

From: Tyneshia Tate
To: Sal Mohammad
CC: Rosendo Majano; Susan Jenkins
Date: 2/8/2011 6:09 AM
Subject: Effingham County PSD Application Phone Conversation Follow Up

Hello Sal:

You requested clarification, via a phone conversation on February 2, 2011, for a request in EPD's letter dated Jan 25, 2011 to Matt Lydon of Effingham. In the letter, EPD suggested that Effingham should re-evaluate the NO2 modeling using a NO2/NOx ratio of 100 percent if an oxidation catalyst system is installed. You wanted to know how this determination was made and whether it is based on any study that suggests that oxidation catalyst installed in a gas turbine would convert all NO to NO2.

The following discussion summarizes the phone conversation on February 2, 2011 to facilitate your request mentioned above which included, in addition to you and I, Rosendo Majano, Modeler of the Georgia EPD Planning & Support Program and Susan Jenkins, PSD Facilitator of the Georgia EPD Stationary Source Permitting Program.

You were interested in knowing what was the basis for EPD's decision for requesting to re-model NO2 with a full in-stack NO to NO2 conversion. As Rosendo explained, such requirement is not based on a systematic study of the effect that oxidation catalysts have on this pollutant when installed on a combined cycle combustion turbine. This issue first came up when EPD's Planning & Support Program was in the process of gathering information of in-stack NO2:NOx ratios for different type of facilities for future use with the PVMRM method, when the EPD Planning & Support Program found data of NO2:NOx ratios above 0.9 for this type of facility.

Although the amount of data is limited, it suggests that the 75% conversion rate is not appropriate for combustion turbines with oxidation catalysts, so in order to be on the conservative side EPD decided to ask applicants to justify the use of the 75% conversion rate or to submit NO2 modeling using the Tier 1 approach (full conversion).

After reviewing the application, Rosendo could see that Effingham actually modeled NO2 assuming a full conversion of NO to NO2, but as Rosendo mentioned, it was not clear if Effingham had performed the significance analysis with full conversion or with 75% conversion. The difference would be in the size of the significant impact area (SIA) and the amount of off-site sources that would be included in the cumulative analysis. However, it looks like Effingham won't have problems complying with the 1-HR standard.

You also mentioned that Golder has plans to submit another application in GA and was therefore interested in getting the NO2:NOx ratios that EPD has and also wanted to know if the requirements for Effingham's case would apply for other facilities. Rosendo said that he would have to inquire if the data pertaining the NO2:NOx ratios was public information, and Susan explained that requirements for future applications would have to be discussed on a case-by-case basis and that EPD could not provide a general answer at this time.

Finally, you indicated that Effingham/Golder were already working on this application and would provide answers to EPD's comments, including the modeling of NO2 with full conversion. In this regard, and in addition to what we discussed during our phone conversation, we wanted to point out that the 1 hour NO2 significance analysis has to be conducted using the EPA interim Significant Impact Level (SIL) of 7.5 ug/m3 instead of the 9.4 ug/m3 SIL previously used. The effect that this change might have on the extent of the SIA and the off-site inventory should also be taken into account when conducting the full impact analysis.

I hope that we have addressed your request. Please do not hesitate to contact us should you have further questions.

Sincerely,

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