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| **From:** | Paine, Bob |
| **To:** | Bridgers, George |
| **Subject:** | RE: clarification question on the draft ozone and PM2.5 guidance |
| **Date:** | Tuesday, February 25, 2020 4:22:41 PM |
| **Attachments:** | ATT00001.txt |

Thanks, George.

Bob

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**From:** Bridgers, George <Bridgers.George@epa.gov>
**Sent:** Tuesday, February 25, 2020 4:20 PM
**To:** Paine, Bob <bob.paine@aecom.com>
**Subject:** RE: clarification question on the draft ozone and PM2.5 guidance

Bob,

Per Section II.2… the Applicability Section… one does not have to assess the pollutant or precursors to which are not significant. So, the table is correct, you would not have to assess a PM2.5 precursor to which is not above the SER. You are also correct that the Appendix C example goes above and beyond what is now recommended in our draft guidance. We will take that as a good comment and will potentially update when finalizing the guidance later this year… assuming that Section II.2 remains unchanged. We can either add some caveats or possibly have a new example if there is a good one out… this was one of the first decent examples that the Regions provide back to HQ. This said, no one can be faulted for doing a holistic assessment approach as given in the Appendix C example and discuss in Boston.

Hope this helps.
-George

PS – I'll have to check with Region 4 on what the primary PM2.5 emissions were for this project. I do not have the full project TSD or if I do… not sure where it is in a mountain of emails.

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**From:** Paine, Bob <bob.paine@aecom.com>
**Sent:** Friday, February 21, 2020 1:31 PM
**To:** Bridgers, George <Bridgers.George@epa.gov>
**Subject:** clarification question on the draft ozone and PM2.5 guidance

George, maybe you can help me interpret what I think that I am seeing in the draft ozone and PM2.5 guidance, as it relates to the TVA Gleason example in Appendix C. One issue with the TVA example is that it was actively worked on in 2018, when the Boston workshop in June 2018 and the previous PM2.5 modeling guidance from 2014 had a different approach to what components of PM2.5 impacts are considered vs. the newer draft guidance.

Here is a table from the draft guidance that indicates what components of PM2.5 should be modeled:

One question is: if a precursor to PM2.5 in Cases 3 and 4 is NOT emitted in a significant amount, should it be considered in the modeling?  This table seems to indicate that the answer is no.

However, the TVA Gleason example does not appear to be consistent with this draft guidance.  Here is the calculation for the Tier 1 MERPs issue from Appendix C of the draft guidance:

**TABLE 2**
**Secondary $PM_{2.5}$ Inputs for the SILs in Class II Areas [1,2]**

| Secondary $PM_{2.5}$ Impacts | 24-hr Average | Annual Average |
|---|---|---|
| Highest Modeled Primary $PM_{2.5}$ Concentration ($\mu g/m^3$) [3] | 0.49 | 0.053 |
| SILs for the NAAQS and PSD Increments in Class II areas ($\mu g/m^3$) [4] | 1.2 | 0.2 |
| GCC $NO_x$ Emissions (tons/yr) [5] | 2,270 | 2,270 |
| Default $NO_x$ MERPs [1] | 4,000 | 7,407 |
| GCC $SO_2$ Emissions (tons/yr) [5] | 14.2 | 14.2 |
| Default $SO_2$ MERPs [1] | 667 | 6,061 |

Notes:

1. EPA, 2016 and TDEC, 2018.
2. Calculations taken from "GCC_SecPM25_O3_calcs_20180912.xlsx" provided on optical disc.
3. $PM_{2.5}$ modeling results (Table 4-9).
4. SILs for the NAAQS in Class I and Class II areas and for PSD increments in Class II areas. Based on the April 17, 2018 EPA memo, *Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program.*
5. Emissions taken from Table 3 in "Gleasn PSD Modemssn SA 20180831.xlsx" *(provided by TVA to TDEC on optical disc).*

**Combined Impacts for 24-hour $PM_{2.5}$ for the SIL in Class II Areas:**

$$\frac{0.49}{1.2} + \left(\frac{2{,}270}{4{,}000}\right) + \left(\frac{14.2}{667}\right) = 0.997 \qquad [4.2]$$

**Combined Impacts for Annual $PM_{2.5}$ for the SIL in Class II Areas:**

$$\frac{0.053}{0.2} + \left(\frac{2{,}270}{7{,}407}\right) + \left(\frac{14.2}{6{,}061}\right) = 0.58 \qquad [4.3]$$

Both 24-hour and annual $PM_{2.5}$ impacts were less than 1, which indicated that $PM_{2.5}$ impacts were expected to be below the Class II SILs for the NAAQS and PSD increments. This indicated that emissions from TVA Gleason would not cause or contribute to a violation of the $PM_{2.5}$ NAAQS in Class II areas.

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First of all, it is not clear what the project's primary PM2.5 emissions were. If they were less than 10 TPY, then under the draft guidance, the first term in equations 4.2 and 4.3 should not have been included. Can you provide us with the project's PM2.5 direct emission rate?

The SO2 emission rate is 14.2 TPY, which is less than the SER. So, why is the third term in these equations included? Under the old guidance, it would have been, but my reading of the new guidance indicates that it should now not be included. It is obviously a very trivial quantity anyway. I wonder if this example needs to be updated to show how the new draft guidance would actually be carried out. Other examples should probably be included to show how other combinations of emission rates would be handled.

Regards,

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