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March 31, 2014

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

Re: Docket No. 140007-EI

Dear Ms. Stauffer:

Enclosed for official filing in the above referenced docket is an original and fifteen copies of Gulf Power Company's Environmental Compliance Program Update.

Sincerely,

Robert L. M. Serg.

Robert L. McGee, Jr. Regulatory and Pricing Manager

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# GULF POWER COMPANY AIR QUALITY COMPLIANCE PROGRAM UPDATE

April 1, 2014



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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 planning 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.

Gulf's original environmental Compliance Plan<sup>1</sup> was filed on March 29, 2007. The original document: (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). Gulf's original Compliance Plan was submitted with the Company's petition for review and approval of the plan and acceptance of its components for cost recovery through the Environmental Cost Recovery Clause (ECRC).

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 of Gulf's Program that were entering the implementation phase as being reasonable and prudent and set forth a process for review in connection with subsequent components of the Program. On August 14, 2007, the Florida Public Service Commission (Commission or FPSC) voted to approve the stipulation with the proviso that Gulf provide an annual status report regarding cost-effectiveness and prudence of the subsequent phases in its program into which the Company is moving. The Commission's approval of the stipulation is memorialized in Order No. PSC-07-0721-S-EI.

This document is the seventh update of Gulf's original environmental Compliance Plan. Since the Commission's approval of Gulf's Compliance Program in 2007, there have been a number of regulatory and legislative developments. Gulf has addressed in several of its intervening filings, as well as in the annual updates, regulatory updates and changes to schedules of approved projects. There have been several significant court decisions that have had and will have further impacts on Gulf's Compliance Program.

In 2011, the Environmental Protection Agency (EPA) promulgated the Cross State Air Pollution Rule (CSAPR) to replace CAIR effective January 1, 2012. Like the CAIR, the

<sup>1-</sup> The title of Gulf's compliance environmental program has been revised since the original filing in March of 2007. NAAQS and MATS were added to the title when the new rules were adopted. Likewise, CAMR was removed from the title when the CAMR rule was vacated. During 2014 the air regulation acronyms were removed from the title and replaced with "Air Quality."

CSAPR was intended to address interstate emissions of SO<sub>2</sub> and NOx that interfere with downwind states' abilities to meet or maintain national ambient air quality standards for ozone and/or particulate matter. However, in August 2012, the U.S. Court of Appeals for the District of Colombia Circuit vacated CSAPR in its entirety and directed the EPA to continue to administer CAIR pending the EPA's development of a valid replacement. Review of the U.S. Court of Appeals for the District of Columbia Circuit's decision regarding CSAPR is currently pending before the U.S. Supreme Court. The states of Florida and Mississippi have completed plans to implement CAIR, and emissions reductions are being accomplished by the installation and operation of emission controls at the Company's coal-fired facilities and/or by the purchase of emission allowances.

The Clean Air Visibility Rule was finalized in 2005 with a goal of restoring natural visibility conditions in certain areas (primarily national parks and wilderness areas) by 2064. The rule involves the application of best available retrofit technology to certain sources built between 1962 and 1977 and any additional emissions reductions necessary for each designated area to achieve reasonable progress toward the natural visibility conditions goal by 2018 and for each 10-year period thereafter.

In February 2008, the U.S. Court of Appeals for the District of Columbia Circuit (D.C. Circuit) issued an opinion vacating the EPA's CAMR. In a separate proceeding in the U.S. District Court for the District of Columbia, the Court, under a consent decree, required the EPA to issue a proposed Electric Generating Unit (EGU) Maximum Achievable Control Technology (MACT) rule by March 16, 2011, and a final rule by November 16, 2011. The MACT rule, renamed the Mercury and Air Toxics Standards (MATS), was published in the federal register on February 16, 2012. The MATS rule imposes stringent emissions limits for mercury, acid gases and particulate matter on coal and oil-fired electric utility generating units. Compliance for existing sources is required by April 16, 2015 - unless a one-year compliance extension is granted by the state or local air permitting agency. A one-year extension has been received for Plant Daniel extending the MATS compliance deadline to April 16, 2016.

As discussed in previous compliance strategy updates, compliance with the MATS rule is likely to require substantial capital expenditures and compliance costs. These costs may arise from unit retirements, installation of additional emission controls, and/or changing fuel sources for certain existing units. The MATS rule also requires installation of additional continuous emission monitors and/or additional emissions testing.

As discussed in Gulf's 2013 Compliance Program Update, Gulf has finalized its MATS compliance strategy for Plant Crist and Plant Daniel. Gulf has determined that it is not economical to add the environmental controls at Plant Scholz necessary to comply with MATS and that coal-fired generation will cease at Plant Scholz on April 1, 2015. Gulf has not finalized its MATS compliance strategy for Plant Smith. Once the Company determines

the most cost-effective compliance options for Plant Smith, Gulf will submit revisions to the Compliance Program for the Commission's review.

This document addresses Gulf's air quality projects for compliance with the CAIR/CSAPR, NAAQS, CAVR, and MATS. Gulf Power's ultimate compliance program will be impacted by factors such as: final requirements of new or revised environmental regulations; the cost and availability of emissions allowances; performance of emission control equipment; and changes to the Company's fuel mix. Based on these factors, future environmental compliance costs will continue to be incurred, and projections will be revised. The timing of the requirements and costs incurred will be a function of the compliance options selected, new generating resources, fuel sources and prices, fuel sulfur content, transmission upgrades, energy demand, and other variables.

Detailed capital and O&M costs for projects included in Gulf's Compliance Program that have not yet been placed in-service are provided in Section 3 of this document. Gulf's annual ECRC projection filings will address ongoing O&M and capital retrofit cost projections for projects that have already been placed in-service.

As noted in the Commission's approval of Gulf's original environmental Compliance Program, the program would likely evolve over time. For example, the Plant Smith Units 1 and 2 scrubber and the Plant Smith baghouse project, have been removed from Gulf's Compliance Program. The Plant Smith scrubber and baghouse projects were originally included in Gulf's Compliance Program for future consideration; however, it has been determined that the projects are no longer viable compliance options. Environmental compliance strategies for Plant Smith are being evaluated in response to finalization of the MATS rule and anticipation of future land and water regulations.

In addition to the air rules mentioned above that are aimed at reductions of NOx, SO<sub>2</sub>, mercury, acid gases and particulate matter, the EPA is regulating greenhouse gas (GHG) emissions under the Clean Air Act. The EPA has proposed GHG performance standards for new electric generating units and is planning to develop federal guidelines for states to establish greenhouse gas performance standards for existing units.

During the 2014 timeframe, the EPA is expected to issue new land and water regulations that will affect the storage and handling of coal combustion residuals (CCR), intake structure requirements, and effluent guidelines. Once finalized, these rules could further impact Gulf's Compliance Program. All of this uncertainty reinforces the need for a flexible, robust compliance plan.

### 2.0 REGULATORY AND LEGISLATIVE UPDATE

This section provides a regulatory and legislative update and review of the CAIR and its vacated replacement rule, the Cross State Air Pollution Rule (CSAPR), the National Ambient Air Quality Standards (NAAQS), the CAVR, as well as the vacated CAMR and its replacement rule the Mercury and Air Toxics Standards (MATS).

## 2.1 CLEAN AIR INTERSTATE RULE / CROSS STATE AIR POLLUTION RULE

In March 2005, the EPA published the final CAIR, a rule that addresses transport of SO<sub>2</sub> and NOx emissions that contribute to non-attainment of the ozone and fine particulate matter NAAQS in the eastern United States. This cap and trade rule addresses power plant SO<sub>2</sub> and NOx emissions that were found to contribute to non-attainment 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 NOx and SO<sub>2</sub> to be achieved in two phases, 2009/2010 and 2015, as shown in Table 2.1-1.

#### Table 2.1-1

Emissions	Phase I reduction from acid rain allocations	Phase II reduction from current allocations
SO <sub>2</sub>	50% (2010)	66% (2015)
NOx	50% (2009)	65% (2015)

#### **CAIR Emission Reduction Requirements**

In 2008, the U.S. Court of Appeals for the District of Columbia Circuit issued decisions invalidating certain aspects of the CAIR, but left CAIR compliance requirements in place while the EPA developed a new rule. In August 2011, the EPA adopted the CSAPR to replace CAIR effective January 1, 2012. Like the CAIR, the CSAPR was intended to address interstate emissions of  $SO_2$  and  $NO_x$  that interfere with downwind states' abilities to meet or maintain national ambient air quality standards for ozone and/or particulate matter. However, in August 2012, the U.S. Court of Appeals for the District of Colombia Circuit vacated CSAPR in its entirety and directed the EPA to continue to administer CAIR pending the EPA's development of a valid replacement. Review of the U.S. Court of Appeals for the District of Columbia Circuit's decision regarding CSAPR is currently pending before the U.S. Supreme Court.

The states of Florida and Mississippi have completed plans to implement CAIR, and emissions reductions are being accomplished by the installation and operation of emission controls at the Company's coal-fired facilities and/or by the purchase of emission allowances. Decisions regarding Gulf's CAIR compliance strategy were made jointly with the CAVR and CAMR compliance plans due to co-benefits of proposed controls.

## 2.2 NATIONAL AMBIENT AIR QUALITY STANDARDS

Final revisions to the National Ambient Air Quality Standard (NAAQS) for SO<sub>2</sub>, which established a new one-hour standard, became effective during 2010. No areas within the Company's service area have been designated as nonattainment under his rule. However, the EPA may designate additional areas as nonattainment in the future. Implementation of the revised SO<sub>2</sub> standard could require additional reductions of SO<sub>2</sub> emissions and increased compliance and operational costs.

The EPA regulates ground level ozone through implementation of an eight-hour ozone NAAQS. In 2008, the EPA adopted a more stringent eight-hour ozone standard, which it began to implement in 2011. In May 2012, the EPA published a final determination of nonattainment areas based on the 2008 eight-hour ozone air quality standards. No areas within the Company's service area were determined to be in nonattainment of this standard. The EPA will continue reviewing the ozone NAAQS under the normal five-year review cycle with a new revision expected in 2014. It is anticipated that EPA will lower the 8-hr standard from its current level to a value that could result in areas being designated as nonattainment.

The EPA regulates fine particulate matter concentrations on an annual and 24-hour average basis. All areas within the Company's service area have achieved attainment with the 1997 and 2006 particulate matter NAAQS. On January 15, 2013, the EPA published a final rule that increases the stringency of the annual fine particulate matter standard. The new standard could result in the designation of new nonattainment areas within the Company's service area.

Revisions to the NAAQS for nitrogen dioxide (NO<sub>2</sub>), which established a new one-hour ozone standard, became effective in April 2010. The EPA signed a final rule with area designations for the new NO<sub>2</sub> standard in January 2012, designating the entire country as "unclassifiable/attainment," with no nonattainment areas designated. While this standard is not focused on the electric utility sector, the new NO<sub>2</sub> standard could result in additional compliance and operational costs for units that require new source permitting.

## 2.3 CLEAN AIR VISIBILITY RULE

The Clean Air Visibility Rule (formerly called the Regional Haze Rule) was finalized in 2005, with a goal of restoring natural visibility conditions in certain areas (primarily national parks and wilderness areas) by 2064. The rule involves the application of Best Available Retrofit Technology (BART) to certain sources built between 1962 and 1977 and any additional emissions reductions necessary for each designated area to achieve reasonable progress toward the natural conditions goal by 2018 and for each 10-year planning period thereafter. In 2005, the EPA determined that compliance with the CAIR satisfies BART obligations under CAVR, but, on June 7, 2012, the EPA issued a final rule replacing CAIR with CSAPR as an alternative means of satisfying BART obligations. The 2012 vacatur of CSAPR created additional uncertainty with respect to whether additional controls may be required for CAVR and BART compliance.

In the face of this uncertainty, the states have proceeded with various activities. Florida submitted a revised State Implementation Plan (SIP) on September 17, 2012. This SIP proposed a series of EGU-specific BART and Reasonable Progress determinations which included BART limits for the coal-fired units at Plant Smith and no further controls for Plant Crist. The EPA completed a review of the Florida SIP and published final approval on August 29, 2013 with an effective date of September 30, 2013. On October 15, 2013, environmental groups challenged EPA's approval of Florida's SIP in the U.S. Court of Appeals, Eleventh Circuit. The Environmental Committee of the Florida Electric Power Coordinating Group, Inc. and the FDEP have motioned to intervene in this challenge which is currently in abeyance pending resolution of similar cases in the D.C. Circuit.

The Mississippi Department of Environmental Quality (MDEQ) requested a source-specific BART analyses be submitted by December 15, 2012. The BART analysis for Plant Daniel submitted in December of 2012 demonstrated that the plant already meets "top level control" relative to BART. The MDEQ has taken no action pending resolution of the Supreme Court's ruling on CSAPR. The EPA will have until June 7, 2014 to finalize an approval or disapproval. Until these issues are resolved, it remains uncertain what additional controls will ultimately be required for CAVR and BART compliance.

#### 2.4 CLEAN AIR MERCURY RULE / MERCURY AND AIR TOXICS STANDARDS

In March 2005, the EPA published the final Clean Air Mercury Rule (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 D.C. Circuit and in February 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. In a separate proceeding in the U.S. District Court for the District of Columbia, the Court, under a consent decree, required the EPA to issue a final MACT rule by November 16, 2011.

On February 16, 2012, the EPA published the final Mercury Air Toxics Standards (MATS) rule, which imposes stringent emissions limits for acid gases, mercury, and particulate matter (surrogate for non-mercury metals) on coal- and oil-fired electric utility steam generating units. Compliance for existing sources is required by April 16, 2015, three years after the effective date of the final rule, unless a one-year extension is granted by the state or local air permitting agency. Sources needing a fifth year to comply may seek an Administrative Order under Section 113(a) of the Clean Air Act. According to the EPA, an Administrative Order would be limited to units that are required to run for reliability purposes. A one-year extension has been received for Plant Daniel extending the MATS compliance deadline to April 16, 2016.

Numerous petitions for administrative reconsideration of the MATS rule were filed with the EPA. On November 30, 2012, EPA proposed a reconsideration of certain new source and startup/shutdown issues for existing sources. EPA completed its reconsideration rulemaking for new sources in April 2013, but has not acted on the existing source reconsideration. Oral arguments over the new source issues and EPA's "appropriate and necessary" determination took place before the D.C. Circuit on December 10, 2013. A decision is expected early 2014.

### 3.0 GULF'S COMPLIANCE PROGRAM

#### 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 Units 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 (CC) unit, and one combustion turbine (CT). The nameplate generating capacity of Gulf's generating fleet affected by CAIR/CSAPR, NAAQS, MATS, and/or CAVR is 2,783 megawatts (MW).

A summary of the Compliance Program Commission-approved capital projects that have not yet been placed in service and associated expenditures are provided in Table 3.1-1. The projected plant O&M expenses associated with the capital projects listed in Table 3.1-1 are included in Table 3.1-2. The cost information is provided by plant and by project. Ongoing O&M and capital retrofit cost projections for projects that have previously been placed inservice will be addressed in Gulf's annual ECRC projection filings.





\*\*2006-2013 expenditures

Expenditures presented for Plant Daniel represent Gulf's ownership portion. Allowance cost projections are not included in Table 3.1-1





Expenses presented for Plant Daniel represent Gulf's ownership portion. Allowance cost projections are not included in Table 3.1-2

#### 3.2 PLANT-BY-PLANT COMPLIANCE PROGRAM

#### 3.2.1 PLANT CRIST

Plant Crist is a four-unit, coal-fired electric generating facility located just north of Pensacola, Florida. Three older natural gas/oil-fired units at the site have been retired. Units 4 and 5 each have a nameplate rating of 93.75 MW and Units 6 and 7 have nameplate ratings of 370 MW and 578 MW, respectively. All four units are subject to the Acid Rain Program, and the plant has primarily operated on low-sulfur coals since the 1990s to lower SO<sub>2</sub> emissions. All four units are equipped with low-NOx burner systems. Plant Crist Units 4 and 5 have SNCR systems, while Crist Units 6 and 7 are equipped with SCR systems for NOx control.

The Plant Crist Unit 7 SCR became operational in 2005, significantly reducing emissions of NOx from the plant. This project was the result of an agreement between Gulf and the FDEP. The agreement also called for additional NOx reductions on Plant Crist Units 4 through 6 up to and including an SCR for Unit 6. The Plant Crist Unit 6 SCR was placed in service during 2012.

The Plant Crist Units 4 through 7 flue gas desulfurization (FGD) scrubber became operational in December 2009 and is designed to reduce  $SO_2$  emissions by approximately 95%. With these reductions, Gulf Power will be able to reasonably manage compliance with its  $SO_2$  allowance bank for the acid rain program and CAIR. Mercury emissions are also being reduced through the co-benefits of the scrubber and SCRs. The Plant Scholz mercury monitor has been relocated to Plant Crist in order to further analyze Plant Crist mercury emissions.

Based on previous economic assessments of Crist Units 4 through 7 and the Crist Unit 6 SCR economic evaluation, the retrofit of Crist Units 4 through 7 with a single scrubber, SNCRs on Units 4 and 5, and SCRs on Units 6 and 7 are the best options for compliance with the current requirements of CAIR, CAVR, and the anticipated NAAQS. These are the only technologies that offer the necessary emission reductions for SO<sub>2</sub> and NOx, and when used together, the scrubber and the SCRs on Units 6 and 7 provide additional benefit by reducing mercury emissions. Decisions regarding Gulf's CAIR compliance strategy were made jointly with the CAVR and CAMR/MATS compliance plans due to co-benefits of proposed controls. As explained in Gulf's 2013 Compliance Plan, the best option for MATS compliance at Plant Crist for Gulf's customers was to proceed with the identified transmission projects in order to allow Plant Crist to commit and dispatch in the most economic manner, while avoiding the installation of additional environmental controls. The scrubber, mercury and air toxics monitors, SNCRs, and SCRs have been approved for recovery through the ECRC in past proceedings, subject to ongoing review of costs within the ECRC annual review process.

## 3.2.2 PLANT DANIEL

Gulf Power's ownership interest at Plant Daniel is associated with two coal-fired electric generating units that have a nameplate rating of 548.25 MW each. Gulf Power and Mississippi Power Company each own 50 percent of Daniel Units 1 and 2. The plant is operated by Mississippi Power. The facility is located just north of Pascagoula, Mississippi, with direct transmission access across Alabama and into Florida. Both coal-fired units were affected by the Acid Rain Program and have operated on low-sulfur coals since the 1990s. These New Source Performance Standards (NSPS) units are relatively low NOx emitters, and as a result, these units are part of a NOx Averaging Plan allowing delayed installation of controls and associated costs required under the Acid Rain Program. Low NOx burners were installed on Daniel Units 1 and 2 during 2010 and 2008, respectively, for the CAIR annual and seasonal NOx cap and trade allowance programs.

For compliance with the CAIR, CAVR, MATS and anticipated NAAQS, Plant Daniel Units 1 and 2 need significant emission reductions. Only a few technologies have demonstrated the ability to provide the necessary emission reductions at the commercial scale required for the coal units at Plant Daniel. Retrofit options are each reviewed below specifically for Plant Daniel.

#### **Plant Daniel Retrofit Options**

#### Plant Daniel Unit 1 and Unit 2 Flue Gas Desulfurization Scrubber Projects

Very high levels of SO<sub>2</sub> emission reductions can be achieved by flue gas desulfurization. Other than flue gas desulfurization, there are no other commercially available options for SO<sub>2</sub> emission reductions at the level needed to assure compliance with the CAIR/CSAPR, CAVR, MATS, and the anticipated NAAQS. Flue gas desulfurization, or wet scrubbing, has been determined to be the only viable SO<sub>2</sub> retrofit compliance option for Plant Daniel.

The Plant Daniel scrubber projects are currently scheduled for completion in December 2015. The scrubber stack concrete work has been completed, stack liners are at a maximum height for one unit, and the scrubber vessels are approximately 50% complete. The scrubbers will minimize reliance on the SO<sub>2</sub> allowance market and allow Plant Daniel to comply with the MATS mercury, particulate matter (PM) and surrogate SO<sub>2</sub> limits as well as the CAIR, CAVR, and the anticipated NAAQS. The Daniel scrubber projects are designed to reduce SO<sub>2</sub> emissions by approximately 95%. With these reductions, Gulf Power will be able to reasonably manage compliance using its SO<sub>2</sub> allowance bank for the acid rain program and CAIR.

#### **Plant Daniel NOx Reduction Projects**

The Daniel Unit 1 and 2 Low NOx burners were planned for CAIR annual and seasonal NOx cap and trade allowance programs. The Daniel Unit 2 Low NOx burners were installed during 2008 and the Unit 1 Low NOx burners were placed in-service in 2010.

The Plant Daniel Units 1 and 2 SCRs are now scheduled to be in service by 2022. This projected timeline for compliance with the anticipated ozone NAAQS revisions is based on promulgation of a revised, lower ozone standard in 2015. This timeline is subject to change because it is influenced by several different parties and factors, including the EPA and state regulatory agencies, atmospheric modeling, and ambient air quality. In addition to the NAAQS, the SCRs will help meet the requirements of the CAIR and the CAVR. The SCRs, along with the Unit 1 and 2 scrubbers, will provide a co-benefit of reducing mercury emissions and assisting in compliance with MATS.

#### **Plant Daniel MATS Requirements**

As explained in Gulf's 2013 Compliance Plan, the best option to meet the MATS limits at Plant Daniel includes installing the Commission-approved scrubbers and bromine and activated carbon injection (ACI). Engineering, procurement, and construction of the Plant Daniel bromine and ACI systems began in January 2014 and is scheduled to last for approximately two years. Both injection systems will be placed in service with the scrubbers during fourth quarter of 2015.

#### **Conclusions for Plant Daniel**

The retrofit of Plant Daniel Units 1 and 2 with scrubbers, SCRs, bromine and activated carbon injection, Low-NOx burners, and mercury and air toxics monitors are the best options for compliance with the CAIR/CSAPR, MATS, CAVR, and the anticipated NAAQS. These projects have been approved for recovery through the ECRC in past proceedings, subject to ongoing review of costs within the ECRC annual review process.

#### 3.2.3 PLANT SMITH

Plant Smith includes two coal-fired electric generating units, Unit 1 and Unit 2, along with an oil-fired combustion turbine (CT) 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 are subject to the Acid Rain Program, and the plant has operated on low-sulfur coals since 2000 to lower SO<sub>2</sub> emissions. Both units are also equipped with low-NOx combustion systems. Unit 1 has special low-NOx burner tips, and Unit 2 has low-NOx burners and a separated overfired air system.

The CAIR required the installation of a parametric emission monitoring system on the Plant Smith CT during 2007. Installation of SNCRs for Plant Smith Units 1 and 2 was needed for Phase I CAIR compliance in 2009. In addition to CAIR compliance, the SNCRs were needed to assist in maintaining local compliance with the anticipated 8-hour ozone non-attainment designation. The Smith Unit 2 SNCR was placed in-service in the fall of 2008, and the Smith Unit 1 SNCR was placed in-service during May of 2009.

#### **Plant Smith MATS Requirements**

Gulf has not finalized its MATS compliance strategy for Plant Smith. Once the Company determines the most cost-effective overall compliance options for Plant Smith, Gulf will submit revisions to the Compliance Program for the Commission's review. The final plans for MATS compliance could include land and water improvements necessary to meet regulatory requirements.

#### **Conclusions for Plant Smith**

The retrofit of Smith Units 1 and 2 with SNCRs and the installation of a CAIR parametric monitor for the Smith Combustion Turbine were the best option for compliance with CAIR as described in Gulf's original Compliance Plan evaluations. The CAIR parametric monitor, mercury monitor, and SNCRs have been approved for recovery through the ECRC in past proceedings, subject to ongoing review of costs within the ECRC annual review process.

#### 3.2.4 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 are subject to the Acid Rain Program. Because these units are small and older, NOx averaging was used to achieve compliance with the NOx 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. Fuel switching, allowance purchases, and emission control retrofit versus retirement and replacement were all evaluated as options for compliance. 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 rather than installing additional emission control equipment for CAIR compliance. In response to finalization and evaluation of the MATS rule, Gulf has decided to cease coal-fired operation of Plant Scholz as of April 1, 2015. Gulf has determined that it is not economical to add the environmental controls at Plant Scholz necessary to comply with MATS.

## 4.0 POTENTIAL NEW ENVIRONMENTAL REGULATIONS

#### 4.1 EPA'S EXCESS EMISSION STATE IMPLEMENTATION PLANS

On February 12, 2013, the EPA proposed a rule that would require certain states to revise their State Implementation Plans (SIPs) relating to the regulation of excess emissions at industrial facilities, including fossil fuel-fired generating facilities, during periods of startup, shut-down, or malfunction (SSM). The EPA proposed a determination that the SSM provisions in the SIPs for 36 states (including Florida and Mississippi) do not meet the requirements of the Clean Air Act and must be revised within 18 months of the date on which the EPA publishes the final rule. The EPA has entered into a settlement agreement requiring it to finalize the rule by June 12, 2014. If finalized as proposed, this new requirement could result in additional compliance and operational costs.

#### 4.2 GLOBAL CLIMATE ISSUES

The EPA regulates greenhouse gases under the Prevention of Significant Deterioration and Title V operating permit programs of the Clean Air Act (CAA). In addition, over the past several years, the U.S. Congress has considered many proposals to reduce greenhouse gas emissions, mandate renewable or clean energy, and impose energy efficiency standards. Such proposals are expected to continue to be considered by the U.S. Congress. International climate change negotiations under the United Nations Framework Convention on Climate Change are also continuing. The financial and operational impacts of climate or energy legislation, if enacted, would depend on a variety of factors, including the specific provisions and timing of any legislation that might ultimately be adopted.

In April 2007, the U.S. Supreme Court ruled that carbon dioxide (CO<sub>2</sub>) and GHGs could be considered "pollutants" under the CAA and that the EPA must decide whether emissions of these pollutants endanger public health and welfare. The EPA's final endangerment finding (December 2009) provided the "cause" for the EPA to regulate GHGs which it has done through a number of subsequent actions including the Light Duty Vehicle Rule (April 2010). The Light Duty Vehicle Rule made GHGs "regulated pollutants" under the CAA and triggered stationary source permitting requirements for GHGs. The Tailoring Rule (May 2010) changed the permitting requirements. As of January 2, 2011 new and modified stationary sources that have GHG emissions over the thresholds must go through the prevention of significant deterioration permitting process including installation of the best available control technology for CO<sub>2</sub> and other GHGs.

Each of the EPA's final CAA rulemakings (the Endangerment Finding, the Light Duty Vehicle Rule, and the Tailoring Rule) were challenged in the U.S. Court of Appeals for the District of Columbia Circuit. On June 26, 2012, the Court issued its decisions to dismiss or deny these cases, and on December 20, 2012, the U.S. Court of appeals for the District of Columbia Circuit rejected an industry-backed request to reconsider its decision to uphold the GHG regulations.

On January 8, 2014, the EPA published re-proposed regulations to establish standards of performance for greenhouse gas emissions from new fossil fuel steam electric generating units. A Presidential memorandum issued on June 25, 2013 also directs the EPA to propose standards, regulations, or guidelines for addressing modified, reconstructed, and existing steam electric generating units by June 1, 2014.

International climate change negotiations under the United Nations Framework Convention on Climate Change also continue. In 2009, a nonbinding agreement known as the Copenhagen Accord was reached that included a pledge from countries to reduce their GHG emissions. The 2012 negotiations took place in Doha, Qatar from November 26 to December 7, 2012. These negotiations resulted in a plan of action to develop the legal instrument by the end of the 2015 negotiations as required by 2011's Durban Agreement. Also, a second commitment period under the Kyoto Protocol was established that will run from January 1, 2013 to 2020. The U.S. is not part of this second commitment period since it is not a party to the Kyoto Protocol. The outcome and impact of the international negotiations cannot be determined at this time.

Although the outcome of federal and international initiatives cannot be determined at this time, additional restrictions on the Company's GHG emissions or requirements relating to renewable energy or energy efficiency at the federal or state level are likely to result in significant additional compliance costs, including significant capital expenditures. These costs could affect future unit retirement and replacement decisions and could result in the retirement of a significant number of coal-fired generating units.

## 4.3 COAL COMBUSTION RESIDUALS (CCR) REGULATION

The EPA continues to evaluate the regulatory program for CCRs, including coal ash and gypsum under federal solid and hazardous waste laws. In 2010, the EPA published a proposed rule that requested comments on two potential regulatory options for the management and disposal of CCRs: regulation as a solid waste or regulation as if the materials technically constituted a hazardous waste. Adoption of either option could require closure of, or significant change to, existing storage facilities and construction of lined landfills, as well as additional waste management and groundwater monitoring requirements. Under both options, the EPA proposes to exempt the beneficial reuse of CCRs from regulation; however, a hazardous or other designation indicative of heightened risk could limit or eliminate beneficial reuse options. Environmental groups and other parties have filed lawsuits in the U.S. District Court for the District of Columbia seeking to require the EPA to

complete its rulemaking process and issue final regulations pertaining to the regulation of CCRs. On September 30, 2013, the U.S. District Circuit for the District of Colombia issued an order granting partial summary judgment to the environmental groups and other parties, ruling that the EPA has a statutory obligation to review and revise, as necessary, the federal solid waste regulations applicable to CCRs. On January 29, 2014, the EPA filed a consent decree requiring the agency to take final action regarding the proposed regulation of CCRs as solid waste by December 19, 2014. In addition to the EPAs rulemaking for CCRs, Congress has made multiple attempts to pass coal ash legislation.

The Company currently operates three coal-fired electric generating plants in Florida and is part owner of Plant Daniel Units 1 and 2 located in Mississippi. Each plant has on-site CCR storage facilities. In addition to on-site storage, the Company sells a portion of its CCRs to third parties for beneficial reuse. Historically, individual states have regulated CCRs and the States of Florida and Mississippi each have their own regulatory requirements. The Company has a routine and robust inspection program in place to ensure the integrity of its CCR surface impoundments and compliance with applicable regulations. Pending the outcome of the final rule, some of the Company's facilities may be subject to significant additional capital expenditures and compliance costs that could affect future unit retirement and replacement decisions. The ultimate outcome of this rulemaking will depend on the final rule and the outcome of any legal challenges and cannot be determined at this time.

## 4.4 316(B) INTAKE STRUCTURE REGULATION

In 2011, the EPA published a proposed rule that establishes standards for reducing effects on fish and other aquatic life caused by cooling water intake structures at existing power plants and manufacturing facilities. The rule also addresses cooling water intake structures for new units at existing facilities. Compliance with the proposed rule could require changes to existing cooling water intake structures at certain generating facilities, and new generating units constructed at existing plants would be required to install closed cycle cooling towers. The EPA has entered into an amended settlement agreement, requiring it to issue a final rule by April 17, 2014. If finalized as proposed, some of the Company's facilities may be subject to significant additional capital expenditures and compliance costs that could affect future unit retirement and replacement decisions. The ultimate outcome of this rulemaking will depend on the final rule and the outcome of any legal challenges and cannot be determined at this time.

#### 4.5 EFFLUENT LIMITATIONS GUIDELINES

On September 15, 2009, the EPA announced its plans to commence a rulemaking to revise the current effluent guidelines for steam electric generating plants. The EPA completed a multi-year study of power plant wastewater discharges and concluded that pollutant discharges from coal-fired power plants will increase significantly in the next few years as new air pollution controls are installed. The EPA's study concludes that technologies are available to significantly reduce pollutant loadings from ash transport water and FGD scrubber wastewater. On June 7, 2013, the EPA published a proposed rule which requested comments on a range of potential regulatory options for addressing certain waste streams from steam electric power plants. The EPA has agreed to finalize this rule by May 22, 2014. The regulations could result in the installation of additional controls on certain facilities. The impact of the revised effluent guidelines will depend on the specific technology requirements of the final rule and, therefore, cannot be determined at this time.

### 4.6 WATER QUALITY AND TOTAL MAXIMUM DAILY LOADS (TMDLS)

Numeric nutrient water quality standards promulgated by the State of Florida to limit the amount of nitrogen and phosphorous allowed in state waters are expected to go into effect during 2014. The impact of these standards will depend on further regulatory action in connection with the implementation of these standards and cannot be determined at this time. These regulations could result in additional compliance costs that, in conjunction with other rules, could affect future unit retirement and replacement decisions and results of operations, cash flows, and financial condition.

#### BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

IN RE: Environmental Cost ) Recovery Clause )

Docket No.: 140007-EI

#### CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true copy of the foregoing was furnished by overnight mail this 31st day of March, 2014 to the following:

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