

**From:** "Mohammad, Sal" <Sal\_Mohammad@golder.com>  
**To:** Tyneshia Tate <Tyneshia.Tate@dnr.state.ga.us>, "mlydon@camsops.com" <mly...  
**CC:** Eric Cornwell <Eric.Cornwell@dnr.state.ga.us>, Furqan Shaikh <Furqan.Sha...  
**Date:** 5/6/2011 2:53 PM  
**Subject:** RE: Question About Modeling Data - PSD Application for EffinghamCounty

Tyneshia,

Please see the responses to your questions below.

Please call if you need further clarifications.

Thank you,

Sal

-----Original Message-----

From: Tyneshia Tate [mailto:Tyneshia.Tate@dnr.state.ga.us]  
Sent: Friday, April 29, 2011 11:33 AM  
To: mlydon@camsops.com; Susan Jenkins; Tyneshia Tate; Mohammad, Sal  
Cc: Eric Cornwell; Furqan Shaikh  
Subject: Question About Modeling Data - PSD Application for Effingham County

Sal and Matt,

EPD is reviewing data in Tables D-1, D-2, and D-3 as part of Golder's Application.

Question #1: Table D-1 "Summary of NO<sub>2</sub> Sources Modeled in the NAAQS Analysis" presents NO<sub>2</sub> emission rate (lb/hr or g/s). Table D-3 "Determination of NO<sub>x</sub> and PM<sub>10</sub> Emissions (lb/hr) included in the NAAQS Analysis presents NO<sub>x</sub> emissions in lb/hr.

How did Golder take the Table D-3 NO<sub>x</sub> data and convert to Table D-1 NO<sub>2</sub> data? Georgia EPD is unable to perform this conversion.

Response: The NO<sub>x</sub> emission rates from Table D-3 were obtained from the Georgia EPD for background sources and, except for Georgia Pacific Consumer Products (Facility ID No. 04-13-103-00007), are the same as the NO<sub>2</sub> emission rates presented in Table D-1. The emission unit ID and description can be used to cross-reference the source information from Tables D-3 to D-1. It should be noted that, for many

sources, more than one fuel could be used resulting in multiple emission rates. For modeling purposes, the highest emission rate was used based on the fuels that the source was permitted to use. In addition, certain sources were combined in the modeling if these sources had the same or similar operating characteristics.

For the Georgia Pacific Consumer Products facility (ID 04-13-103-00007), Georgia Pacific (GP) was contacted directly, who provided updated information as shown in Table D-1. For several these sources, the NO<sub>2</sub> emission rate was higher with data provided by GP than those indicated in Table D-3.

For the other facilities, the NO<sub>x</sub> emissions from Table D-3 were assumed as NO<sub>2</sub> emissions for the background sources and listed directly in Table D-1 for each emission unit with the following explanations for several of the facilities.

Georgia Power - Plant McIntosh Combined Cycle (Facility ID No. 04-13-103-00014) - The NO<sub>x</sub> emissions are presented for both natural gas-firing and fuel oil-firing per CT. The NO<sub>x</sub> emissions for fuel oil-firing of 51.6 lb/hr per CT was divided by 2 since there are 2 stacks per CT, resulting in 25.8 lb/hr per stack emissions, as shown in Table D-1, for a total modeled plant emission rate of 103.2 lb/hr (these sources were combined for modeling purposes)

Savannah Electric - Plant McIntosh (Facility ID No. 04-13-103-00003) - The NO<sub>x</sub> emission of 15.3 lb/hr shown in Table D-3 is for each CT. As presented in the Basis column in Table D-3, the total NO<sub>x</sub> emission rate for the 8 CTs is 124.4 lb/hr (8 x 15.3 lb/hr) which was the rate presented in Table D-1. The NO<sub>x</sub> emission rates for the other sources at this facility in Table D-1 are the same as those presented in Table D-3. Question #2: Table D-2 "Summary of PM<sub>10</sub> Sources Modeled in the NAAQS Analysis" presents PM<sub>10</sub> emission rate (lb/hr or g/s). Table D-3 "Determination of NO<sub>x</sub> and PM<sub>10</sub> Emissions (lb/hr) included in the NAAQS Analysis presents PM<sub>10</sub> emissions in lb/hr.

Please note that several updates were made in the model input file also to reflect updates or more conservative assumptions. The two existing CTs at the Effingham Plant are shown to have actual emission rates of 2.3 g/s, each in Table D-1. However, in the cumulative modeling analysis, the two existing CTs and the two proposed CTs, all four were modeled with emission rates reflecting the startup condition as if all four were starting at the same time. The four steam generators at the Georgia Power Plant Kraft facility are shown to have a combined emission rate of 233.6 g/s in Table D-1. However, based on other information, these sources were modeled with a combined emission rate of 269.8 g/s. Due to typographical error, the emissions units at the Arizona Chemical Corp. facility were modeled with a combined emission rate of 35.2 g/s instead of 5.2 g/s, shown in Table D-1.

Therefore, the modeling results presented in the report provided a conservative NO<sub>2</sub> impact, predicted for total air quality.

The PM10 emission rates in lb/hr (Table D-2) does not match the PM10 emission rates in lb/hr (Table D-3) based on a random review - why? Georgia EPD cannot determine which PM10 modeled emission rates are correct based on the presentation in the application.

Response: Similar to the NOx inventory, the PM10 emission rates from Table D-3 were obtained from the Georgia EPD for background sources and are generally the same as those presented in Table D-2. As noted previously, more than one fuel could be used for many sources, resulting in multiple emission rates. For modeling purposes, the highest emission rate was used based on the fuels that the source was permitted to use. In addition, certain sources were combined in the modeling if these sources had the same or similar operating characteristics.

As noted previously, Georgia Pacific provided updated information for the Georgia Pacific Consumer Products (Facility ID No. 04-13-103-00007), as shown in Table D-2. For several sources, the PM10 emission rate was higher with data provided by Georgia Pacific than those indicated in Table D-3.

Similar to the NOx emission rates, the PM10 emission rates for Georgia Power- Plant McIntosh Combined Cycle (Facility ID No. 04-13-103-00014) are presented for both natural gas-firing and fuel oil-firing per CT in Table D-3. The PM10 emission rate for fuel oil-firing of 33.9 lb/hr per CT was divided by 2 since there are 2 stacks per CT, resulting in 17.0 lb/hr per stack emissions, as shown in Table D-2, for a total modeled plant emission rate of 67.8 lb/hr (these sources were combined for modeling purposes).

For Weyerhaeuser Company - Port Wentworth Mill (Facility ID No. 04-13-051-00010), Emission Unit ID No. RE01 had an emission rate of 47 lb/hr in Table D-3. It was modeled with an emission rate of 33.2 lb/hr based on other information obtained from previous modeling analyses. However, because the facility is located more than 15 km away from the Effingham Plant, this source is not expected to have a significant predicted impact or any on the predicted total air quality impact reported.

Please note that for the cooling towers at the Effingham Plant, Table D-2 shows an emission rate of 0.019 g/s for each of 8 cooling tower cells. However, since the towers actually have 10 cells, the rates were adjusted to be 0.015 g/s as modeled to account for the total emissions from the towers.

Please respond to these questions by May 6, 2011 in order for EPD to continue its review of Effingham's offsite emissions inventory.

Thanks,

Tyneshia Tate

Environmental Engineer

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