



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4

ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

October 27, 2009

Mr. James Capp, Chief
Air Protection Branch
Environmental Protection Division
Georgia Department of Natural Resources
4244 International Parkway, Suite 120
Atlanta, Georgia 30354

Dear Mr. Capp:

Thank you for sending the preliminary determination and draft Prevention of Significant Deterioration (PSD) permit for Power4Georgians, LLC to be located in Sandersville, (Washington County) Georgia. The applicant proposes to construct and operate a 850 MW coal-fired power plant. The new facility will include one supercritical pulverized coal boiler, one 240 MMBtu/hr oil-fired auxiliary boiler, steam turbine and generator, cooling tower, and other ancillary equipment. The proposed project is subject to PSD review for the following pollutants: carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter (PM, PM₁₀, and PM_{2.5}), sulfur dioxide (SO₂), sulfuric acid mist (SAM), volatile organic compounds (VOC), and fluorides.

Based our review of the preliminary determination, draft PSD permit and supplemental information provided by the applicant, we have the following comments on the draft PSD permit as well as the air quality analyses:

Draft PSD Permit Comments

1. It is our understanding that the best available control technology (BACT) analysis for the boiler concluded that sorbent injection would be used as part of the control of PM_{2.5} emissions. Condition 2.8 of the draft PSD permit does not include this control technology along with the fabric filter baghouse. The final PSD permit should include all controls that will be installed and operated as a result of the BACT analysis.
2. It is our understanding that the BACT analysis for the boiler did not consider Integrated Gasification Combined Cycle (IGCC) as a potentially available control technology. However, in at least one federal permitting action, IGCC was considered an available control option in the BACT analysis for a facility proposed to generate electricity from coal. See Prairie State Generating Company (Illinois). In a recent decision, the EPA Environmental Appeals Board (EAB) remanded a permit because it did not contain an adequate justification for excluding IGCC from the BACT analysis for a coal-fired EGU. See Desert Rock Energy Company, LLC, PSD Appeal Nos. 08-03 et al., Slip. Op. at

76-77 (EAB Sept 24, 2009). The EAB concluded that the permitting record in that case did not support the permitting authority's conclusion that IGCC "redefines the source" and noted that the use of the phrase "innovative fuel combustion techniques" appears to be "intended to broaden the definition of BACT so that the production of gas from coal via gasification would generally be considered in the BACT analysis." Id. at 76-78 n. 82 Consistent with the EAB's analysis in this opinion, the record for the final PSD permit should reflect consideration of IGCC as a potentially available control option, or thoroughly explain and support a decision to not consider IGCC as a control option.

3. Condition 2.16 includes the detailed emission limitations that resulted from the BACT analysis for the auxiliary boiler; however, the averaging times have not been included as they were in Condition 2.13 (main boiler). It is our understanding from the permitting note on page 7 of the draft permit, that the averaging times of these limits are dictated by the test method. The final PSD permit should be consistent with the information described in the preliminary determination.
4. The preliminary determination (page 65) summarizes the BACT analysis for the emergency generator and fire water pump. This section proposes NSPS 40 CFR Part 60 Subpart III emission limits as BACT limits for the majority of the pollutants. However, it does not seem that these emission limits are included in the draft PSD permit. The final PSD permit should include the numeric emission limits that were determined by the department to be BACT for the emergency generator and fire water pump.
5. In a letter dated May 19, 2009, the applicant provided supplemental information to amend their PM_{2.5} BACT analysis. This letter includes emission limitations for several material handling point sources. The applicant proposed these emission limitations as BACT for the filterable PM_{2.5} emissions; however, these emission limits do not seem to be included in the draft PSD permit. The final PSD permit should include all the lb/hr emission limits listed in Table F-13 of this letter.

Air Quality Analyses Comments

1. The impact modeling analyses used the Georgia Environmental Protection Division (GEPD) processed 1987-1991 Macon, GA meteorological data. These data appear to have been processed using surface characteristics within the previously recommended 3-km radius of the measurement location. The assessment of these data representativeness is a general, qualitative comparison that is not sufficient to demonstrate the Macon measurements as representative of the project location. The following comments are associated with the provided representative assessment. [Note: Because the roughness parameter is the most important for the impact assessment, the following addresses this parameter.]
 - a. The surface characteristics for the project location were estimated based on the planned as-built configuration of the plant and not on the current land cover. The acceptability of the analyses provided depends on the how closely the estimated surface characteristics agree with the final constructed plant.

- b. The surface characteristics for the Macon meteorological measure site and that of the project site were based on aerial photographs for four sectors. This assessment appears to only consider the average heights of the trees and buildings. The aerial photographs do not provide these heights so the source of this information should be provided.
 - c. A qualitative assessment of roughness value less than or equal to 1.0 was provided. The area in each sector included in the various land covered categories was not considered. A quantitative assessment of the roughness conditions (*i.e.*, AERSURFACE program output) is needed.
2. The application indicates the modeling was performed using the “worst case base load conditions, which will occur most of the time”. Reduced load and startup conditions were modeled as separate analyses. Only 40 percent reduced load operation was considered with the assumption that the emissions and exit flow rate would be 50 percent of the previously modeled values (*i.e.*, no change in exit temperature). All anticipated operational loads, and their applicable emission rates, exit velocities, and exit temperatures, should be provided and included in this impact analyses.

The modeling of the startup emissions assumed, for each 24-hour period, that the boiler always starts at 5 AM, the auxiliary boiler operates only from 1 AM to 10 AM, and the boiler is at full load at 7 PM. The reason this 24-hour schedule was selected and considered to provide worst case impacts should be provided.

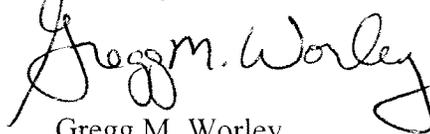
3. Use of an interim significant impact level (SIL) as a screening tool for PM_{2.5} air quality analysis prior to EPA’s promulgation of the PM_{2.5} SILs will necessitate a demonstration for the administrative record by the GEPD that their interim SILs represent reasonable de minimis values. Simply highlighting the fact that the interim PM_{2.5} SILs used by GEPD are EPA’s proposed values is not an acceptable demonstration. At a minimum, the GEPD should express in the permit record an independent judgment whether EPA’s proposal provides an adequate rationale and record to establish the interim values as de minimis values for PM_{2.5} impacts in the area of concern.
4. The following comments are associated with the inventory of other sources used in the cumulative national ambient air quality standards (NAAQS) and PSD increment compliance modeling.
 - a. The 20D procedure is used to identify sources that could be considered for elimination. It should not be used without review and consideration of their proximity to other emissions sources. Confirmation is needed that all sources within the significant impact area were included in the PSD increment and NAAQS impact modeling.
 - b. Confirmation is needed that the modeled emissions for the PSD increment expanding units were associated with the actual emissions on the major source

baseline date or the difference between those actual emissions and the current actual or allowable emissions.

- c. The minor source baseline date used to identify increment-affecting emission sources should be provided. Because the appropriate minor source baseline date is specific to the affected baseline area(s), confirmation is needed that all modeled PSD Class II receptors were within Washington County.
5. The Class I area impact assessment submitted by the applicant on August 4, 2009, indicated an SO₂ emission limit of 0.08 lb/MMBtu over 24-hours for the main boiler will result in project impacts in all PSD Class I areas of less than the significant impact levels. This result would eliminate the need to perform cumulative PSD increment modeling. Review of the emissions provided in revised Table 5-3 (included with this letter) shows the only change in SO₂ emissions were those for the annual analysis, which showed an increase from 54.38 g/s to 120.83 g/s. Since there appears to be no change in the 3-hour and 24-hour modeled emission rates, the proposed limitation and modeling results should be explained. This discrepancy should be explained in the final determination.

If you have any questions regarding these comments or need additional information, please feel free to contact Katy Forney at 404-562-9130 or Stan Krivo at 404-562-9123.

Sincerely,



Gregg M. Worley
Chief
Air Permits Section