

**Prevention of Significant Air Quality Deterioration Review  
Of the Savannah Electric and Power Company  
McIntosh Combined-Cycle Facility  
Located in Rincon, Effingham County, Georgia**

**FINAL DETERMINATION  
SIP Permit Application No. 13404  
Phase II Acid Rain Permit Application No. AR-13746  
Title V Permit Application No. 13404  
April 2003**

**State of Georgia  
Department of Natural Resources  
Environmental Protection Division  
Air Protection Branch**

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## Background

On November 14, 2001, Savannah Electric and Power Company-McIntosh Steam-Electric Generating Plant (a.k.a. Plant McIntosh) submitted to the Environmental Protection Division (the Division) an application for an air quality permit to construct and operate four combined-cycle combustion trains (i.e., two combined-cycle power blocks) at the existing Plant McIntosh site in Rincon, Effingham County, Georgia. The application was deemed complete on January 23, 2003.

On February 21, 2003, the Division issued a Preliminary Determination stating that the construction and operation of the two combined-cycle power blocks should be approved. The Preliminary Determination contained a draft Air Quality Permit for the construction and operation of the facility.

The Division requested that the applicant place a public notice in a newspaper of general circulation in the area of the proposed facility notifying the public of the proposed construction and providing the opportunity for written public comment. The public notice also identified the date and location of a public meeting/public hearing to be held by the Division on this permit application. Such public notice was placed in *The Effingham Herald* (legal organ for Effingham County) on February 27, 2003; and in the *Hardeeville Times* (legal organ for Jasper County, South Carolina) on February 26, 2003. A public hearing was held on April 3, 2003 in Springfield, Effingham County, Georgia. During the comment period, comments were received from Savannah Electric and members of the local political community. During the public meeting/public hearing, members of the local political and private community expressed their support for issuance of the permit. The public comment period expired April 3, 2003.

The requested permit changes are described below along with the Division's written responses. The discussion will not elaborate on typographical or grammatical revisions made to the final permit. The permit has been changed based on the comments.

A copy of the final permit is provided in Appendix A. A copy of the written comments received during the public comment period is provided in Appendix B.

### Review of Savannah Electric Comments

#### 1. **Permit Cover Page**

**Comment:** The applicant provided an update to the facility address. The McIntosh Combined-Cycle Facility will be located at 800 Old Augusta Road, Central and not at 981 Old Augusta Road.

**Response:** The Division has updated the permit cover page as requested.

#### 2. **Draft Section 3.1**

**Comment:** A 3 million gallon above-ground storage tank is included as an emission unit (FST1). The applicant notes that 3 million gallons is the largest size tank that may be installed and that there is a possibility that the tank installed may be less than 3 million gallons. Upon confirmation of the size of this tank, the applicant will provide this information to EPD.

**Response:** The Division has changed the emission unit description found in Draft Section 3.1.

3. **Draft Condition Nos. 3.3.18.c and 3.3.20.c**

**Comment:** The applicant notes that the particulate matter emission rates in pound per million Btu should be on a higher heating value (HHV) basis rather than an lower heating value basis (LHV).

**Response:** The permit has been revised accordingly.

4. **Draft Condition 4.2.2.a**

**Comment:** Draft Condition 4.2.2.a defines the term “affected facility” for purposes of performance testing of the new equipment during fuel oil combustion. The applicant notes that the definition should not reference the duct burners since supplementary firing will not be used whenever the turbines are fired on fuel oil.

**Response:** The permit has been revised accordingly.

5. **Draft Condition 5.1.1**

**Comment:** Draft Condition 5.1.1 requires operation of the required continuous monitoring systems “during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs.” It also requires that data be recorded during calibration checks and zero and span adjustments. During these periods of quality assurance activities, data is recorded, but it is not necessarily data from the stack/exhaust gas. The applicant requests that this condition be revised such that it required operation of the required operation of the required continuous monitoring system breakdowns, *quality assurance activities*, and repairs.

**Response:** Draft Condition 5.1.1 specifies that monitoring system response must be measured and recorded during calibration checks, span adjustments, and zero adjustments (i.e., quality assurance activities). EPD is well aware that Continuous Monitoring Systems cannot measure emissions during “*quality assurance checks*” and see no reason to revise this condition as requested.

6. **The Use of Ultra Low Sulfur Diesel Fuel**

**Comment:** The Draft Permit requires the applicant to transition to “ultra low sulfur diesel fuel” beginning June 1, 2007. Draft Condition 3.3.8 defines the maximum sulfur content of “ultra low sulfur diesel fuel” as 0.0015 weight percent. The Division’s Preliminary Determination defines BACT for fuel oil sulfur content to be 0.05 weight percent. The Division’s Preliminary Determination indicates the need for a transition to a lower fuel oil sulfur content (i.e., lower than 0.05) to accommodate a request made by the Federal Land Manager. The applicant objects to the Division’s interpretation of the Federal Land Manager’s request. The applicant notes that the Federal Land Manager requested that the PSD permit limit the maximum content of the fuel oil sulfur to 0.01 weight percent. The applicant questions why the Division chose to incorporate a transition to an even low fuel oil sulfur content limit. With this in mind, the applicant requests that maximum fuel oil sulfur content limit, defined in Draft Condition 3.3.8, be set at 0.01 weight percent rather than 0.0015 weight percent.

Draft Condition 4.2.4 requires the applicant to modify its PSD/Part 70 Permit on or before December 1, 2006 by submitting a monitoring proposal for a fuel oil sulfur limit of 0.0015 weight percent. The applicant requests that this condition be deleted based on their request to increase the fuel oil sulfur content limit in Draft Condition 3.3.8.

Draft Condition 5.2.3 specifies monitoring procedures for 0.05 weight percent sulfur. The applicant requests that this condition be generalized to allow for the use of applicable ASTM specifications to verify compliance with a fuel oil sulfur content limit of either 0.05 or 0.01 weight percent.

**Response:** The Division agrees with the applicant's interpretation of the BACT selection for sulfur dioxide and sulfur acid mist found on page 15 of the Preliminary Determination. The Division has updated this BACT selection assessment to correctly represent the Division's BACT selection for sulfur dioxide and sulfuric acid mist as follows:

[PD at 15]

~~The Division has also determined that the use of very low sulfur fuel oil whose maximum sulfur content is 0.05 weight percent meets the requirements for BACT for sulfur dioxide and sulfuric acid mist. Regarding the Federal Land Manager's request that the air permit require the future use of *ultra low sulfur diesel fuel*, EPD has investigated the availability of *ultra low sulfur diesel fuel* as compliance with 40 CFR 80 is required by June 1, 2006 for petroleum and oil refineries. It is EPD's assumption at this time, that *ultra low sulfur diesel fuel* should be available for use at the McIntosh Combined Cycle Facility as of June 1, 2007. Thus, the permit will include a condition which requires the use of fuel oil with a maximum fuel sulfur content limit of 0.0015 weight percent (15 ppm) by June 1, 2007 absent approval by the Division for an extension of that date.~~

The applicant has proposed to limit the fuel oil sulfur content for fuel oil combusted in the turbines to be 0.05 weight percent until the commercial availability of fuel oil with a maximum fuel oil sulfur content of 0.01 weight percent. The applicant commits to using a fuel oil whose maximum fuel sulfur content is equal to or less than 0.01 weight percent as soon as it becomes commercially available. This proposal satisfies the needs of the Federal Land Manager as part of the Class I Impact Analysis. The Division agrees that a fuel oil whose maximum sulfur content is either 0.05 or 0.01 weight percent meets the requirements of BACT. However, the Division also believes that the BACT analysis should also consider the feasibility/availability of using an "ultra low sulfur diesel fuel." EPD has investigated the availability of "ultra low sulfur diesel fuel" as compliance with 40 CFR 80 is required by June 1, 2006 for petroleum and oil refineries. It is EPD's assumption at this time, that "ultra low sulfur diesel fuel" should be available for use at the McIntosh Combined-Cycle Facility as of June 1, 2007. Thus, the Division believes that the use of a fuel oil with a maximum fuel oil sulfur content limit of 0.0015 (ultra low sulfur diesel fuel) meets the requirements of BACT as well. Thus, the permit will include a condition which requires the use of fuel oil with a maximum fuel sulfur content limit of 0.0015 weight percent (15 ppm) by June 1, 2007 absent approval by the Division for an extension of that date.

With this mind, Draft Condition Nos. 3.3.8, 4.2.4 and 5.2.3 are not revised as requested because the Division believes that Draft Condition No. 3.3.8 specifies the correct BACT determination.

#### Other Changes

**Draft Section 1.3** is revised to remove a redundant sentence.

The Air Pollution Control Device Description is updated in **Section 3.1**.

The legal authority in **Draft Condition Nos.** 3.3.7, 3.3.8, 3.3.18, 3.3.20, 5.2.5, and 5.2.6 is updated.

The opening statement in **Draft Condition Nos. 4.2.1 and 4.2.2** is revised for clarity.

**Draft Condition 5.2.1.b** is revised to require the Permittee to record the one-hour average carbon monoxide emission rate in ppm corrected to 15 percent oxygen on a dry basis in addition to pound per million Btu heat input.

**Draft Condition 5.2.3** specified the method of monitoring the very low sulfur fuel oil content. This draft condition allowed the Permittee to use either fuel oil supplier certifications or in house analysis. Based on a telephone call with Southern Company Services on April 7, 2003, the Permittee stated that they will rely solely on fuel oil supplier certifications for verification of compliance with the applicable fuel oil sulfur content limit. With this in mind, Draft Condition 5.2.3 is revised and is now New Condition 6.2.7.

**New Condition Nos. 5.2.6 and 5.2.7** are added and represent definitions of a *valid one-hour average and three-hour average NOx emission rate* for purposes of verifying compliance with the applicable NOx BACT emission limits.

**New Condition Nos. 5.2.8 and 5.2.9** are added and represent definitions of a *valid one-hour and three-hour average NOx emission rate* for purposes of verifying compliance with the applicable CO BACT emission limits.

**Draft Condition Nos. 6.1.7.b.i, 6.1.7.b.ii, 6.1.7.b.iii, and 6.1.7.b.iv** are revised to remove the definitions of a valid one-hour and three-hour average NOx and CO BACT emission rates as New Condition Nos. 5.2.6 through 5.2.9 are added. Draft Condition Nos. 6.1.7.b.i through 6.1.7.b.iv reference Condition Nos. 5.2.7 or 5.2.9, whichever is applicable.

**Draft Condition 6.2.9** is corrected to require the Permittee to determine and record the mass emission rate in pound per hour.

**Draft Condition Nos. 6.2.13 and 6.2.14** are combined in the final permit (and corrected) in order for the permit to generate a useful parameter to be used in Draft Condition 6.2.15.

The reference to a quarterly reporting period in **Draft Condition 6.2.17** is wrong and has been removed.

**Draft Condition 7.10.1.e** is corrected to reflect the current addresses.

APPENDIX A  
FINAL PSD PERMIT

APPENDIX B  
COMMENTS ON DRAFT PERMIT