



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

BRUCE RAUNER, GOVERNOR

LISA BONNETT, DIRECTOR

217/782-3397

April 19, 2016

Mr. George Czerniak
Director, Air and Radiation Division
United States Environmental Protection Agency
Region 5
77 W. Jackson Blvd.
Chicago, IL 60604-3590

RE: Air Quality Designations for the 2012 Sulfur Dioxide (SO₂) Primary National Ambient Air Quality Standard (NAAQS) – Second Round

Dear Mr. Czerniak:

The Illinois EPA appreciates this opportunity to comment on the proposed designations for the 2012 SO₂ NAAQS. Specifically, Illinois EPA requests that USEPA change its proposed designation for Williamson County from “Nonattainment” to “Attainment.” The Illinois EPA has reviewed and considered the modeling submitted on behalf of Southern Illinois Power Cooperative (SIPCO), and agrees with the results that demonstrate Williamson County should be designated in Attainment of the 2012 SO₂ NAAQS.

The Illinois EPA originally proposed that Williamson County be designated Attainment. At the time, the intent was for SIPCO to obtain a federally-enforceable permit limiting emissions to a level adequate to demonstrate attainment.

However, modeling efforts continued. SIPCO received and reviewed the Illinois EPA’s modeling as well as source-specific information, finding discrepancies. For example, SIPCO determined that a broken thermocouple had caused improperly-low estimates of plume height, certain building heights were errant (which was only discovered after a new site survey), and certain receptors utilized in the Illinois EPA modeling were in areas now shown to be inaccessible to the public. Using refined inputs, SIPCO had its contractor, AECOM, re-model.

On March 30, SIPCO submitted comments asserting that USEPA’s proposal to designate Williamson County as Nonattainment is incorrect. AECOM submitted modeling in support of SIPCO’s contention that Williamson County should be designated Attainment. The modeling information submitted included both the use of default settings and several beta options. While Illinois EPA supports allowing the use of such beta options such as LOWWIND3, previous discussions with USEPA have concluded with USEPA stating such will not be allowed. Thus, Illinois EPA comments on the SIPCO modeling relate to the AECOM modeling using default options. Illinois EPA has reviewed that AECOM modeling and concurs with the results.

The Illinois EPA closely reviewed several specific aspects of the modeling. For example, the receptor network used by AECOM was modified from that developed by the Illinois EPA – specifically, AECOM removed receptors from locations where SO₂ monitors could not physically be placed (such as over water and on roadways), including some receptors on the roadway between SIPCO’s northeastern property and the main property. Illinois EPA’s review has determined that AECOM followed Federal guidance provided in the modeling Technical Assistance Document. The modeling input data and graphical depictions of the receptor network demonstrate that receptors adjoining and parallel to roadways (typically along fenceline locations) were preserved and, in fact, AECOM placed additional near-roadway receptors along the Lake of Egypt Road on the north side of the main plant property, which includes new receptors at fencelines between the two properties that added to the near-road receptors.

Illinois EPA also reviewed the meteorological data used in AECOM’s modeling to ensure it had been properly developed. Indeed, the 2013 and 2014 meteorological data uses the same information the Illinois EPA had used. For the 2015 meteorological data, Illinois EPA determined that AECOM used the most current versions of the meteorological data preprocessors (AERSURFACE, dated 13016; AERMINUTE, version 15272; AERMET, version 15181), and successfully implemented the processing in a manner consistent with general practice. The only very minor issue Illinois EPA found involves AECOM’s generation of monthly surface characteristics values (albedo, Bowen ratio, and surface roughness length) with the AERSURFACE tool for the month of February 2015. Specifically, AECOM’s processing did not include processing for continuous snowcover when the number of days in a given month with measureable snow depth was less than 50%. Per Local Climatological Data (LCD) reports for the National Weather Service station at Paducah-Barkley Regional Airport, there were no days with snow cover in January or December of 2015, but there were 13 days with snow cover in February.

To assess the potential impact of this protocol departure on AERMOD results, Illinois EPA assessed and reviewed the modeled three-year design values (2013-2015, for all receptors) and associated 2015 fourth-highest concentrations that occurred during the month of February. The highest three-year design value for the entire receptor network was 190.4 ug/m³ (compared with the NAAQS of 196.3 ug/m³), but the highest three-year design value in which the 2015 fourth-highest concentration occurred in February was only 182.7 ug/m³. For the latter, the 2015 “contribution” was 131.0 ug/m³. It would be necessary to increase the 2015 “contribution” to 171.8 ug/m³ (approximately 31% higher than the model predicted) to exceed the three-year design value. The Illinois EPA believes that incorporation of snow cover for a single month when running AERSURFACE would not result in such a large upward adjustment in the modeled impact. As such, the Illinois EPA further believes that the AERMOD-derived three-year design values resulting from implementation of the “recommended” AERSURFACE methodology would be well below the NAAQS, meaning this minor difference would have no effect on the modeled determination that the area should be designated Attainment.

Region 5 has informed Illinois EPA that it has reviewed the hourly emissions data and determined that they translate to the annual emission totals reported to CAMD, with emissions that seem sufficiently regular to be considered adequately representative. The Illinois EPA agrees with this assessment.

After reviewing and considering the modeling submitted by AECOM on behalf of SIPCO, the Illinois EPA supports the methodology and inputs, and agrees with the results that demonstrate Williamson County should be designated in Attainment of the 2012 SO₂ NAAQS.

Should you have any questions or wish to discuss this matter further, please contact David Bloomberg at 217-524-4949.

Sincerely,



Julie K. Armitage
Chief, Bureau of Air

