

September 24, 2018

Amy Smith
Office of Air Quality, N1003
Indiana Department of Environmental Management
100 North Senate Avenue
Indianapolis, Indiana 46204

Via email: amsmith@idem.IN.gov

Re: Indiana's Infrastructure State Implementation Plan (SIP) Good Neighbor Element for the 2015 Ozone National Ambient Air Quality Standards (NAAQS)

Dear Ms. Smith:

The Connecticut Department of Energy and Environmental Protection (DEEP) appreciates the opportunity to comment on Indiana Department of Environmental Management's (IDEM's) proposed State Implementation Plan (SIP) revisions regarding CAA section 110 requirements for the 2015 ozone standards. These SIP revisions, known as infrastructure SIPs, contain elements critical to solving ozone nonattainment problems, especially for areas such as Connecticut which is subject to some of the highest ozone concentrations measured in the eastern United States.

DEEP is concerned that IDEM has failed to prohibit sources within Indiana from contributing significantly to nonattainment in, or interfering with maintenance by, any other state with respect to the 2015 ozone standards. Contrary to statements made on page 6 of IDEM's proposed infrastructure SIP, emission reductions and emissions limits for large electric generating units (EGUs) and heavy industry non-EGUs are not sufficient to conclude that Indiana's statewide emissions do not contribute significantly to nonattainment or maintenance problems in downwind states. Unfortunately, for the reasons explained below, neither is IDEM's weight of evidence analysis sufficient to conclude that Indiana has fulfilled its good neighbor obligations under CAA section 110.

Modeling conducted by EPA for 2023 indicates that Indiana will continue to be linked to nonattainment receptors in Connecticut at least until 2023. According to EPA guidance, a state is a significant contributor to nonattainment if it is linked to a downwind state receptor and emissions from within the upwind state (i.e. Indiana) can be controlled cost effectively. IDEM has not shown that it cannot cost effectively control emissions within Indiana. In order to satisfy EPA policy, IDEM must conduct a cost analysis of potential emission reductions before it can conclude that Indiana does not significantly contribute to linked receptors.

IDEM has used several "flexibilities" in carrying out their weight of evidence analysis that undermine the confidence of their conclusions. For example, rather than using EPA's guidance that linkage is established at contributions of one-percent of the standard (0.7 parts per billion), IDEM establishes linkage only if Indiana's contribution exceeds 1 part per billion of ozone. This results in IDEM

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identifying only four out-of-state receptors to which Indiana is linked. However, using EPA's 2023 modeling and the one-percent threshold linkage, eight receptors are linked to Indiana, including two in Fairfield County, Connecticut (90013007 and 90019003). More troubling is that EPA predicted Indiana's contribution to the Stratford Lighthouse site (90013007), which is projected nonattainment in 2023, to be just 0.03 ppb shy of the 1 ppb threshold set by IDEM. Indiana's contribution to this nonattainment receptor is well in excess of EPA's one-percent threshold and according to IDEM's own results (page 26 of IDEM's weight of evidence report) Indiana contributes nearly 25% of Connecticut's contribution to this monitor. Given Indiana's distance from Connecticut, it is difficult to claim that this is not significant regardless of the linkage threshold selected. IDEM has not justified using a one ppb linkage threshold and must either do so or fully evaluate its linkages at one percent of the standard. Indiana cannot be both linked by EPA's procedure and not linked by IDEM's procedure through arbitrary threshold selection.

Results at the Milwaukee, Wisconsin site (550790085) further underscore the differences in EPA's default approach and IDEM's more flexible approach. EPA shows this site to be nonattainment in 2023 with an average design value of 71.2 ppb. IDEM relies on modeling results from the Lake Michigan Air Directors Consortium (LADCO) to show that this site is projected to attain the standard in 2023 with an average design value of only 63.6 ppb. Nevertheless, both EPA and LADCO show Indiana contributes 5.28 and 4.63 ppb, respectively to the Milwaukee site. These contributions are well above either linkage threshold. While IDEM believes the LADCO model results are preferable to EPA's, it does not supply objective analysis to support its claim. Instead, apparently neglecting discrepancies such as at the Milwaukee site, IDEM concludes (on page 23 of the weight of evidence report) that use of the LADCO modeling is justified because its results are similar to EPA's. If IDEM is to rely on the LADCO modeling, IDEM should analyze the discrepancies between the LADCO and EPA model results at each receptor to which it may be linked, including the Milwaukee site, and explain why its results are superior to EPA's.

IDEM attempts to use ten meter (above ground level) back trajectories to demonstrate that it does not contribute significantly to ozone concentrations in the Northeast U.S. IDEM looks only at the Harford, Maryland and Richmond, New York sites to represent the Northeast. While IDEM acknowledges that transport occurs at higher levels aloft, it only considers near ground ten meter back trajectories. Modeling already shows that Indiana is linked to receptors in the Northeast. However, if IDEM wants to rebut the model results it should, at a minimum, conduct its back trajectory analyses at higher altitudes which reflect long range transport and use a more robust selection of sites.

IDEM has not addressed its contribution to marginal nonattainment areas. Given that Indiana sources are linked to nonattainment receptors in 2023, linkages are likely for 2020 as well, and those receptors should be analyzed for Indiana's significant contribution and remedied prior to the 2020 marginal attainment date.

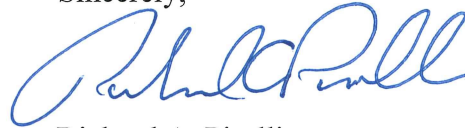
While DEEP recognizes IDEM's efforts to reduce Indiana's emissions, DEEP is concerned that IDEM has neither made these reductions enforceable nor shown that they are sufficient to result in prohibiting significant contribution to nonattainment or maintenance problems in downwind states. As IDEM continues to evaluate Indiana's significant contribution to downwind states, including Connecticut, it should consider not only the size of its contribution relative to the downwind state contribution, but also the cost of reductions that the downwind state already incurs. For reference, Connecticut sources

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are required to pay more than \$13,000 per ton of emissions reduced under its Reasonably Available Control Technology rules.¹

We hope that addressing these comments will help lead Indiana to fully satisfy its CAA section 110 good neighbor requirements. Please feel free to contact Mr. Kiernan Wholean of my staff at 860-424-3425 if you have any questions regarding these comments.

Sincerely,



Richard A. Pirolli
Director
Planning and Standards Division

¹ Regulations of Connecticut State Agencies [22a-174-22e\(h\)](#).