Message

From: Jones, Cody C [CCJones@idem.IN.gov]
Sent: 12/10/2018 8:33:48 PM
To: Langman, Michael [langman.michael@epa.gov]
Subject: RE: Riverview Energy Center - Brief summary of 12/4 call and additional modeling questions

Hi Michael,

Yes, the zip files were the files used in the NAAQS and SIL analysis. The 19.05 lb/hr rate is approximately 70 % of the permit limit. Modeling these units together represents 140% capacity of the VCC unit.

Hope that clarifies things!

Cody C. Jones
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From: Langman, Michael [mailto:langman.michael@epa.gov]
Sent: Friday, December 07, 2018 4:05 PM
To: Jones, Cody C <CCJones@idem.IN.gov>
Subject: RE: Riverview Energy Center - Brief summary of 12/4 call and additional modeling questions

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Hi Cody,

Thanks for following up on these questions. I appreciate you taking the time to walk through them with me.

As a follow-up to our discussion, I saw that TGTU A and B (EU 3001 and EU 3002) were modeled at approximately 12.5 lb/hr in the SO2_IDEM_1hour_SILNAAQS_Riverview zip file. Looking at the dates these files were modified, it seems that this may be older modeling that has been superseded by your other analysis.

Looking through the files, I have one more question. I see that there is a zip file labeled SO2_IDEM_1hr_NAAQS. Were the files included in this zip file used for the 1-hour SO2 NAAQS analysis? It looks like the TGTUs in that analysis were modeled at 19.05 lb/hr, which is less than the 26.3 lb/hr emission rate in the permit. Can you verify the emission rate in this part of the analysis?

Thanks,
Michael Langman
Environmental Scientist
Air Permits Section, US EPA Region 5
Email: langman.michael@epa.gov
Phone: 312-886-6867

From: Langman, Michael
Sent: Thursday, December 06, 2018 8:55 AM
To: 'Jones, Cody C' <CCJones@idem.IN.gov>
Subject: Riverview Energy Center - Brief summary of 12/4 call and additional modeling questions

Hi Cody,

Thanks again for taking the time to talk with me the other day about the modeling for Riverview Energy Center (permit number 147-39554-00065).

During our call, we discussed my questions about the modeled stack parameters, differences in air quality analysis table values, and updating the ozone and secondary PM2.5 impacts analysis. I also stated I would send additional questions about the modeling that would be easier to verify in writing. My questions are included below. At this time, these are not my comments on the draft permit, but are intended to further our discussion on the air quality analysis.

I ask that you verify the following modeled emission rates. Some of the differences may be attributed to the different flaring scenarios that were modeled. If the difference is the result of emergency flaring vs normal operations, please let me know.

1.) If a flaring scenario determined the concentration for a particular pollutant in the SIL analysis, were the exceeding the SIL in the SIL analysis also used in the NAAQS analysis?

2.) NOx Annual SIL Analysis – It appears that 2012 was not modeled and may be due to a typographical error in the model input file. Instead, it appears that the years are shifted forward by 1 year (i.e., 2012 uses 2013 met data, 2015 and 2016 both use 2016 met data). Please verify whether the 2012 data would affect the results of the SIL analysis. This was noted in the input files contained in the NO2_IDEM_Flaring_Emer_1hr_SIL zip file.

3.) Process heaters EU1007, 2001, 2002, 2003, 2004, 6000

    a. Condition D.3.1(a)(3) of the draft permit limits EU-6006 PM10 and PM2.5 emissions to 0.53 lb/hr, but appears to be modeled in some of the modeling at 0.51 lb/hr. I suggest verifying the modeled emission rate for this emission unit.

    b. Condition D.3.1(b)(3) establishes annual SO2 limits for process heaters. While it appears that the allowable annual emission rate is modeled for the annual SO2 PSD increment analysis, it appears that a different value is modeled for the annual SO2 SIL analysis. I request that you verify whether the modeled emission rate in the SIL analysis is correct if it was used to determine the receptors to include in the NAAQS analysis.

    c. Condition D.3.1(e) establishes CO emission limits for the process heaters. The modeled emission rate used in the flaring scenario and the normal operating scenario differ, indicating that the two scenarios have different CO emission rates. Is this the case? If so, how were emissions during flaring scenarios determined in the air quality analysis?

    d. Similarly, Condition D.3.2 limits SO2 emission rates during normal operations. However, the modeled flaring scenarios have lower modeled emissions for the process heaters. If the emission rates during flaring change, then how were the modeled emission rates determined?

4.) TGTU A and B (EU3001 and EU3002)

a. Condition D.4.1(e) limits TGTU A and B (EU3001 and EU3002, respectively) to 26.3 lb/hr SO2, but it appears that the TGTUs, in some modeled scenarios, were modeled at 12.5 lb/hr. I suggest verifying the modeled emission rate for each TGTU in the SO2 analysis.

b. Condition D.4.1(j) limits CO emissions to 4.33 lb/hr, but were modeled at 1.50 lb/hr in the CO Fast Depressurization Test scenario. How was the modeled emission rate determined?

c. Is the Fast Depressurization Test scenario an emergency scenario or is this a test scenario that could recur?

5.) Flares (HP - EU4006, LP - 4005, Sulfur – 4004, Loading – 4001)

a. Condition D.5.11(c) limits the HP and LP flare to 0.013 lb/hr SO2 when operating in sweep and pilot mode. However, the modeled emission rate for the LP flare while the HP flare is flaring is slightly lower. How was the modeled emission rate determined?

b. Condition D.7.1(c) limits SO2 emissions from the loading flare to 0.069 lb/hr when operating in pilot mode, but in the 1-hour SO2 NAAQS modeling, it appears that the flare is modeled at a lower emission rate. I suggest verifying the modeled emission rate.

c. Condition D.7.1(f) establishes a CO emission limit for the loading flare. However, the CO SIL analysis models different emission rates for this flare. I suggest verifying the modeled emission rates for this emission unit.

6.) Hydrogen Unit Steam Reformers (EU7001 and EU7002)

a. In the SO2 SIL flaring scenarios, it appears that steam reformer #2 (EU7002) was not included as an emissions unit. I suggest verifying whether this emissions unit should be included in the analysis for these scenarios.

Please let me know if you have any further questions.

Thanks,
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