



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Eric J. Holcomb
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Commissioner

April 17, 2020

Mr. George Bridgers
U. S. Environmental Protection Agency
Office of Air Quality Planning and Standards
AQAD - Air Quality Modeling Group

Re: Indiana Comments concerning the Draft
Guidance for Ozone and Fine Particulate
Matter Permit Modeling

Dear Mr. Bridgers:

The Indiana Department of Environmental Management, Office of Air Quality (IDEM-OAQ) appreciates the opportunity to comment on the draft "Guidance for Ozone and Fine Particulate Matter Permit Modeling", released February 10th, 2020. Per U.S. EPA's request for comments by April 17th, 2020, IDEM-OAQ is offering the following comments for U.S. EPA consideration.

IDEM continues to believe the U.S. EPA recommendation for the significant impact level (SIL) for annual PM_{2.5} of 0.2 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) is too low and should remain at the 0.3 $\mu\text{g}/\text{m}^3$ level. The 0.3 $\mu\text{g}/\text{m}^3$ level remains as the regulatory threshold as listed in 40 CFR 51.165(b)(2). IDEM has looked at previous modeling analyses for PSD projects within the state and believes that a lower SIL for annual PM_{2.5} does not lend any added value to protection of the fine particulate air quality standard. The inclusion of additional sources as significant with modeled impacts between 0.2 and 0.3 $\mu\text{g}/\text{m}^3$ was minimal. In addition, this recommended lower SIL causes unnecessary regulatory burdens on sources and states. If a source has modeled concentrations exceeding the lower 0.2 $\mu\text{g}/\text{m}^3$ SIL value yet below the regulatory level of 0.3 $\mu\text{g}/\text{m}^3$, it would require unnecessary data collection for source inventories and additional modeling. Modeling using the lower SIL level would not extend significant impact areas much beyond a source's significant impact area if it remained at the 0.3 $\mu\text{g}/\text{m}^3$ SIL. While IDEM reviewed U.S. EPA's April 17, 2018 memorandum "Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program" document, the state will exercise its right to "retain the discretion under this provision [40 CFR 51.165(b)(2)] to determine on a case-by-case basis whether an impact between 0.2 $\mu\text{g}/\text{m}^3$ and 0.3 $\mu\text{g}/\text{m}^3$ will cause or contribute to a violation of the annual PM_{2.5} NAAQS". This approach will be exercised for any

secondary pollutant analysis that will be conducted for proposed projects within the state of Indiana.

IDEM extends its support for analyzing only those pollutants that exceed their respective significant emission rates (SER), as first listed in Cases 1-3 in Table III.2 on page 21 of the draft document. IDEM feels that only those pollutants are to be considered for assessment of direct and secondary PM_{2.5} impacts. Previous U.S. EPA discussions for secondary analyses had introduced the approach of analyzing all pollutants despite their emission levels. The secondary analysis is directed to account for secondary pollutant impacts and has several conservative measures built into the analysis. Also, secondary formation of PM_{2.5} takes time for the photochemical reactions to occur and the air quality impacts from the secondary pollutant would extend out further from the source.

IDEM wishes to express concern with the case 4 scenario as listed in Tables III-2 and Table V-2 in the draft guidance with the NO_x and SO₂ emissions at or greater than 40 tons per year triggering a secondary analysis. This threshold value appears to be very low, lower than is necessary to evaluate secondary PM_{2.5} formation from precursor emissions when direct PM_{2.5} emissions are below its SER. Can U.S EPA provide information to show that impacts from secondary emissions of NO_x and/or SO₂ can be greater than or equal to impacts when direct PM_{2.5} emissions of 10 tpy trigger an analysis? IDEM feels it would be very unlikely secondary emissions would produce air quality impacts that would approach impacts from the direct PM_{2.5} emissions exceeding its SER, unless the NO_x and/or SO₂ emissions were considerably higher than 40 tpy. IDEM even questions the need for a secondary analysis if direct PM_{2.5} emissions are below the SER of 10 tpy and NO_x and SO₂ emissions combined are below the lowest annual PM_{2.5} MERPs values throughout the country. Setting a higher emission threshold for NO_x and SO₂ to even consider conducting a Tier 1 analysis when direct PM_{2.5} is below its SER ensures a reasonable threshold level to alleviate the need for unnecessary evaluation and resources can be targeted to more meaningful analyses. IDEM recommends tying the NO_x and SO₂ emission threshold values more to the MERPs instead of the permit significance levels or another option may be to raise the emission thresholds to new major source significant emissions rates.

IDEM has reviewed the increment section on page 73 of the draft guidance and questions the approach for the proposed source causing or contributing to an increment violation from its secondary impacts. It states, "If the applicant can demonstrate to the satisfaction of the permitting authority that significant impacts do not occur at the location and time of any modeled violation". IDEM questions how the location and timing of secondary impacts can be accurately determined in order to establish increment violations through the secondary analysis. IDEM questions if there is an increment violation but the proposed source has shown that it is not culpable with direct PM_{2.5} emissions, could they be culpable with precursor pollutant emissions? If more explanation could be provided on this issue with examples, that would be helpful. In

addition, the draft guidance suggests a proposed source can obtain emission offsets or reductions either internally or from another existing source and this would be sufficient. IDEM fails to see how practical it would be for a source to ask an existing inventory source to reduce their emissions. The existing sources have already been permitted and would not have modeled an increment violation. IDEM believes this approach can jeopardize previous permitting and modeling conducted for the inventory sources and should not be considered as an option unless the inventory sources have shut down.

IDEM-OAQ wishes to thank U.S. EPA for the opportunity to comment on the draft “Guidance for Ozone and Fine Particulate Matter Permit Modeling”, released February 10th, 2020 and looks forward to working with both the U.S. EPA Region 5 Office and U.S. EPA headquarters in the review and final approval of the “Guidance for Ozone and Fine Particulate Matter Permit Modeling”. If there are further questions, please contact me at (317) 233-0203 or by e-mail at mstuckey@idem.IN.gov, or Mark Derf, Section Chief, Technical Support and Modeling Section, Air Programs Branch at (317) 233-5682 or by e-mail at mderf@idem.IN.gov.

Sincerely,



Matt Stuckey
Deputy Assistant Commissioner,
Office of Air Quality

MS/sd/md

cc: Randy Robinson, U.S. EPA Region 5
Matt Stuckey, IDEM-OAQ
Scott Deloney, IDEM-OAQ
Mark Derf, IDEM-OAQ