

RECEIVED



MAR 05 2010

AIR PROTECTION BRANCH

March 5, 2010

Oglethorpe Power Corporation
2100 East Exchange Place
Tucker, GA 30084-5336
phone 770-270-7600
fax 770-270-7872
An Electric Membership Cooperative

Mr. Eric Cornwell
Georgia Environmental Protection Division
Air Protection Branch
4244 International Parkway, Suite 120
Atlanta, GA 30354

Subject: Oglethorpe Power Corporation – Warren County PSD Permit Application Potential Short-Term CO Emission Limits

Dear Mr. Cornwell:

Oglethorpe Power Corporation (Oglethorpe) appreciates your review of the permit application for our proposed nominal 100 megawatt (MW) biomass-fueled electric generating facility in Warren County, Georgia. This letter is in follow-up to your question on January 27, 2010 about potential short-term carbon monoxide (CO) emission limits.

In the October 2009 permit application submitted for the Warren facility, Oglethorpe determined that an emission rate of 0.08 lb/MMBtu is Best Available Control Technology (BACT) for CO from the proposed biomass boiler. The basis for that limit is a 30-day, rolling average basis excluding startup and shutdown events, and provides a stable form and resulting low emission rate for BACT. Compliance with the proposed BACT limit will be determined via usage of a continuous emissions monitoring system (CEMS).

Besides BACT, the permit application also addresses ambient air quality impacts from CO. The only relevant CO standard is the National Ambient Air Quality Standards (NAAQS), which has standards based on two different averaging periods: one-hour (1-hr) and eight-hour (8-hr).¹ There are no Prevention of Significant Deterioration (PSD) Increments for CO. To determine whether a proposed project needs to assess compliance with the NAAQS, the project is first analyzed against a lower value, called the Significant Impact Level (SIL), for each applicable averaging period.

The October 2009 modeling showed that potential impacts were well below the SILs for CO, with impacts at 28.4% (1-hr) and 27.7% (8-hr) of the SILs, even when using higher modeled emission rates than the long-term BACT value. As such, Oglethorpe believes that the submitted CO modeling shows that there is no need for any short-term CO emission limits to protect the ambient air quality.

In your communication on January 27, 2010, you inquired about Oglethorpe's thoughts on a potential short-term CO permit limit. Based on our review, it is Oglethorpe's opinion that if EPD were to include a short term emission limit in the permit, the purpose should be to insure that the project does not cause or

¹ There are screening thresholds on a one-week average for CO under the Additional Impacts Analysis, an updated copy of which was provided as Table 3-1 in an earlier letter dated February 4, 2010.



short term emission limit in the permit, the purpose should be to insure that the project does not cause or contribute to a negative impact on ambient air quality. Given that this limit would apply during all modes of operation including startup and shutdown, and given that there is no operating history on a similar unit, any short-term limit taken for modeling purposes should only be set as low as needed for the modeling requirements.

Since there is only one modeled CO emissions source, the relationship between emission rate and impact is linear. To determine a value that would not cause or contribute to a negative impact on the following calculation was used:

- ▲ $(568.3 \mu\text{g}/\text{m}^3) * (7,840/2,238.4) = 1,990 \mu\text{g}/\text{m}^3$ vs. a SIL of $2000 \mu\text{g}/\text{m}^3$
- ▲ $(138.6 \mu\text{g}/\text{m}^3) * (4,020/1,119.2) = 497.8 \mu\text{g}/\text{m}^3$ vs. a SIL of $500 \mu\text{g}/\text{m}^3$

Where:

- ▲ 2,238.4 lb/hr (1-hr) - October 2009 submittal, the modeled CO emission rates
- ▲ 1,119.2 lb/hr (8-hr) - October 2009 submittal, the modeled CO emission rates

- ▲ 7,840 lb/hr (1-hr) – Calculated rate that does not cause or contribute
- ▲ 4,020 lb/hr (8-hr) – Calculated rate that does not cause or contribute

- ▲ $1,990 \mu\text{g}/\text{m}^3$ (1-hr) – Calculated impact = 99.5% of SIL
- ▲ $497.8 \mu\text{g}/\text{m}^3$ (8-hr) – Calculated impact = 99.5% of SIL

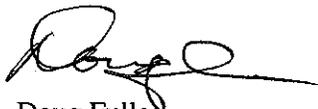
The proposed emission limits would result in impacts at 99.5% of the SILs, which themselves are only 5% of the respective NAAQS (see Table 3-6 in the October 2009 modeling submittal).

As with the BACT limit, each of these proposed short-term lb/hr limits would be measured via the CEMS. Limits of 7,840 lb/hr (1-hr) and 4,020 lb/hr (8-hr) would ensure that Oglethorpe could never cause or contribute to a negative impact on ambient air quality.

Thank you for your continued review of our proposed project. If you have any questions about the material presented in this letter or require additional information, please do not hesitate to call me at 770-270-7166.

Sincerely,

OGLETHORPE POWER CORPORATION



Doug Fulle
Vice President, Environmental Affairs

DJF: dmc

Attachment

Mr. Eric Cornwell - Page 3
March 5, 2010

cc: Mr. Pete Courtney (Georgia EPD)
Ms. Wende Martin (OPC)
Mr. Mike Bilello (OPC)
Mr. Russell Bailey (Trinity)
File Biomass 400.11