. Gulf Power's compliance plan for CAIR, CAMR, and CAVR will be impacted by factors such as implementation of these rules; whether the Circuit Court issues the mandate vacating CAIR; EPA's, FDEP's, and the MDEQ's responses to court decisions vacating CAMR and potentially vacating CAIR; changes to existing environmental laws and regulations, the cost of emissions allowances, performance of emission control equipment; and any change in the use of coal. Based on these factors, future environmental compliance costs will continue to be incurred, and projections will be revised.

As noted in the Commission's approval of Gulf's CAIR, CAMR and CAVR compliance plan, the plan will likely evolve over time, so, at present, only Phase I projects have been approved. Gulf has changed the implementation of some of those projects. This document reflects all the changes to Gulf's compliance plan since the initial plan was approved. As circumstances become clearer, it is reasonable to anticipate further changes.

Gulf Power has remained in compliance with all requirements of the CAAA and has addressed local concerns regarding potential ozone nonattainment in Pensacola and along the Gulf Coast. Implementation of the plan described in this document will help assure continued compliance. The timing of the requirements and costs incurred will be a function of the compliance options selected, fuel burn, energy demand, fuel sulfur content, availability and prices for allowance purchases, natural gas prices, performance of emission control equipment, and other variables.

Beyond CAIR, CAMR, and CAVR, many of the future regulatory requirements, especially those needed to attain current and future ozone and fine-particulate ambient standards and reasonable progress visibility requirements, will be aimed at further nitrogen oxide (NO_x) and sulfur dioxide (SO₂) reductions, but many of these anticipated requirements are not yet fully developed. With the vacatur of CAMR, it is anticipated that EPA will adopt a rule for maximum achievable control technology (MACT) for power plant mercury emissions. If the CAIR rule eventually is vacated, it is also reasonable to anticipate that EPA will re-address the CAIR issues in another rule making. In addition, there are multiple state, federal and international initiatives regarding greenhouse gases (GHG), particularly carbon dioxide (CO₂), pending. If adopted, they could further impact Gulf's compliance plan. All of this uncertainty reinforces the need for a flexible, robust compliance plan. Accordingly, as decision dates for equipment purchases approach, and as better information relative to regulatory and economic drivers becomes available, the analysis will be updated as needed to enable the selection of the most reasonable and cost-effective compliance alternatives while maintaining future flexibility in the plan.

Table 1.0-1
Projected Environmental Capital and O&M Costs for
CAIR, CAMR and CAVR by Plant

Plant	Phase I Capital Expenditures (\$M)	Phase II Capital Expenditures (\$M)	Phase I O&M Expenses (\$M)	Phase II O&M Expenses (\$M)
Crist	790		204	
Daniel*	315	206	25	8
Smith	16	307	37	4
Scholz	1		0.2	
TOTAL	1,122	513	266	12

*Costs for Gulf Power's ownership portion of Plant Daniel in Mississippi.
 Note: Allowance cost projections are not included in Table 1.0-1

2.0 REGULATORY AND LEGISLATIVE UPDATE

This section provides a regulatory and legislative update and review of the CAIR, CAMR, and CAVR.

2.1 CLEAN AIR INTERSTATE RULE

In March 2005, the Environmental Protection Agency (EPA) published the final CAIR, a rule that addresses transport of SO₂ and NO_x emissions that contribute to nonattainment of the ozone and fine particulate matter National Ambient Air Quality Standards (NAAQS) in the Eastern United States. This cap and trade rule addresses power plant SO₂ and NO_x emissions that were found to contribute to nonattainment of the 8-hour ozone and fine particulate matter standards in downwind states. Twenty-eight eastern states, including Florida and Mississippi, are subject to the requirements of the rule. The rule calls for additional reductions of NO_x and SO₂ to be achieved in two phases, 2009/2010 and 2015, as shown in Table 2.1-1. For Gulf, compliance will be accomplished by the installation of additional emission controls at its coal-fired facilities and/or by the purchase of emission allowances from the rule's cap and trade program. Decisions regarding Gulf's CAIR compliance strategy were made jointly with the CAMR and CAVR compliance plans due to co-benefits of proposed controls.

Table 2.1-1

CAIR Emission Reduction Requirements

Emissions	Phase I reduction from acid rain allocations or current emissions	Phase II reduction from current allocations or current emissions
SO₂	50% (2010)	66% (2015)
NO_x	50% (2009)	65% (2015)

On July 11, 2008, in response to petitions brought by certain states and regulated industries challenging particular aspects of CAIR, the Circuit Court of Appeals for the District of Columbia issued a decision vacating CAIR in its entirety, and remanding it to EPA for further action consistent with its opinion. However, CAIR will remain in effect until the court issues its mandate in the case. Recently, the court extended until late September EPA's time for requesting reconsideration of the court's decision, and no mandate from the court is expected before that time. Therefore, the CAIR remains in effect and technically requires compliance. In addition, FDEP rules requiring CAIR implementation also remain in effect as of the time of the submission of this update.

Gulf Power's overall compliance strategy has been developed in response to numerous federal and state regulatory requirements, many of which remain unaffected by the court's ruling; however, the court's decision has the potential to impact future decision making regarding capital expenditures, the installation and operation of pollution control equipment, the purchase of emissions allowances, and the carrying cost of the existing emissions allowances. The ultimate impact of this decision, if any, cannot be determined at this time and may depend on subsequent legal action, including issuance of the court's mandate and future EPA and State rulemaking.

2.2 CLEAN AIR MERCURY RULE

In March 2005, the EPA published the final CAMR, a cap and trade program for the reduction of mercury emissions from coal-fired power plants. The rule set caps on mercury emissions to be implemented in two phases, 2010 and 2018, and provided for an emission allowance trading market.

The final CAMR was challenged in the U.S. Court of Appeals for the District of Columbia Circuit. The petitioners alleged that the EPA was not authorized to establish a cap-and-trade program for mercury emissions and instead the EPA must establish MACT standards for coal-fired electric utility steam generating units. On February 8, 2008, the court issued an opinion vacating the CAMR. The vacatur became effective with the issuance of the court's mandate on March 14, 2008, nullifying CAMR mercury emission control obligations and monitoring requirements.

With CAMR voided, electric generating facilities are no longer required to install mercury controls to meet the CAMR emission limits and are not required to install mercury monitoring equipment to meet the January 2009 monitoring deadline. EPA can be expected to initiate a rulemaking proceeding to develop MACT standards for power plants; however, this process could take multiple years to complete. The CAMR court decision does not impact state rules that may continue to be developed in Florida. In addition, it is anticipated that emission controls installed to achieve compliance with CAIR, the Acid Rain Program, ambient air quality rules, and other environmental requirements will continue to result in mercury emission reductions. Future rulemakings could require emission reductions more stringent than those required by the CAMR.

2.3 CLEAN AIR VISIBILITY RULE

The Clean Air Visibility Rule (formerly called the Regional Haze Rule) was finalized in July 2005. The goal of this rule is to restore natural visibility conditions in certain areas (primarily national parks and wilderness areas) by 2064. The rule involves (1) the application of Best Available Retrofit Technology (BART) to certain sources built between 1962 and 1977, and (2) the application of any additional emissions reductions which may be deemed necessary for each designated area to achieve reasonable progress toward the natural

conditions goal by 2018. Thereafter, for each 10-year planning period, additional emissions reductions will be required to continue to demonstrate reasonable progress in each area during that period. For power plants, the CAIR allows states to determine that the CAIR satisfies BART requirements for SO₂ and NO_x. Extensive studies were performed for each of the company's affected units to demonstrate that additional PM controls were not necessary under BART. Additional analyses may be required for Gulf's generating facilities due to CAIR's likely vacatur. States are currently completing implementation plans that contain strategies for BART and any other measures required to achieve the first phase of reasonable progress. The Florida Regional Haze rule, Chapter 62 Part 296.340, F.A.C., requires BART compliance as expeditiously as practicable, but not later than December 31, 2013. The proposed Mississippi Regional Haze State Implementation Plan (SIP) has been approved, and Gulf expects MDEQ to submit the SIP to EPA by October 1, 2008.

3.0 GULF'S COMPLIANCE PLAN

3.1 GULF POWER'S ELECTRIC GENERATING SYSTEM

Gulf Power owns and operates three fossil-fueled generating facilities in Northwest Florida (Plants Crist, Smith and Scholz). Gulf also owns a 50 percent undivided ownership interest in Unit 1 and Unit 2 at Mississippi Power Company's Plant Daniel. This fleet of generating units consists of ten fossil steam units, one combined cycle unit and one combustion turbine. The name plate generating capacity of Gulf's generating fleet affected by CAIR and CAVR is 2,783 Megawatts (MW). Each plant will be affected by CAIR and CAVR with the exception of Plant Scholz, which does not have a BART unit.

A summary of the projected CAIR, CAMR, and CAVR capital projects and associated expenditures through 2018 is provided in Table 3.1-1. The projected plant O&M expenses associated with the capital projects are included in Table 3.1-2. The cost information is provided by plant and by project.

**Table 3.1-1
Projected CAIR, CAMR, and CAVR Capital Expenditures**

\$ in Thousands

A B C D E F G H I J

	Prior Years**	2008	2009
By Plant			
Plant Crist			
Mercury Monitoring			
Unit 6 SCR	3,881	1,080	4,957
Units 4-7 Scrubber	114,049	221,513	243,174
Plant Scholz			
Mercury Monitoring	92	564	
Plant Smith			
Unit 2 Baghouse*			
Unit 1 SNCR	200	7,981	1,163
Unit 2 SNCR	93	3,115	372
Mercury Monitoring	22	2,192	
Units 1-2 Scrubber *			
CAIR Parametric Monitor	212	17	
Plant Daniel			
Mercury Monitoring	39	(39)	
Unit 1 SCR*			
Unit 2 SCR*			
Units 1 & 2 Scrubber			
Unit 1 SNCR			
Unit 1 Low NOx Burners	113	(113)	
Unit 2 SNCR			
Unit 2 Low NOx Burners	130	3,890	167
By Project			
Mercury Monitoring	153	2,717	
SCRs	3,881	1,080	4,957
Scrubbers	114,049	221,513	243,174
SNCRs	293	11,096	1,535
Baghouse			
CAIR Parametric Monitor	212	17	
Low Nox Burners	243	3,777	167
Annual Total	118,831	240,200	249,833

* Phase II projects that have not been approved for ECRC recovery

** 2006-2007 expenditures

2008 expenditures are based on 6 months of actual data and 6 months of estimated data

Expenditures presented for Plant Daniel represent Gulf's ownership portion.

Allowance cost projections are not included in Table 3.1-1

Table 3.1-2
Projected CAIR, CAMR, and CAVR Plant O&M Expenses
\$ in Thousands

A B C D E F G H I J

	2008	2009
By Plant		
Plant Crist		
Mercury Monitoring		
Unit 6 SCR		
Units 4-7 Scrubber	148	2,572
Plant Scholz		
Mercury Monitoring	4	18
Plant Smith		
Unit 2 Baghouse*		
Unit 1 SNCR		1,700
Unit 2 SNCR		1,640
Mercury Monitoring		
Units 1-2 Scrubber*		
CAIR Parametric Monitor		
Plant Daniel		
Mercury Monitoring	250	
Unit 1 SCR*		
Unit 2 SCR*		
Units 1&2 Scrubber		
Units 1 & 2 SNCR(s)	27	
Unit 1 Low NOx Burners	600	
Unit 2 Low NOx Burners		
Activated Carbon Injection	71	
By Project		
Mercury Monitoring	254	18
SCRs		
Scrubbers	148	2,572
SNCRs	27	3,340
Baghouse		
CAIR Parametric Monitor		
Low Nox Burners	600	
Activated Carbon Injection	71	
Annual Total	1,100	5,930

* Phase II projects that have not been approved for ECRC recovery
Expenditures presented for Plant Daniel represent Gulf's ownership portion.
2008 expenses are based on 6 months of actual data and 6 months of estimated data.
Allowance cost projections are not included in Table 3.1-2

3.2 COMPLIANCE OPTIONS

A comprehensive environmental compliance planning evaluation considers a range of options for economically meeting the energy needs of Gulf Power's customers. Gulf Power investigated four major options for environmental compliance:

- Dependence on allowance purchases
- Fuel switching
- Retrofit of environmental emission controls to existing generating units
- Retirement of existing generating units and replacement with new or purchased generation

Combinations of these options were also considered.

3.2.1 Allowance Purchase Option

The CAIR rule proposed a new cap and trade program. Cap and trade programs use a market-based approach to reduce emissions. The program sets a cap, or limit, for each pollutant such as SO₂ and NO_x, which is then divided into emission allowances that are allocated to each affected source. Sources are allowed to determine the most reasonable, cost-effective way to comply. Facilities may install environmental emission controls, use fuel switching, replace the generating units, rely on the emission allowance market, or use some combination of these options.

In addition to the already existing SO₂ (acid rain) and seasonal NO_x (ozone) allowance markets, the CAIR introduced an additional allowance market for annual NO_x.

3.2.2 Fuel Switching Option

Fuel switching refers to instances where an electric generating unit's primary fuel is changed to reduce emissions. For certain facilities, NO_x emissions can be reduced by burning high-moisture, low-Btu sub-bituminous coals, while mercury emissions can be reduced by utilizing coal lower in mercury content. In Gulf's case, fuel switching to lower sulfur coal was shown under the Acid Rain Program to be a cost effective means for reducing emissions of SO₂.

3.2.3 Retrofit Options

Retrofit options refer to additional environmental emission controls that can be installed on existing generating units. As discussed in Section 2, affected coal-fired electric generating units would be required to comply with SO₂ and NO_x limits under CAIR and CAVR, if the units are to continue to operate. These reductions may be met by installing additional SO₂, and NO_x

emission controls on existing units. Currently, the proven control technology of choice for SO₂ reduction is wet scrubbing. For NO_x removal, there are a number of proven emission controls available such as Selective Catalytic Reduction (SCR), Selective Non-Catalytic Reduction (SNCR), and Low NO_x Burners (LNBs).

3.2.4 Retirement and Replacement Option

A retirement and replacement evaluation is used to compare retrofit compliance options to premature retirement and replacement of specific generating units in order to determine the most reasonable, cost-effective compliance option. These evaluations are performed at two levels of detail: (1) a less detailed retirement/replacement evaluation and (2) a more detailed site specific replacement evaluation. The retirement option is typically more applicable to smaller, older, less efficient coal plants that cannot financially support the addition of environmental controls. The evaluation methodology and the evaluation results are discussed in Section 3.3.4.

3.3 GULF'S EVALUATION OF COMPLIANCE OPTIONS

3.3.1 Evaluation of Allowance Purchase Option

The two existing emissions allowance markets (SO₂ and seasonal NO_x) have proven to be fundamentally driven by supply and demand. However, over time, many speculative investors have begun entering the allowance markets, particularly the SO₂ market, introducing considerable volatility and uncertainty concerning the price and availability of allowances.

The costs of compliance with the SO₂ programs represent a major portion of Gulf Power's total environmental compliance program cost. With the high price volatility, the future price and availability of allowances cannot be treated as predictable; therefore, depending solely on the market for SO₂ compliance presents a large risk for Gulf Power's customers. Additionally, should allowances not be available, Gulf Power might be forced to operate higher cost units while curtailing operation of lower cost units in order to maintain compliance.

The CAIR program introduced an additional allowance market for annual NO_x. This market was expected to emerge as soon as the states finalized their implementation plans. Indeed EPA has populated the annual NO_x accounts. Absent a mandate vacating CAIR these allowances would be necessary for continued operation after January 1, 2009. In addition, the seasonal NO_x program will be expanded to cover a larger area that will include Gulf Power's generating units.

Total dependence on these commodity markets for compliance would be very risky and potentially costly for Gulf Power and its customers. The market does, however, provide realistic opportunities for reducing costs through selected and limited purchases of allowances in conjunction with other options to achieve cost effective compliance. In summary, in order for the allowance market based approach to be an appropriate solution for Gulf Power's compliance shortfall, these allowance markets must be established, reasonably stable, and have sufficient

quantities of allowances available. Furthermore, to avoid short-term supply and demand volatility, these conditions must be met with sufficient lead time to allow time to pursue other options such as constructing emission controls. Given the timing of construction schedules and the compliance deadlines for the new rules, Gulf Power could not wait to see if stable allowance markets emerged. These overall uncertainties eliminated the exclusive use of an all allowance purchase option from consideration.

3.3.2 Evaluation of Fuel Switching Option

Fuel switching was shown under the Acid Rain Program to be cost effective for reducing emissions of SO₂. For certain facilities, NO_x emissions can be reduced by burning high-moisture, low-Btu sub-bituminous coals, and some coals are lower in mercury content than others. However, for the magnitude of emission reductions required by CAIR and CAVR, fuel switching is no longer a viable option.

3.3.3 Evaluation of Retrofit Options

Having determined that neither an all allowance plan nor an all fuel switching plan would be feasible or desirable, Gulf Power was left with the primary options of either retrofitting units or retiring and replacing units (and, if necessary, supplementing those options with allowance purchases or fuel switching). However, before making a comparison of retrofit and replacement options, Gulf Power first had to choose among competing retrofit options. Those selections of the best retrofit options were discussed in Gulf's original compliance plan and have not changed, therefore, they are not repeated here.

3.3.4 Evaluation of Retrofit versus Replacement Options

Selection between retrofit and replacement options is based upon a financial assessment of which option ultimately is expected to be the most reasonable, cost effective alternative for Gulf's customers. The analyses examined the relative cost of dispatching the System (a) with the retrofit technology in place and (b) with having retired the unit without making the retrofit and instead, replacing it with new or purchased capacity. The analyses included all Gulf Power units that would require environmental controls under Phase I of CAIR and anticipated under CAVR.

This analysis is run at both a less detailed level (Phase I) and using a more detailed methodology (Phase II). The basic methodology is the same for both types of analyses, but the Phase I analysis employs some simplifying but more stringent assumptions. The Phase I level analysis uses a lower-cost replacement alternative than is used in the more detailed Phase II methodology (essentially peaking capacity with energy priced at the Southern electric system's marginal cost of energy instead of an equivalent amount of combined cycle (CC) capacity replacing the unit that would be retired). Consequently, if a retrofit option passes the more stringent Phase I level analysis, it will pass the more detailed Phase II analysis that uses a higher cost, site-specific replacement option. The employment of this Phase I methodology allows a quick, yet more

stringent evaluation of financial viability and is an excellent indicator of which retrofit options need a more detailed evaluation. The Phase II evaluation focuses on a comparison of continued unit operation with replacement by a CC. The detailed evaluation also includes more refined production cost modeling and cost implications to the transmission system. Changes in production cost, capital, and other fixed costs are captured in the comparison analysis to help determine the most economical option.

Phase I Methodology

The Phase I economic analysis creates a comparison of the costs over a period from 2008 until the current planned retirement date for each unit at which a retrofit is being contemplated. The costs of operating the retrofitted unit, its affect on system dispatch costs, and the need to purchase allowances to meet any remaining emission shortfalls (all of which are characterized as “Incremental Costs”) are compared to the cost of a generic peaking unit and System replacement energy costs. To calculate those associated energy costs, Gulf assumes energy purchases from the Southern electric system at the System incremental cost. The costs associated with capacity to replace a unit and the associated energy costs are characterized as “Avoided Cost,” as these are the costs that are avoided by operating the retrofitted unit.

The analysis compares the net present value (NPV) on a \$/kW basis of the two cost streams over the period analyzed to determine which has the lower cost on a net present value basis. The difference between the Avoided Cost associated with replacement and the Incremental Costs of operating the retrofitted unit is characterized as “the overall net contribution of continued operation.” (Of course, if the replacement option cost was lower than the retrofit option cost, then this value would be negative.) The control schedules are based on potential CAIR requirements and potential ozone non-attainment requirements.

Avoided Cost

Avoided cost includes capacity and energy costs. These costs are properly characterized as benefits, as they are the costs avoided due to operating the retrofitted unit. Avoidance of costs is a benefit to Gulf Power and its customers.

Capacity costs are the costs of a peaking generator used for system reliability to meet peak loads. Capacity costs for the replacement option in the Phase I analysis were based on a peaking capacity price forecast that assumes short-term purchases from the market until 2014 and the economic carrying cost of a self-build combustion turbine thereafter.

Energy costs in the Phase I analysis were developed using the Strategist[®] model. Strategist[®] is a production cost model commonly employed throughout both the Southern electric system and the utility industry. The avoided energy cost for each retrofitted unit was calculated by determining the average energy purchase costs during the hours the retrofitted unit operated each

year. This methodology simplifies avoided energy cost calculations for use in Phase I potential retirement candidates.

Incremental Costs

Incremental costs include fuel, O&M, capital, and emission allowance costs (NO_x, SO₂, and CO₂) necessary for continued operation of the retrofitted facility. Mercury allowances were not included in the Strategist model due to the vacatur of CAMR. Further, given that CAIR's vacatur has been ordered but not yet mandated, NO_x and SO₂ allowance costs necessary to comply were included.

The fuel and allowance price assumptions are based on Southern Company forecasts developed by polling external and internal subject matter experts. Southern Company provides primarily near term projections based on its experience with the short term markets and relies primarily on the external consultant EVA (Energy Ventures Analysis, Inc.) for its long term forecast. The Strategist[®] model is then provided total annual fuel and emissions costs based on the economic operation of the retrofitted unit for the base case and the two CO₂ sensitivities for the remaining life of the unit. O&M costs for the retrofitted unit include labor, materials, overheads, and engineering and support services. Four-year projections of the retrofitted unit's incremental O&M costs were developed. The O&M costs of the retrofitted unit over its remaining life were calculated using a moving average of the projections for the first 4 years and escalating the resulting value for inflation.

The incremental capital costs for the remaining life of the retrofitted unit were based on capital expenditures projected for each retrofitted generating unit. These projected capital expenditures were necessary to keep the units running through the analysis period at the current level of operation. Future capital expenditures for environmental controls were also included.

Sensitivities

In order to capture variations in the operating environments that would affect the retirement dates of the units, a base case and two sensitivities were developed around uncertainty in CO₂ legislation. These planning sensitivities were developed by Southern Company based on input from subject matter experts within Southern Company. The sensitivities are based on \$10/Ton CO₂ and \$20/Ton CO₂ (2008\$) starting in 2015 escalating at 5% above inflation.

Summary of Study Results

Tables 3.3-3 through 3.3-8 summarize the costs and benefits of continued operation of each of the units with environmental controls over the remaining life of each unit for the base case and both CO₂ sensitivities. Assumptions for the timing and installation of environmental controls are listed at the bottom of the table. A description of each line item included in the evaluation is also included on Table 3.3-9.

In most reasonable sensitivities analyzed for Gulf's units with proposed retrofit projects, continuing to operate the existing unit with the retrofit option has a net present value lower than the cost to replace the unit. Under higher CO₂ penalties (\$20/Ton) and moderate fuel prices, the evaluation indicates it would be cost effective to replace the units by 2020; however, under those conditions, the higher demand and higher related price for natural gas that would result would likely provide enough economic margin to continue to operate the coal units. Customers will also continue to benefit from the value of diversity in future fuel costs with the retrofit of existing coal units instead of Gulf increasing its reliance on gas.

The Phase I level results indicate there is a savings shown by continuing to operate each generating unit as opposed to replacing it with new or purchased capacity and System energy purchases for both the base case (No CO₂) and \$10 CO₂ sensitivity. By adding the net contribution values for the base case shown in Tables 3.3-3 through 3.3-8, the savings for Plants Crist and Daniel are \$1.9 billion and \$1.2 billion, respectively, under the No CO₂ case and \$1.3 billion and \$0.9 billion, respectively, under the \$10 CO₂ sensitivity. Under the extreme \$20 CO₂ sensitivity, which does not recognize the corresponding increase in natural gas prices, Crist Units 4 through 6 and Daniel Units 1 and 2 are indicated to retire by 2020. Crist Unit 7 remains economic even under the most severe CO₂ sensitivity.

Phase II Methodology

Phase II focuses on a comparison of continued operation with retrofits to replacement by a combined cycle unit. This evaluation also includes more refined production cost modeling and cost implications to the transmission system. Changes in production cost, capital and other fixed costs are captured in the comparison analysis to help determine the most economical option. The System production costs are generated with the Strategist[®] model using a thirty-year period (2008 – 2037) with the updated 2008 EVA published forecasts for allowances and the Southern Company 2009 Fuel Forecast Update. Fixed costs associated with the continued operation of the existing generating units are based on projections of annual O&M and the net present value of the revenue requirements associated with incremental capital investment necessary to keep the unit operational over the 30-year evaluation period. Replacement costs, installation capital, fixed O&M, and continue to operate capital, are site specific and developed by engineering. Replacement capacity costs are expressed as a credit of CC capacity cost for all replacement MWs that exceed the amount being replaced. The net present value of the difference between replacement cost and unit operational cost is calculated to determine the overall net contribution. The annual cost difference is present-valued and accumulated to determine if there is an economic retirement date. The units analyzed and the dates utilized in the retirement detailed analyses were determined based on the units impacted by the CAIR and CAVR control deadlines and time required for replacement combined cycles to be built. These control deadlines are based on potential CAVR requirements and potential ozone non-attainment requirements.

As in the Phase I analysis, Phase II incorporates the base case and two planning sensitivities that were developed around uncertainty in CO₂ legislation. These planning sensitivities were

developed by Southern Company based on input from subject matter experts both externally and internally within Southern Company. The sensitivities are based on \$10/Ton CO₂ and \$20/Ton CO₂ (2008\$) starting in 2015 escalating at 5% above inflation. The units analyzed in Phase II are Crist Units 4 through 6 and Daniel Units 1 and 2.

Plant Crist Units 4, 5, and 6

The purpose of this evaluation is to determine the economic benefits of retiring Plant Crist Units 4, 5, and 6 in May of 2014 and replacing the units with the lowest cost option. The evaluation also includes estimates of transmission cost implications and dismantlement costs associated with a potential retirement. It was assumed in this study that the replacement combined cycle unit would be placed on the Plant Crist site. The evaluation retired and replaced Crist Units 4, 5, and 6 with one 2x1 MHI 501 G CC in June of 2014, avoiding the Crist 6 SCR installation in the fall of 2012.

Crist 7 was excluded from this evaluation due to the large economic value indicated in the Phase I evaluation. Since Crist 7 already has an SCR and is scheduled to have a scrubber operational by 2009, nearly all of its environmental retrofit costs are either spent or committed. At this point in the construction of the Plant Crist scrubber, eliminating Crist Units 4 through 6 from the project scope would not result in significant, if any, cost savings. For this reason, all of the remaining cost of the Crist scrubber was allocated to Crist Unit 7. Even with this allocation, Crist Unit 7 remains the most economic choice to be controlled.

Transmission and Dismantlement Cost Assumptions

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Partial dismantlement cost estimates for Crist Units 4 through 6 are based on a 2008 study. The results of that study indicated that for Crist Units 4 through 6 the projected cost is \$5.5 million in 2008\$.

Results

An economic evaluation of the CC replacement option was performed to compare customer costs over a thirty-year period from 2008-2037. The CC replacement option is compared back to the cost of continuing operation of Crist 4, 5 and 6 with the SCR installed on Crist 6.

Table 3.3-1 summarizes the additional fuel (System Production Cost), capital, and O&M costs for the CC replacement options for the base case and two sensitivity cases. It shows that the No CO₂ and \$10 CO₂ cases would result in a total cost to the customer of \$936.6 million and \$643.4 million, respectively, if Crist Units 4, 5, and 6 were replaced with a combined cycle unit. Under the higher \$20 CO₂ penalty and the current fuel forecast, the evaluation indicates there would be a total cost to the customer of \$376.9 million, if Crist Units 4, 5 and 6 were replaced with a combined cycle unit. Under such a high CO₂ penalty, the higher demand and related higher price for natural gas that would result would likely provide an even greater economic margin to continue to operate the coal units.

**Table 3.3-1
Net Replacement Costs – Crist Units 4 through 6**



Plant Daniel Units 1 and 2

The purpose of this evaluation is to determine the economic benefits of retiring Plant Daniel Units 1 and 2 in December of 2014 and replacing the units with the lowest cost option. The evaluation also includes estimates of transmission cost implications and site closure costs associated with a potential retirement. It was assumed in this study that the replacement CC would be placed on the Plant Daniel site. The evaluation retired and replaced Daniel Units 1 and 2 with two 2x1 MHI 501 G CC's in January of 2015, avoiding the Daniel Units 1 and 2 SCRs in the fall of 2014 and the spring of 2015, respectively, and the fall 2013 Scrubber installation.

Transmission and Site Closure Cost Assumptions

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2 

1
2
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Site closure cost estimates for Daniel Units 1 and 2 are based on a 2008 study. The results of that study indicated that for Daniel Units 1 and 2, the projected cost is \$33.2 million in 2008\$, which includes the closure of the ash pond.

Results

Table 3.3.2 summarizes the additional fuel (System Production Cost), capital, and O&M costs for the CC replacement options for the base case and two scenarios analyzed. It shows that for the No CO₂ and \$10 CO₂ cases there would be a total cost to Gulf's customers of \$669.2 million and \$365.0 million, respectively, to replace Daniel Units 1 and 2. Under the higher \$20 CO₂ penalty and the current fuel forecast the evaluation indicates there would be a total cost to Gulf's customers of \$50.4 million to replace Daniel Units 1 and 2. Under such a high CO₂ penalty, the higher demand and higher related price for natural gas that would result would likely provide an even greater economic margin to continue to operate the coal units.

Table 3.3-2 Net Replacement Costs – Daniel Units 1 and 2

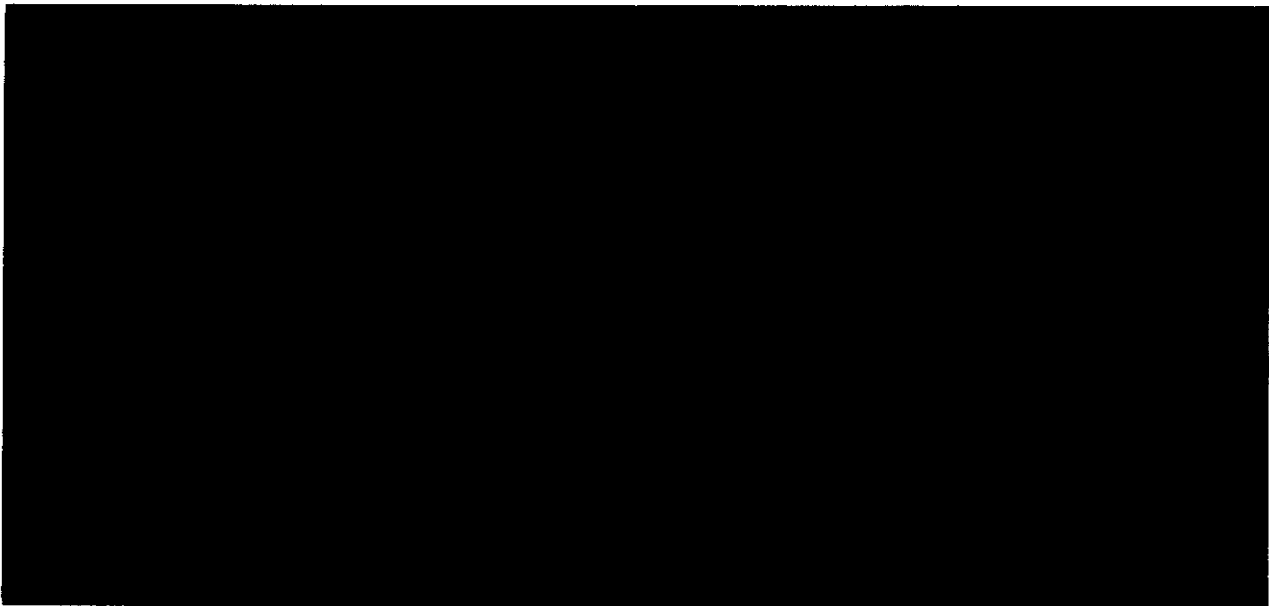


Table 3.3-3
Phase I Economic Viability Study - Crist Unit 4

	A	B	C	D
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20				

Environmental Controls

Scrubber

2009

SCR

N/A

Table 3.3-4
Phase I Economic Viability Study - Crist Unit 5

A	B	C	D
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Environmental Controls

Scrubber

2009

SCR

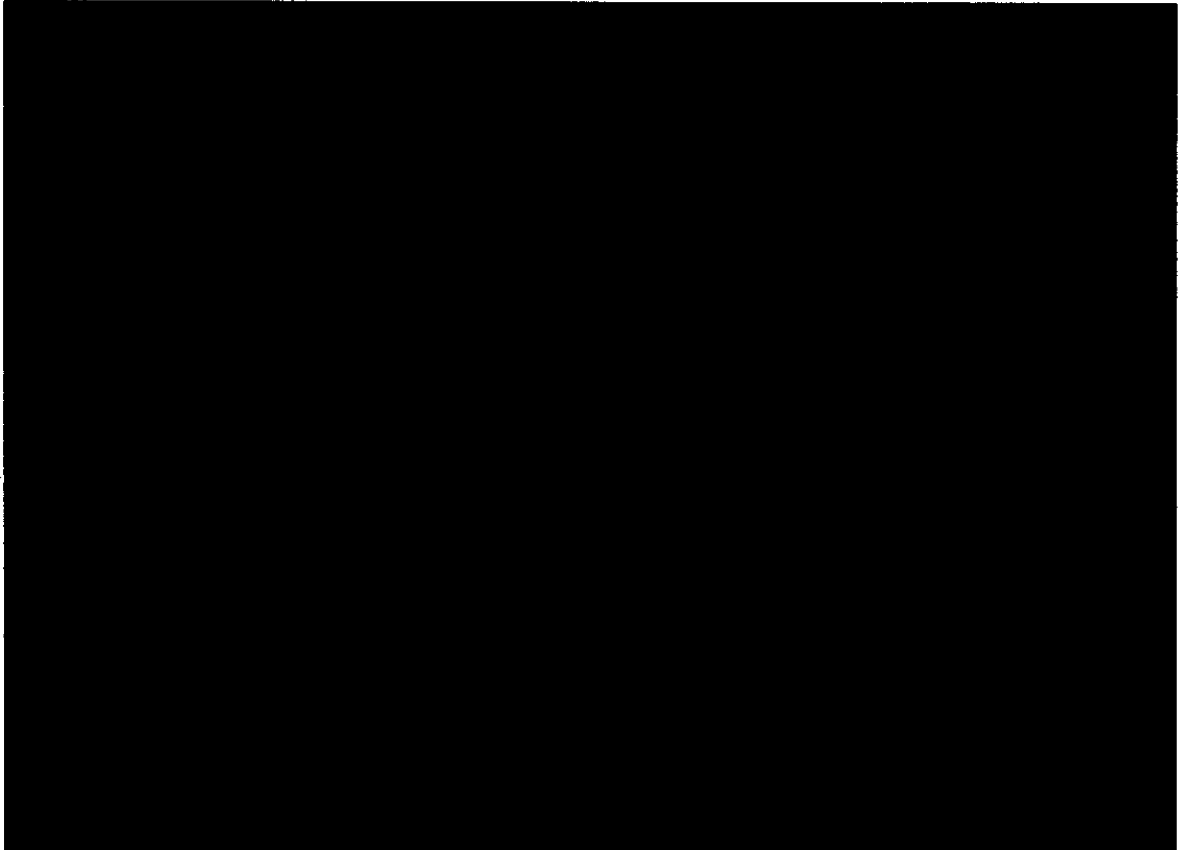
N/A

Table 3.3-5 ^B ^C ^D
Phase I Economic Viability Study - Crist Unit 6

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<i>Environmental Controls</i>	
<i>Scrubber</i>	2009
<i>SCR</i>	2012

A Table 3.3-7 B C D
Phase I Economic Viability Study - Daniel Unit 1



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Environmental Controls
Scrubber 2013
SCR 2014

21 

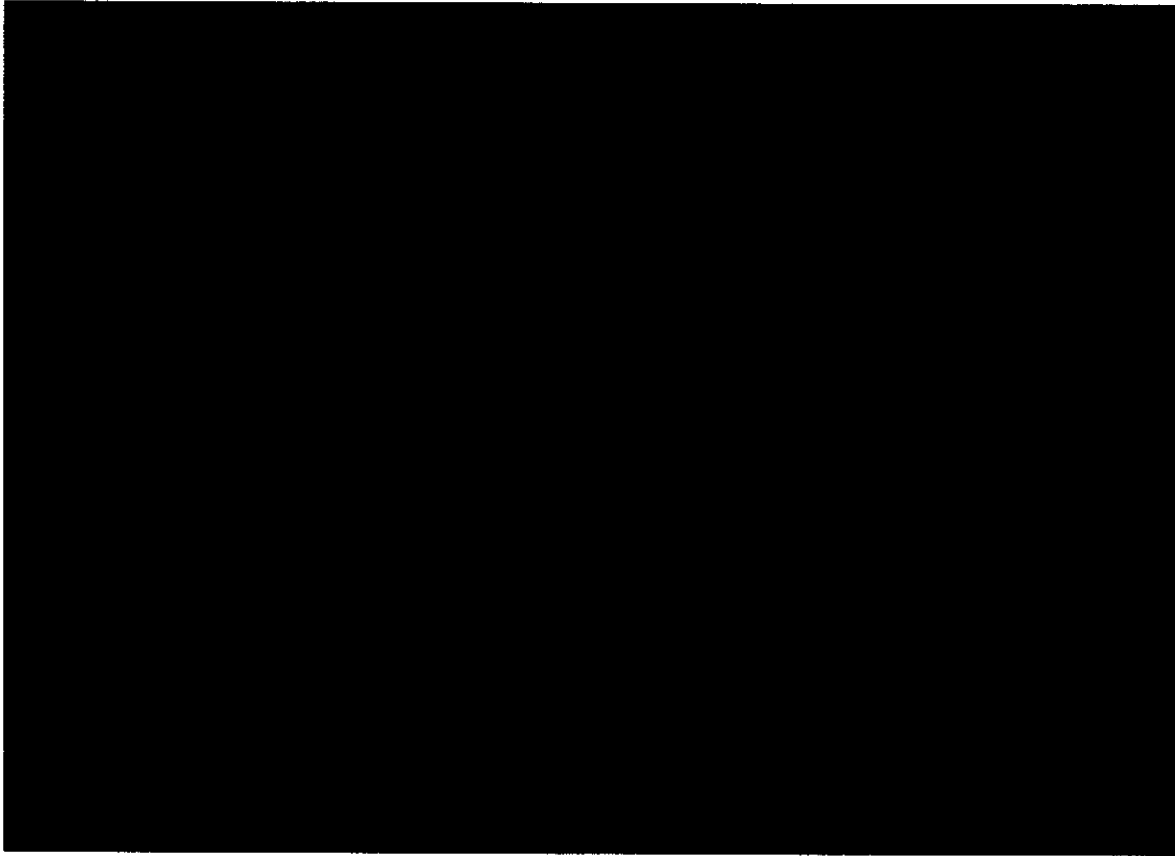
Table 3.3-8
Phase I Economic Viability Study - Daniel Unit 2

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B

C

D



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Environmental Controls
Scrubber
SCR

2013
2015

21



**Table 3.3-9
Phase I Economic Viability Study – Evaluation Description**

*Economic Screening Analysis
NPV of Study Period in 2008 \$/kW*

Generating Unit	Description
Avoided Cost Based Benefits	
Energy	The value of System lambda (marginal energy costs) during the hours the unit is running
Avoided Capacity Benefit	The projected value of peaking capacity based on the long term cost of a new CT
Avoided Cost Benefits	Total Avoided Costs
Incremental Costs	
Fuel	The fuel cost to operate the existing unit
SO ₂	The cost of SO ₂ emissions based on SO ₂ allowance costs and unit emissions
NO _x	The cost of NO _x emissions based on NO _x allowance costs and unit emissions
CO ₂	The cost of CO ₂ emissions based on CO ₂ penalties and unit emissions
Hg	The cost of Hg emissions based on Hg allowance costs and unit emissions
O&M	The fixed and variable O&M costs (including environmental) to operate the unit
Capital Expenditures	The capital necessary to continue to operate and meet environmental compliance
Total	Total Incremental Costs
Net Contribution	Avoided Cost Benefits minus Incremental Costs
MW Capacity	Average Net Generating Capacity
Net Contribution in Thousands of Dollars	Net Contribution in Thousands of Dollars
Economic Retirement Date	Year that maximum accumulated net contribution occurs

4.0 PLANT-BY-PLANT COMPLIANCE PLAN

4.1 Plant Crist

Plant Crist is a four-unit, coal-fired electric generating facility located just north of Pensacola, Florida. Three older natural gas and oil-fired units at the site have been retired. Units 4 and 5 each have a nameplate rating of 93.7 MW; Units 6 and 7 have nameplate ratings of 369 MW and 578 MW, respectively. All four units were affected under the Acid Rain Program, and the plant has operated on low-sulfur coals since the 1990s to lower SO₂ emissions. All four units are equipped with low-NO_x burner systems. Plant Crist Units 4, 5 and 6 have SNCR systems, while Crist Unit 7 is equipped with a SCR system.

For compliance with CAIR and later with CAVR and potential NAAQS, Plant Crist needs significant SO₂ and NO_x reductions. For instance, in the first year of Phase I CAIR compliance, Gulf Power forecasts that without additional emission controls Plant Crist would exceed allowance allocations by approximately 28,000 tons for SO₂ and approximately 1,300 tons for NO_x. Only a few technologies have demonstrated the ability to provide the needed emission reductions at the commercial scale required for Plant Crist.

For CAIR requirements at Plant Crist, a thorough assessment was conducted to compare the retrofit controls versus retirement and replacement options for compliance. As noted under Sections 3.2, fuel switching and exclusive reliance on allowance purchases were eliminated as viable options for Gulf Power. Retrofit options, as well as retirement and replacement options, are each reviewed below specifically for Plant Crist.

4.1.1 Plant Crist Retrofit Options

Plant Crist Units 4 through 7 Flue Gas Desulphurization Scrubber Project

Very high levels of SO₂ emission reductions can be achieved by flue gas desulphurization. There are no other commercially available options for SO₂ emission reductions at the level needed to assure compliance with CAIR and CAVR and address the significant local concerns in the Pensacola area.

A scrubber was the only SO₂ compliance option for Crist Units 6 and 7, and because of their size and emissions, these units were the best, most cost-effective candidates for SO₂ scrubbing and mercury removal. Gulf's plan focuses on placing this scrubber on the largest Gulf Power generating units first and delaying emission controls and costs on other smaller units and plants. Installing additional ductwork and boiler controls to include Crist Units 4 and 5 was also cost-effective and increased incremental SO₂ and mercury emission reductions. The Crist scrubber project is projected to reduce SO₂ emissions by approximately 50,000 tons per year. With these reductions, Gulf Power will be able to

reasonably manage compliance with its SO₂ allowance bank and some market purchases of allowances as required.

In terms of timing, the Crist scrubber was needed for Phase I CAIR compliance in 2010. If the vacatur of the CAIR rule becomes final, Gulf Power anticipates that the Crist Scrubber project would still be needed for Crist Units 6 and 7 to comply with CAVR by 2013. Given that the Crist Scrubber project is still needed for CAVR compliance, regardless of the resolution of CAIR, the issue Gulf faced was whether or not to defer the Crist Scrubber project for several years. Gulf determined that the Crist Scrubber project should proceed for a variety of reasons. First, over \$175 million of equipment had already been ordered. Second, significant construction had already occurred, and the construction workforce had been fully mobilized; deferral would have significantly increased the total project costs. The project will be approximately 55% complete by the end of 2008. Demobilization would mean the potential loss of personnel already on site. Deferral for three years until 2012 to meet 2013 CAVR requirements would increase the construction cost of the project by approximately \$53 million. The associated increase in AFUDC, which Gulf would seek for recovery, would be at least \$45 million. Thus, deferral would cost around \$100 million. Third, if the CAIR rule eventually is vacated, it is also reasonable to anticipate that EPA and/or FDEP will act again to address the same issues. If they do, the scrubber project would continue to be the best, most cost-effective means of limiting SO₂ and mercury emissions, with Gulf potentially facing increased costs in order to meet accelerated in service dates.

Plant Crist Unit 6 SCR Project

The Plant Crist Unit 7 SCR became operational in 2005, significantly reducing emissions of NO_x from the plant. This project was called for under an agreement with the FDEP. The agreement also called for additional NO_x reductions at Plant Crist Units 4 through 6 up to and including a SCR for Unit 6. Additional NO_x reductions are needed at Plant Crist, and only SCR technology will provide the additional increment needed. The SCR on Unit 6 is important to ensure that Pensacola maintains attainment with the newly announced 8-hour ozone standard and addresses significant local pressures to continue NO_x reductions from the plant. In addition, the Crist Unit 6 SCR was also needed for CAIR and CAMR compliance. While CAMR compliance is no longer required, CAIR requirements still remain applicable. Even if CAIR is ultimately vacated, the Crist Unit 6 SCR will still be needed to satisfy FDEP requirements, the new 8-hour ozone standard, and local pressure to reduce NO_x emissions. Gulf has deferred the in-service date for the Crist Unit 6 SCR from 2010 to 2012.

4.1.2 Plant Crist Comparison of Retrofit versus Retirement and Replacement

The initial selection between retrofit and retire/replacement options for Plant Crist was based upon a financial assessment and analysis to determine the most reasonable, least cost option for Gulf Power and its customers. The analysis examined the relative cost of dispatching the

Gulf system (a) with the retrofit technology in place and (b) with having retired the Crist unit(s) without making the retrofit and instead, replacing it with capacity from another generation source.

This analysis is run at both a less detailed level (Phase I) and using a more detailed methodology (Phase II). The basic methodology is the same for both types of analyses, but the Phase I analysis employs some simplifying but more stringent assumptions. For Phase I, the costs of operating the retrofitted units and its affect on system dispatch costs and the need to purchase allowances to meet any remaining emissions (all of which are characterized as “incremental costs”) were compared to the cost of a generic peaking unit and associated energy costs. The Phase I level results indicate there is a savings shown by continuing to operate each generating unit as opposed to replacing it with new or purchased capacity and System energy purchases for both the base case (No CO₂) and \$10 CO₂ sensitivity. The projected NPV cost savings or benefit to Gulf and its customers for Gulf’s Environmental compliance plan for Plant Crist ranges from \$0.8 billion - \$1.9 billion over the period 2008 through the affected units’ planned retirement dates.

Phase II focuses on a comparison of continued operation with unit replacement by a combined cycle and included Crist Units 4, 5, and 6. This evaluation also includes more refined production cost modeling and cost implications to the transmission system. Changes in production cost, capital and other fixed costs are captured in the comparison analysis to help determine the most economical option. The Phase II results show that the No CO₂ and \$10 CO₂ cases would result in a total cost to the customer of \$936.6 million and \$643.4 million, respectively if Plant Crist Units 4, 5, and 6 were retired and replaced with a new combined cycle unit. Under the higher \$20 CO₂ penalty and the current fuel forecast the evaluation indicates it would be a total cost to the customer of \$376.9 million if Plant Crist Units 4, 5, and 6 were retired and replaced with a new combined cycle unit. Under such a high CO₂ penalty, the higher demand and higher related price for natural gas that would result would likely provide an even greater economic margin to continue to operate the coal units.

4.1.3 Plant Crist Emission Monitoring Requirements

Mercury continuous emission monitoring systems for Plant Crist Units 4 through 7 and the common scrubber stack were included as part of Gulf’s original CAIR, CAMR and CAVR compliance plan approved by the Commission. The Plant Crist Units 4 through 7 mercury monitors that were previously scheduled to be placed in service during 2008 have been removed from the current projection. These monitors are no longer required because EPA approved Gulf’s petition for an extension of the deadline for installation of mercury monitors at Plant Crist until after the scrubber is completed. The granting of this petition eliminated the need for the plant to install four mercury monitors that would only be needed from January 1, 2009 until the completion of the scrubber later in 2009. With CAMR voided, electric generating facilities are no longer required to install mercury monitoring equipment

to meet the January 2009 monitoring deadline. In response to the CAMR vacatur, Gulf has delayed further mercury monitoring capital costs until at least 2010.

4.1.4 Conclusions for Plant Crist

Based on this assessment, the retrofit of Crist Units 4 through 7 with a single flue gas desulfurization scrubber and the addition of a SCR at Unit 6 are the best options for compliance with CAIR, CAVR, the newly announced 8-hour ozone standard, potential mercury regulation and a potential fine particulate NAAQS. These are the only technologies that offer the necessary emission reductions for SO₂ and NO_x and when used together, the scrubber and the SCRs on Units 6 and 7 will capture mercury. The scrubber is anticipated to be required as part of the CAVR “reasonable progress program.” Further fuel switching will not reduce emissions to the required level. Allowance purchases are too uncertain and risky as a sole compliance option, especially for annual NO_x. The Phase II analysis indicates that retirement and replacement of the units with a combined cycle unit is not economically feasible relative to retrofit of the existing units under all the CO₂ compliance cost scenarios analyzed.

4.2 Plant Daniel

Gulf Power’s ownership interest at Plant Daniel is associated with two coal-fired electric generating units that each have a nameplate rating of 548.2 MW. Gulf Power and Mississippi Power Company each own 50 percent of Daniel Units 1 and 2. The plant is operated by Mississippi Power employees. The facility is located just north of Pascagoula, Mississippi, with direct transmission access across Alabama and into Florida. Both coal-fired units were affected under the Acid Rain Program and have operated on low-sulfur coals since the 1990s to lower SO₂ emissions. These New Source Performance Standards (NSPS) units are relatively low NO_x emitters, and as a result, Gulf and Mississippi Power have been able to delay installation of controls and associated costs required under the Acid Rain Program.

For compliance with CAIR and later with CAVR, Plant Daniel Units 1 and 2 need significant SO₂ and NO_x reductions. Only a few technologies have demonstrated the ability to provide the needed emission reductions at the commercial scale required for the coal units at Plant Daniel. In light of the CAIR and CAMR developments, many of the proposed Plant Daniel projects have been canceled or deferred.

For CAIR and CAVR requirements at Plant Daniel Units 1 and 2, an assessment was conducted to compare retrofit controls versus retirement and exclusive reliance on replacement options for compliance. As noted under Section 3.2, further fuel switching and complete reliance on allowance purchases were eliminated as viable options for all of Gulf Power’s units, including its share of Plant Daniel Units 1 and 2. Retrofit options and retirement and replacement options are each reviewed below specifically for Plant Daniel.

4.2.1 Plant Daniel Retrofit Options

Plant Daniel Unit 1 and Unit 2 Flue Gas Desulfurization Scrubber Project

Very high levels of SO₂ emission reductions can be achieved by flue gas desulfurization. There are no other commercially available options for SO₂ emission reductions at the level needed to assure compliance with CAIR and CAVR.

The Daniel scrubber project continues to be an effective means of reducing SO₂ and mercury emissions. It is still anticipated that this scrubber project may be required for CAVR compliance, even if it is not required for CAMR and CAIR compliance. These large, co-owned units are the most efficient units owned by Gulf Power. A wet scrubber has been determined to be the only viable SO₂ retrofit compliance option for Plant Daniel.

The Daniel scrubber project is projected to reduce Gulf's SO₂ emissions by approximately 14,000 tons per year (Gulf Power ownership share). With these reductions, Gulf Power will be able to reasonably manage compliance using its SO₂ allowance bank and some market purchases of allowances as required. The scrubber is currently scheduled for completion in 2013, but its timing will continue to remain flexible based on the status of environmental regulations. For CAIR, the scrubber would minimize the reliance on a very volatile SO₂ allowance market and assure compliance for Plant Daniel Units 1 and 2.

Plant Daniel NO_x Reduction Projects

Additional NO_x controls were scheduled for Plant Daniel Units 1 and 2 under the Phase I CAIR annual and seasonal NO_x cap and trade allowance programs. The Daniel Unit 1 and 2 Low NO_x burners were planned for Phase I CAIR annual and seasonal NO_x cap and trade allowance programs. Gulf determined that the Daniel Unit 2 Low NO_x burner installation, which is scheduled for completion in 2008, should proceed based on the project schedule. The Daniel Unit 2 Low NO_x burners were ordered prior to the CAIR vacatur order. The Daniel Unit 1 Low NO_x burner project that was scheduled to be placed in-service during 2009 has been canceled.

Plant Daniel Units 1 and 2 were previously scheduled to receive SNCR retrofits in 2011 and 2012, respectively. Expenditures for these projects were projected to begin in 2009. Plant Daniel planned to operate the SNCRs until the SCRs were placed in-service. The SNCR projects have since been removed from the compliance schedule, and the SCR installation has been accelerated by two years. The Plant Daniel Units 1 and 2 SCRs are planned for operation in 2014 and 2015, respectively, to help meet the requirements of CAIR and possible 8-hour ozone nonattainment. The SCR projects have been accelerated based on the new 8-hour ozone standard that Gulf anticipates will require these controls in an earlier time period than previously planned.

These SCRs, along with the Unit 1 and 2 scrubber, also provide a co-benefit of significantly reducing mercury emissions. The schedule for these proposed SCRs remains flexible and will be continuously re-evaluated. While CAMR compliance is no longer required, CAIR requirements still remain applicable. Even if CAIR is ultimately vacated, the Daniel SCRs will likely be needed to comply with the new 8-hour ozone standard.

Plant Daniel Activated Carbon Injection

During 2007, capital expenditures for Activated Carbon Injection systems at Plant Daniel were added to Gulf's compliance plan. The ACI projects were scheduled to be placed in-service by January 1, 2010 in anticipation of CAMR Phase I. The projects were added due to concerns that the mercury allowance market would not develop in time to ensure compliance during the first year of Phase I.

Based on the vacatur of the CAMR ruling this year, the ACI projects have been removed from the compliance schedule and budget projections. The need for ACI at Plant Daniel will be reexamined as new mercury regulation emerges.

4.2.2 Plant Daniel Comparison of Retrofit versus Retirement and Replacement

Selection between retrofit and retirement/replacement options for Plant Daniel is based upon a financial assessment and analysis to determine the least cost option for Gulf Power and its customers. The analysis examines the relative cost of (a) completing the retrofit project and operating the retrofitted unit with (b) retiring the Daniel units without making the retrofit and instead, replacing them with capacity from another generation source.

This analysis is run at both a less detailed level (Phase I) and using a more detailed methodology (Phase II). The basic methodology is the same for both types of analyses, but the Phase I analysis employs some simplifying but more stringent assumptions. For Phase I, the costs of operating the retrofitted units and its affect on system dispatch costs and the need to purchase allowances to meet any remaining emissions (all of which are characterized as "incremental costs") were compared to the cost of a generic peaking unit and associated energy costs. The Phase I level results indicate there is a savings shown by continuing to operate each generating unit as opposed to replacing it with new or purchased capacity and System energy purchases for both the base case (No CO₂) and \$10 CO₂ sensitivity. The projected NPV cost savings or benefit to Gulf and its customers for Gulf's Environmental compliance plan for Plant Daniel ranges from \$0.6 billion - \$1.2 billion over the period 2008 through the affected units' planned retirement dates.

Phase II focuses on a comparison of continued operation with unit replacement by a combined cycle. This evaluation also includes more refined production cost modeling and cost implications to the transmission system. Changes in production cost, capital and other fixed costs are captured in the comparison analysis to help determine the most economical

option. The Phase II results show that for the No CO₂ and \$10 CO₂ cases there would be a total cost to Gulf's customers of \$669.2 million and \$365.0 million, respectively, if Plant Daniel Units 1 and 2 were replaced instead of being retrofitted. Under the higher \$20 CO₂ penalty and the current fuel forecast the evaluation indicates there would be a total cost to Gulf's customers of \$50.4 million, if Plant Daniel Units 1 and 2 were replaced instead of being retrofitted. Under such a high CO₂ penalty, the higher demand and higher related price for natural gas that would result would likely provide an even greater economic margin to continue to operate the coal units.

4.2.3 Plant Daniel Emission Monitoring Requirements

Based on the CAMR vacatur ruling this year, the Daniel mercury monitors have been removed from the compliance schedule and the budget. This decision will be reexamined as new mercury regulation emerges.

4.2.4 Conclusions for Plant Daniel

Based on this assessment, the retrofit of Daniel Units 1 and 2 with a flue gas desulfurization scrubber, the installation of low-NO_x combustion controls, and later the addition of SCRs on both units are the best options for compliance with CAIR and CAVR at Plant Daniel. These technologies offer the necessary emission reductions for SO₂, NO_x, and when used together, the scrubber and the SCRs will also capture mercury. The scrubber may also be required as part of the CAVR "reasonable progress program." Fuel switching will not reduce emissions to the required level. Allowance purchases are too uncertain and risky as a sole compliance option, especially for annual NO_x. The Phase II analysis indicates that retirement and replacement of the units with a combined cycle unit is not economically feasible relative to retrofit of the existing units under all of the CO₂ compliance cost scenarios analyzed.

4.3 Plant Smith

Plant Smith includes two coal-fired electric generating units (Unit 1 and Unit 2) along with an oil-fired combustion turbine and a natural gas-fired combined cycle unit. The facility is located just north of Panama City, Florida. Plant Smith Unit 1 has a nameplate rating of 149.6 MW and Unit 2 has a nameplate rating of 190.4 MW. Both coal-fired units were affected under the Acid Rain Program, and the plant has operated on low-sulfur coals since the 1990s to lower SO₂ emissions. Both units are also equipped with low-NO_x combustion systems. Unit 1 has special low-NO_x burner tips, and Unit 2 has low-NO_x burners and separated overfired air.

For compliance with CAIR and later with CAVR, Plant Smith needs significant SO₂ and NO_x reductions. Only a few technologies have demonstrated the ability to provide the needed emission reductions at the commercial scale required for Plant Smith.

For CAIR and CAVR requirements at Plant Smith, an assessment was conducted to compare retrofit controls versus retirement and replacement options for compliance. As noted under Section 3.2 fuel switching and exclusive reliance on allowance purchases were eliminated as viable options for Gulf Power. Retrofit options and retirement and replacement options are each reviewed below specifically for Plant Smith.

4.3.1 Plant Smith Retrofit Options

Plant Smith SNCR and NO_x Reduction Projects

Installation of SNCRs for Plant Smith Units 1 and 2 were needed for Phase I CAIR compliance in 2010. If the CAIR vacatur becomes final, the SNCRs will still be needed to assist in maintaining local compliance with the more stringent 8-hour ozone standard. Given that the Smith SNCR projects are still needed for compliance with the local ozone standard, the issue Gulf faced was whether or not to defer the Smith SNCR installations for several years. Gulf determined that the Smith SNCR projects should proceed for several reasons. First, the Smith SNCR projects are well underway. The Smith Unit 2 SNCR is scheduled to be placed in-service in the fall of 2008 and the Smith Unit 1 SNCR will be placed in-service during the spring of 2009. The Smith Unit 1 SNCR installation will be approximately 70% complete by year end with only the outage work left to be completed during the first quarter of 2009. Second, approximately 80% of the total project costs have been spent or committed, with the remaining costs primarily designated for installation. Finally, delaying the project would require renegotiating the installation contract which would likely result in significantly higher costs due to increasing regional demand in craft labor and high volatility in commodity markets.

Plant Smith Units 1 and 2 Flue Gas Desulfurization Scrubber Project

The Plant Smith scrubber project has been included in the Gulf Power environmental compliance plan because the requirements of CAVR will likely lead to a scrubber being required for Plant Smith Units 1 and 2. This decision is based upon anticipated CAVR command and control requirements. In addition, the scrubber will provide the added benefit of reducing mercury emissions. The scrubber project is currently planned for operation in 2017. This schedule and decisions about the Plant Smith scrubber remain very flexible. This scrubber would offer the same benefits as the scrubbers previously discussed for Plants Crist and Daniel.

Plant Smith Unit 2 Baghouse

The Plant Smith Unit 2 baghouse project has been included in the Gulf Power Environmental compliance plan because potential mercury regulation will likely lead to additional controls being required for Plant Smith. The baghouse project is currently planned for operation in

2018. The schedule and decisions about the Plant Smith Unit 2 baghouse remain very flexible.

4.3.2 Plant Smith Comparison of Retrofit versus Retirement and Replacement

Gulf's March 2007 CAIR/CAMR/CAVR compliance plan included results of an economic analysis that was performed to assess the costs over a period from 2006 until the current planned retirement date for the two coal-fired Plant Smith units. The costs of operating the retrofitted units and its affect on system dispatch costs and the need to purchase allowances to meet any remaining emission limits (all of which are characterized as "incremental costs") were compared to the cost of a generic peaking unit and associated energy costs. The results of the analysis indicated there was a savings associated with retrofitting and continuing to operate each generating unit at Plant Smith, as opposed to replacing the generation.

The Plant Smith economic analysis has not been updated because Gulf has not made any changes to the Plant Smith compliance strategy, other than delaying completion of the mercury monitor installation to 2010. In addition, the majority of the expenditures for Phase I environmental projects at Plant Smith will be incurred prior to 2009. An updated analysis will be performed before Gulf moves forward with the Plant Smith scrubber and baghouse projects. Both of these projects are included in Phase II of Gulf's compliance plan which has not yet been approved for ECRC recovery.

4.3.3 Plant Smith Emission Monitoring Requirements

CAIR required the installation of a parametric emission monitoring system on the Plant Smith combustion turbine during 2007. Gulf will continue to incur future maintenance expenses to ensure accurate accounting of emissions. In response to the CAMR vacatur Gulf has delayed further mercury monitoring capital costs until at least 2010.

4.3.4 Conclusions for Plant Smith

The retrofit of Smith Units 1 and 2 with SNCR, a flue gas desulfurization scrubber, and a baghouse are the best options for compliance with CAIR, CAVR, and potential mercury regulation at Plant Smith. These technologies offer the necessary emission reductions for SO₂ and NO_x. The Smith Unit 2 SNCR is scheduled to be placed in-service in the fall of 2008 and the Smith Unit 1 SNCR will be placed in-service during March of 2009. The Plant Smith mercury monitoring project is the only other Phase I environmental compliance project scheduled for Plant Smith. The mercury monitor is currently scheduled to be placed in-service during 2010. The schedule and decisions regarding the Plant Smith scrubber and baghouse, Phase II projects, remain very flexible. These projects are included in Gulf's compliance plan for future review and approval.

Fuel switching will not reduce emissions to the required level. Allowance purchases are too uncertain and risky as a sole compliance option, especially for annual NO_x. Retirement and replacement of the units is not economic relative to retrofit of the existing units. The scrubber is also expected to be required as part of the CAVR “reasonable progress program.”

4.4 Plant Scholz

Plant Scholz consists of two coal-fired electric generating units that each have a nameplate rating of 49 MW. The facility is located in Jackson County, Florida. Both units were affected under the Acid Rain Program, and the plant has operated on low-sulfur coals since the 1990s to lower SO₂ emissions. Because these units are small and older, NO_x averaging was used to achieve compliance with the NO_x requirements under the Acid Rain Program without the installation of emission control equipment.

For CAIR and CAVR requirements at Plant Scholz, a thorough assessment was conducted to compare retrofit controls versus retirement and replacement options for compliance. As noted under Section 3.2, fuel switching and exclusive reliance on allowance purchases were eliminated as viable options for Gulf Power. Because this small plant is nearing retirement, significant investments in capital equipment to reduce emissions cannot be justified economically. The plant will utilize Company-wide allowance trading options to comply up until the Scholz units are retired, repowered, or replaced.

4.4.1 Plant Scholz Emission Monitoring Requirements

The Scholz mercury emission monitoring system was being installed during February of 2008 when the court issued an opinion vacating the CAMR. Gulf completed the Scholz installation but postponed certification of the system due to pending regulatory uncertainty regarding quality assurance and reference testing protocols required for certification.

4.4.2 Conclusions for Plant Scholz

For CAIR and CAVR requirements at Plant Scholz, a thorough assessment was conducted to compare the various options for compliance. Fuel switching, allowance purchases, and emission control retrofit versus retirement and replacement were all evaluated as options for compliance. The plant will utilize Company-wide allowance trading options to comply until it is retired, repowered, or replaced.

4.5 GULF'S ALLOWANCE PURCHASES

Although the retrofit installations set forth in Gulf's compliance plan significantly reduce emissions, they will not result in Gulf achieving CAIR compliance levels without the purchase of some emission allowances. Thus, Gulf's environmental compliance plan calls for the purchase of allowances. The emission allowances Gulf Power projects it needs to purchase, along with estimated costs, are shown in Table 4.5-1. These represent the shortfall in emission allowances that Gulf projected when it compared its retrofit options to retirement and replacement options. Therefore, they have been captured in the economic analyses and found to be cost-effective. The purchase of allowances in conjunction with the retrofit projects comprises the most reasonable, cost-effective means for Gulf to meet CAIR and CAVR requirements.

Gulf's SO₂ allowance purchases were intended to address: a) the projected shortfalls in 2009 (Acid Rain Program) and 2010 (CAIR) and b) create a buffer of allowances in the event actual emissions varied materially from projections. At this time, Gulf has a projected SO₂ allowance bank of pre-2010 allowances to be carried forward into 2010, the first year of CAIR compliance for SO₂. If CAIR is ultimately vacated, these SO₂ allowances would be available for Acid Rain Program compliance. Gulf projects a need to purchase CAIR annual and seasonal NO_x allowances beginning in 2009. Gulf's allowance projection will be updated if the CAIR is ultimately vacated.

**Table 4.5-1
Gulf Power Allowance Projection and Costs
(2009-2017)**

Annual Emissions in Excess of Allocations

	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>
SO ₂	13,475	5,806	4,373	7,973	4,548	0	0	0	0
Seasonal NO _x	2,477	2,183	2,137	1,401	356	196	496	471	365
Annual NO _x	5,444	5,650	5,286	3,295	1,350	1,037	464	269	97

A B C D E F G H

Projected Allowance Costs (\$ in thousands)*

	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>
1 SO ₂	\$8,832								
2 Seasonal NO _x	\$2,155								
3 Annual NO _x	\$18,592								
4 Total Cost	\$29,579								

* Projected cost is at forecasted prices of the spot market in a given year; forecast includes pending transactions and commitments to purchase. No costs for SO₂ are projected beginning in 2010 due to banked SO₂ allowances.

TRADE SECRET

5.0 POTENTIAL NEW ENVIRONMENTAL REGULATIONS

5.1 New 8-Hour Ozone Standard

In 2004-2005, the EPA revoked an ozone standard that was based on one-hour ozone levels and published two sets of final rules for implementation of a new, more stringent ozone standard based on eight-hour average levels. State implementation plans, including new emission control regulations necessary to bring ozone nonattainment areas into attainment, were required for most nonattainment areas by June 2007. In June 2007, EPA again proposed revisions to the current ozone standard.

In March 2008, the EPA finalized its revisions to the eight-hour ozone standard, increasing its stringency. The EPA plans to designate nonattainment areas based on the new standard by 2010, and new nonattainment areas within Gulf Power's service territory are expected.

State implementation plans will be developed for these areas by 2013. These SIPs will prescribe emission control measures designed to bring areas into attainment. Although designation of a number of new nonattainment areas is anticipated, specific designations and any subsequent SIP control measures will be based in part on air quality measurements to be made in the future. The ultimate outcome of this matter cannot be determined at this time and will depend on subsequent legal action and/or future nonattainment designations and regulatory plans. Potential nonattainment counties under the new standard are shown below.

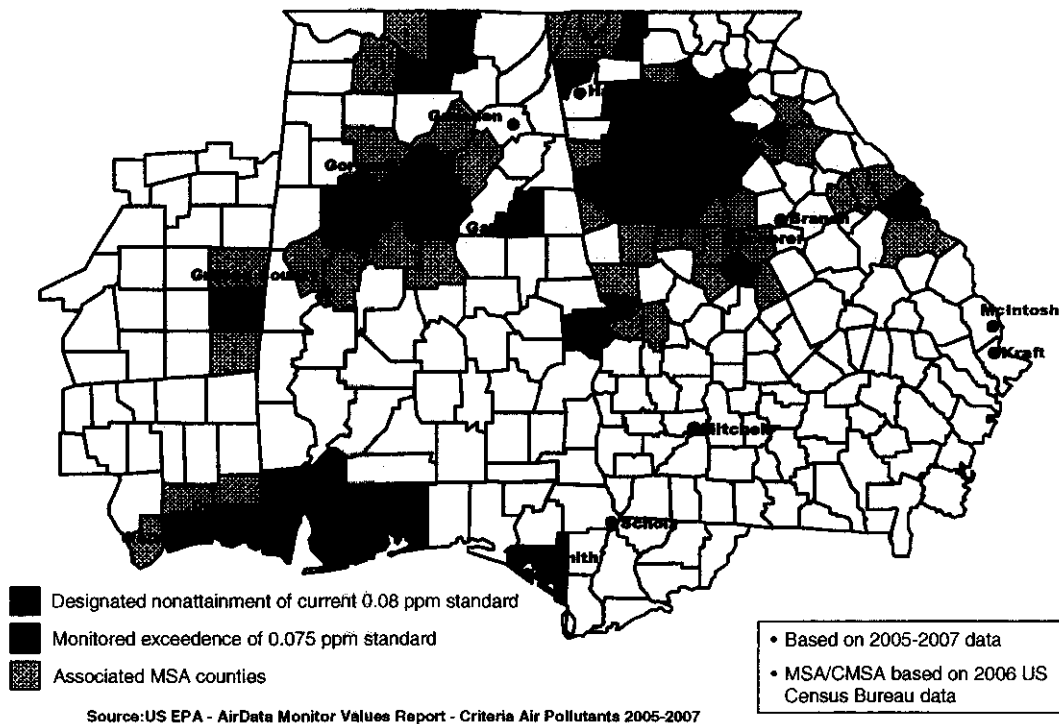


Figure 5.1-1 Potential Ozone Nonattainment Counties Under 0.075 ppm Standard

The control strategy for further reducing emissions of ozone will be affected by the strategy implemented for compliance with the CAIR as discussed in Section 2.1.

5.2 New Fine Particulate Standard

During 2005, the EPA's fine particulate matter nonattainment designations became effective for several areas within Southern Company's service area in Alabama and Georgia. State plans for addressing the nonattainment designations under the existing standard were due by April 2008 and could require further reductions in SO₂ and NO_x emissions from power plants. In September 2006, the EPA published a final rule which increased the stringency of the 24-hour fine particulate matter air quality standard. The state-recommended nonattainment areas are shown on the map below; actual EPA designations of areas which fail to meet this newly revised standard are expected in December 2009. The ultimate outcome of this matter depends on the development and submittal of the required state plans and resolution of pending legal challenges and, therefore, cannot be determined at this time.

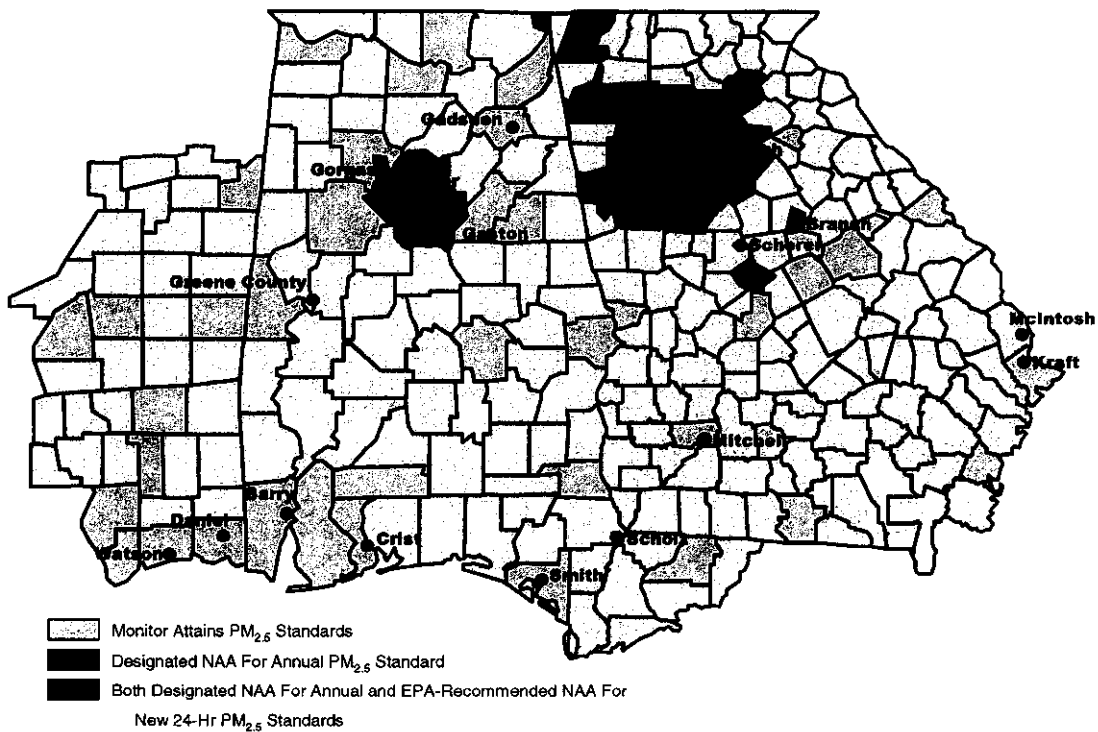


Figure 5.2-1 Nonattainment Areas for Annual PM-2.5 and EPA-Recommended Nonattainment Areas for 24-Hr PM2.5

5.3 New Greenhouse Gas Standard

Federal legislative proposals that would impose mandatory requirements related to greenhouse gas emissions continue to be considered in Congress. The ultimate outcome of these proposals cannot be determined at this time; however, mandatory restrictions on the Company's carbon dioxide emissions could result in significant additional compliance costs that could affect future unit retirement and replacement decisions and results of operations, cash flows, and financial condition if such costs are not recovered through regulated rates.

In April 2007, the U.S. Supreme Court ruled that EPA has authority under the Clean Air Act to regulate greenhouse gas emissions from new motor vehicles. On July 11, 2008, the EPA issued an Advance Notice of Proposed Rulemaking (ANPR) outlining the challenges associated with the potential regulation of greenhouse gases under the Clean Air Act, and soliciting public comment on the issues associated with regulating greenhouse gas emissions from motor vehicles and stationary sources under the Act. The outcome of the rulemaking initiated by the ANPR and the ultimate outcome of the legislative debates are unclear; however, mandatory restrictions on greenhouse gas emissions imposed through either legislation or regulation could result in significant additional compliance costs for electric utilities including Gulf Power.

In July 2007, the Governor of Florida signed a series of executive orders calling for major greenhouse gas emissions reductions and renewables programs in the state. In June 2008, Florida's Governor signed comprehensive energy-related legislation that includes authorization for the FDEP to adopt rules for a cap-and-trade regulatory program to address greenhouse gas emissions from electric utilities, conditioned upon their ratification by the legislature no sooner than the 2010 legislative session. This legislation also authorizes the Florida PSC to adopt a renewable portfolio standard for public utilities, subject to legislative ratification. The impact of this legislation on Gulf Power will depend on the development, adoption, legislative ratification, implementation, and potential legal challenges in connection with rules governing greenhouse gas emissions and mandates regarding the use of renewable energy, and the ultimate outcome cannot be determined at this time.

6.0 SUMMARY OF GULF'S COMPLIANCE PLAN

Gulf Power's environmental compliance plan reflects a comprehensive assessment of requirements Gulf and its customers face in meeting CAIR, CAVR and potential mercury, SO₂ and NO_x regulations. The CAIR will require significant reductions in SO₂ and NO_x. CAVR may also require the installation of command and control retrofit equipment at certain facilities. In assessing the most cost-effective means of meeting these significant regulatory requirements, Gulf Power considered four primary compliance options: fuel switching, purchase of allowances, retrofit installations, and retirement and replacement of existing units. Fuel switching alone could not meet the requirements of these programs. Given the uncertainty of emerging allowance markets, it was highly questionable whether mature stable allowance markets would emerge in time for an all allowance purchase option to be implemented. There was a fundamental question of whether sufficient allowances would even be available. In addition, given the historic volatility in existing allowance markets, the potential cost of an all-allowance option could be significant. Therefore, risks regarding availability and costs of allowances resulted in an unacceptable level of risk for an all-allowance compliance approach for Gulf and its customers. As a result, Gulf assessed the best means of meeting plant-by-plant emission requirements through retrofit measures supplemented by allowance purchases and compared those options to retiring and replacing existing units. That analysis led to the selection of Gulf Power's environmental compliance plan set forth in Tables 3.1-1 and 3.1-2. Gulf Power's environmental compliance plan, which is based upon analytically sound technical and economic evaluations of alternatives, is the most reasonable, cost effective compliance plan available to Gulf and its customers under current planning assumptions. Gulf Power's environmental compliance plan assures environmental compliance and preserves flexibility for dealing with ever changing requirements and assumptions.

EXHIBIT "C"

Line-by-Line/Field-by-Field Justification

Line(s)/Field(s)

Justification

Table 3.1-1
Page 8
Columns A-J

This information is entitled to confidential classification pursuant to §366.093(3) (d) and (e), Florida Statutes. The basis for this information being designated as confidential is more fully set forth in paragraph 2.

Table 3.1.-2
Page 9
Columns A-J

Table 3.3-1
Page 17
Confidential in its entirety

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Table 3.3-2
Page 18
Confidential in its entirety

Table 3.3-3
Page 19
Column A, Lines 1-2, and 4-20
Columns B-D, Lines 3-4, and 6-20

Table 3.3-4
Page 20
Column A, Lines 1-2, and 4-20
Columns B-D, Lines 3-4, and 6-20

Table 3.3-5
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Table 3.3-6
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Table 3.3-7
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Table 3.3-8
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Column A, Lines 1-2, and 4-21
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Table 4.5-1
Page 37
Columns A-H, Lines 1-4

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Page 16
Lines 1-7

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Public Service Commission

ACKNOWLEDGEMENT

DATE: September 18, 2008

TO: Susan Ritenour, Gulf Power Company

FROM: Ruth Nettles, Office of Commission Clerk

RE: Acknowledgement of Receipt of Confidential Filing

This will acknowledge receipt of a **CONFIDENTIAL DOCUMENT** filed in Docket Number 080007 or, if filed in an undocketed matter, concerning certain portions of of its Environmental Compliance Program Update for Clean Interstate Rule, Clean Air Mercury Rule and Clean Air Visibility Rule, and filed on behalf of Gulf Power Company. The document will be maintained in locked storage.

If you have any questions regarding this document, please contact Marguerite Lockard, Deputy Clerk, at (850) 413-6770.

DOCUMENT NUMBER - DATE
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