



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

APR 19 2016

Robert A. Kaplan
Acting Regional Administrator
Attn.: R-I9J
U.S. EPA, Region 5
77 West Jackson Blvd.
Chicago, Illinois 60604-3507

Re: Comments on US EPA's intended air quality designations in Ohio for the 2010 Primary National Ambient Air Quality Standards (NAAQS) for sulfur dioxide (SO₂): partial Clermont County, Ohio area and Gallia County, Ohio area

Dear Acting Administrator Kaplan:

Ohio EPA received your February 16, 2016 "120-day letter" and accompanying technical support documents indicating US EPA's response to Ohio's designation recommendations for the William H. Zimmer (Clermont County, Ohio) and General James M. Gavin (Gallia County, Ohio) source areas. Your letter also included information indicating your approach for completing the designations for these areas. Ohio EPA appreciates the opportunity to comment and provide additional information with respect to US EPA's evaluation of Ohio's September 16, 2015 recommended designations for these areas.

Ohio EPA understands that after carefully considering our September 16, 2015 recommendation letter the associated technical information for the 2010 SO₂ NAAQS, US EPA is proposing to adopt Ohio's recommended designation of Attainment for the Clermont County, Ohio area (excluding Pierce Township). Ohio EPA is in full agreement with US EPA's intended designation for this area.

Ohio EPA also understands that US EPA does not concur with Ohio's recommended designation of Attainment for Gallia County, Ohio area (Gallia County and Bedford, Columbia, Rutland, Salem, Salisbury, and Scipio Townships in Meigs County), based on Ohio EPA's utilization of the LOWWIND3 beta option of the AERMOD modeling platform. Rather, US EPA's 120-day letter indicates US EPA intends to designate this area as Unclassifiable on or before July 2, 2016.

Ohio EPA strongly disagrees with US EPA's intent to designate the Gallia County, Ohio area as Unclassifiable. US EPA's 120-day letter correctly identifies the requirements for use of beta options, including consultation with US EPA regional offices and obtaining concurrence with US EPA's Modeling Clearinghouse for approval of beta option usage. However, the 120-day letter goes on to state:

"However, Ohio performed air dispersion modeling....without prior consultation with and approval...and therefore has not met the applicable regulatory requirements."

Ohio EPA disagrees. Ohio EPA provided justification for this option in our September 16, 2015 submittal. At the request of US EPA, Ohio EPA provided a more in depth justification to utilize the LOWWIND3 and ADJ_U* options to US EPA on December 17, 2015. In fact, Ohio EPA did consult with US EPA and request approval of the use of these beta options but did not receive communication regarding approval or disapproval until US EPA provided its 120-day letter. In the 120-day letter US EPA states, as a result of Ohio not meeting the regulatory requirements (for which we disagree):

"EPA does not believe that the air quality modeling results obtained from the use of these beta options can be used as a reliable indicator of attainment status in Gallia County until appropriate alternative model approval is granted or these beta options are promulgated as regulatory options in AERMOD through EPA rulemaking."

Ohio EPA believes to the contrary. In fact, based upon the analysis performed by Ohio EPA in this source area, we believe the only reliable indicator of any designation status for this area, Attainment or otherwise, is modeling that incorporates the LOWWIND3 beta option.

US EPA has provided pathways for approval of the LOWWIND3 beta option in this 120-day letter. While Ohio EPA believes we have provided sufficient justification warranting approval of the use of the LOWWIND3 beta option in this particular area, Ohio EPA is providing additional technical support information to US EPA as a part of our response.

US EPA's recommended pathway suggests a state would need to provide an application-specific statistical performance evaluation that is in turn evaluated against representative air quality monitors that are appropriately sited for the given application. Ohio EPA has provided such an analysis. As we have noted in prior justification and requests for approval, this source area contains a monitor cited specifically to capture emissions from General James M. Gavin and Kyger Creek Station facilities. Regardless, accompanying this letter is a technical support document (TSD) including an expanded statistical analysis of model performance in the Gallia County, Ohio area, which further demonstrates

that the model is over-predictive in this area under *all* model formulations, even prior to consideration of background concentrations. This statistical analysis compliments those materials submitted by Ohio EPA on September 16, 2015 and Ohio EPA's request to utilize the LOWWIND3 and ADJ_U* options submitted to US EPA on December 17, 2015. US EPA has suggested to Ohio EPA in verbal communications that because Ohio's analysis is evaluated against only one monitor, it is not sufficient for this purpose. Ohio EPA disagrees and has provided justification previously to that fact. However, to further reinforce our demonstration of the appropriateness of the LOWWIND3 beta option in this particular area, Ohio EPA is also providing additional statistical analyses performed at two other, very similar, electric generating unit source areas that contain multiple monitors, once again demonstrating the validity of these beta options.

US EPA's 120-day letter goes on to suggest a secondary issue is that the LOWWIND3 beta option has not yet fully received scientific peer-review, and therefore, the option "must meet a more rigorous test for its approval". Ohio EPA has identified in our prior justification our review of available analyses of the LOWWIND3 beta option and we are providing additional reviews in this response. Regardless, Ohio EPA believes we have provided a very rigorous analysis that should suffice for approval of our use of the LOWWIND3 beta option.

Further, it should be noted that US EPA has proposed as part of the Appendix W rulemaking to include the LOWWIND3 beta option as a regulatory default option in AERMOD. Ohio EPA must question why US EPA asserts LOWWIND3 is not appropriate in this specific area when Ohio EPA has, and is, providing a very robust area-specific analysis justifying its use, yet US EPA proposes it as a regulatory default that could thereby be used in any area without the need for any analyses.

While Ohio EPA believes we have provided approvable justification for the use of the LOWWIND3 option, in addition to the aforementioned TSD further supporting the use of LOWWIND3, Ohio EPA is providing revised refined dispersion modeling in this source area, in which AERMOD and AERMET were used in the regulatory default modes. This dispersion modeling analysis evaluated the impact of the General James M. Gavin and Kyger Creek Station facilities as a design value when modeled using hourly variable SO₂ emissions, as was done before. However, Ohio EPA has re-evaluated our highly-conservative background and replaced it with a more reasonable, yet still conservative background based upon a robust analysis. In addition, we have also corrected issues identified in the 2014 meteorology data. These updates are discussed in greater detail in the attached documentation. Ultimately, for this analysis, the maximum modeled 3-year design value, years 2012-2014, was 193.87795 mg/m³, including background. Thus, no exceedance of the standard was modeled. The maximum modeled concentration, 193.87795

mg/m³, or 74.1 ppb, including background, is located approximately 1,300 meters from the fence line of Kyger Creek Station and approximately 2,000 meters from the main SO₂ source at Kyger Creek Station.

Ohio EPA has now provided robust justification for the use of the LOWWIND3 beta option and modeling with such that demonstrates Attainment and is providing modeling in full regulatory default mode demonstrating attainment. Therefore, US EPA should designate these areas as Attainment in accordance with Ohio's original recommendation.

Ohio EPA understands that the Sierra Club has submitted a second round of modeling demonstrating nonattainment for this source area. Ohio EPA notes here that the first round of modeling submitted by the Sierra Club for this area was deeply flawed and over-conservative, as discussed in our comments to you submitted on November 17, 2015. While Ohio EPA has not had sufficient time to review Sierra Club's comments and modeling, Ohio EPA is doubtful that they will appropriately support a Nonattainment recommendation given the analyses that Ohio EPA has conducted clearly supporting Attainment. It is doubtful Sierra Club's modeling identified and corrected faulty 2014 meteorology data. Ohio EPA understands Sierra Club has also included a 2013-2015 modeling analysis. Ohio EPA also entertained this option but quickly realized the effort and resources that are necessary to prepare 2015 emissions for these types of facilities could not be conducted accurately and meaningfully by the time US EPA was requiring a response to the 120-day letters. Ohio EPA is doubtful that Sierra Club's 2015 emissions are in any way appropriate for recommending designations.

Ohio EPA believes it would be inappropriate, based upon US EPA's own beliefs, to entertain any designation of Nonattainment for this area at this time. As noted above, in the 120-day letter US EPA states:

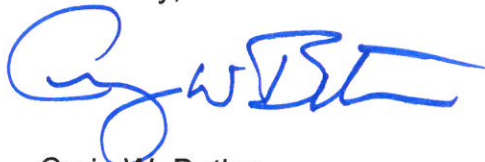
"EPA does not believe that the air quality modeling results obtained from the use of these beta options can be used as a reliable indicator of attainment status in Gallia".

Ohio EPA reiterates our disagreement and contends that the converse is also true for a designation of Nonattainment based on results using the default model in this source area, as demonstrated by the significant bias and error determined at the representative monitor in the source area, at other similar locations in Ohio, as well as the multiple analyses available regarding these options cited in previous submissions by Ohio EPA. If US EPA insists on promulgating a designation other than Attainment for the Gallia County, Ohio source area, the uncertainty of the modeled results demonstrated in this submittal must be taken into account. US EPA's own acknowledgement that there is a performance issue with AERMOD under low-wind conditions must be taken into account.

It would be highly inappropriate for US EPA to promulgate a designation of Nonattainment based on a model that is demonstrably over-predictive until such a time that the inadequate performance of the AERMOD model under low-wind conditions is corrected, and that such corrections be readily available for use by the States and not subject to overly complicated and burdensome demonstrations. If US EPA were to entertain a designation of nonattainment for this area based on this modeling, the State of Ohio must again be given time to review and comment on this modeling and any amended technical support document supporting such a designation, at least 120-days prior to such a designation occurring.

In closing, Ohio EPA has provided previously and as a part of this response a robust demonstration of the appropriateness of the LOWWIND3 beta option's use in this particular area. We still contend the modeling conducted and submitted to you on September 15, 2015 is the appropriate modeling to characterize this area and should be the basis for designations. We again ask US EPA for approval of our modeling using the LOWWIND3 beta option. If US EPA continues to contend that a sufficient demonstration has not been provided to justify LOWWIND3 usage, Ohio EPA asks US EPA to rely on the regulatory default modeling that Ohio EPA has provided in making a designation of Attainment. To this end, the only appropriate designation for this area is a designation of Attainment.

Sincerely,



Craig W. Butler
Director
Ohio EPA

Cc: Robert Hodanbosi, P.E, Chief, Ohio EPA Division of Air Pollution Control

Enclosure