

**To:** Gunasekara, Amanda[[gunasekara.amanda@epa.gov](mailto:gunasekara.amanda@epa.gov)]  
**From:** Stanko, Joseph  
**Sent:** Tue 3/21/2017 3:27:13 PM  
**Subject:** FW: NAAQS Implementation Coalition Petition for Reconsideration of Final Appendix W Rule (EPA Docket No. EPA-HQ-OAR-2015-0310)  
[NAAQS Implementation Coalition - Final App. W Rule Petition for Reconsideration-c.pdf](#)

**HUNTON & WILLIAMS** Joseph Stanko

Partner

[jstanko@hunton.com](mailto:jstanko@hunton.com)  
p 202.955.1529

[bio](#) | [vCard](#)

Hunton & Williams LLP  
2200 Pennsylvania Avenue, NW  
Washington, DC 20037

[hunton.com](http://hunton.com)

**From:** Stanko, Joseph  
**Sent:** Monday, March 20, 2017 6:22 PM  
**To:** 'pruitt.scott@epa.gov'  
**Cc:** 'a-and-r-docket@epa.gov'; 'jackson.ryan@epa.gov'; 'dunham.sarah@epa.gov'; 'page.steve@epa.gov'; 'wayland.richard@epa.gov'; 'fox.tyler@epa.gov'; 'bridgers.george@epa.gov'  
**Subject:** NAAQS Implementation Coalition Petition for Reconsideration of Final Appendix W Rule (EPA Docket No. EPA-HQ-OAR-2015-0310)

March 20, 2017

The Honorable Scott Pruitt

Administrator

United States Environmental Protection Agency

Administrator Pruitt,

Attached is the Petition of the National Ambient Air Quality Standards Implementation Coalition to the Administrator of the United States Environmental Protection Agency for Administrative Reconsideration of portions of EPA's January 17, 2017 final rule entitled "Revisions to the Guideline on Air Quality Models: Enhancements to the AERMOD Dispersion Modeling System and Incorporation of Approaches to Address Ozone and Fine Particulate Matter," which was published at 82 Fed. Reg. 5182 (Jan. 17, 2017). A copy of this petition is also being electronically mailed to the Air and Radiation Docket for filing in EPA docket number EPA-HQ-OAR-2015-0310.

Thank you in advance for consideration of this petition. Please have staff contact me with any questions regarding the petition.

Sincerely,

Joseph C. Stanko, Jr.

*Counsel for the*

*NAAQS Implementation Coalition*

**HUNTON &  
WILLIAMS** **Joseph Stanko**

Partner

[jstanko@hunton.com](mailto:jstanko@hunton.com)

p 202.955.1529

[bio](#) | [vCard](#)

Hunton & Williams LLP  
2200 Pennsylvania Avenue, NW  
Washington, DC 20037

[hunton.com](http://hunton.com)



HUNTON & WILLIAMS LLP  
2200 PENNSYLVANIA AVENUE, NW  
WASHINGTON, D.C. 20037-1701

TEL 202 • 955 • 1500  
FAX 202 • 778 • 2201

JOSEPH C. STANKO, JR.  
DIRECT DIAL: 202 • 955 • 1529  
EMAIL: [jstanko@hunton.com](mailto:jstanko@hunton.com)

March 20, 2017

**VIA ELECTRONIC MAIL**

The Honorable Scott Pruitt  
Administrator  
U.S. Environmental Protection Agency  
William Jefferson Clinton Building  
1200 Pennsylvania Avenue, N.W.  
Mail Code 1101A  
Washington, DC 20460

**PETITION OF THE NAAQS IMPLEMENTATION COALITION TO THE ADMINISTRATOR OF THE  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY FOR ADMINISTRATIVE  
RECONSIDERATION OF PORTIONS OF THE FINAL RULE ENTITLED “REVISIONS TO THE  
GUIDELINE ON AIR QUALITY MODELS: ENHANCEMENTS TO THE AERMOD DISPERSION  
MODELING SYSTEM AND INCORPORATION OF APPROACHES TO ADDRESS OZONE AND FINE  
PARTICULATE MATTER”**

**82 Fed. Reg. 5182 (Jan. 17, 2017)  
EPA–HQ–OAR–2015–0310**

Administrator Pruitt:

Enclosed, please find from the National Ambient Air Quality Standards (“NAAQS”) Implementation Coalition a Petition for Reconsideration of portions of the final rule of the United States Environmental Protection Agency entitled “Revisions to the Guideline on Air Quality Models: Enhancements to the AERMOD Dispersion Modeling System and Incorporation of Approaches to Address Ozone and Fine Particulate Matter,” 82 Fed. Reg. 5182 (Jan. 17, 2017). A copy of this petition has also been electronically mailed to the Air and Radiation Docket for filing in EPA docket number EPA–HQ–OAR–2015–0310.

Please contact me if you have any questions regarding this petition.

ATLANTA AUSTIN BANGKOK BEIJING BRUSSELS CHARLOTTE DALLAS HOUSTON LONDON LOS ANGELES  
McLEAN MIAMI NEW YORK NORFOLK RALEIGH RICHMOND SAN FRANCISCO TOKYO WASHINGTON  
[www.hunton.com](http://www.hunton.com)



The Honorable Scott Pruitt  
March 20, 2017  
Page 2

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph Stanko, Jr." with a stylized flourish at the end.

Joseph C. Stanko, Jr.  
*Counsel for the  
NAAQS Implementation Coalition*

Attachment

cc: EPA Air and Radiation Docket  
Ryan Jackson, Chief of Staff  
Sarah Dunham, Acting Assistant Administrator, Office of Air and Radiation  
Steve Page, Director, Office of Air Quality Planning and Standards (OAQPS)  
Chet Wayland, Director, Air Quality Assessment Division, OAQPS  
Tyler Fox, Leader, Air Quality Modeling Group, OAQPS  
George Bridgers, Director, Model Clearinghouse, OAQPS

**BEFORE THE ADMINISTRATOR OF THE  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**Revisions to the Guideline on Air Quality Models: Enhancements to the AERMOD Dispersion Modeling System and Incorporation of Approaches to Address Ozone and Fine Particulate Matter; Final Rule. 82 Fed. Reg. 5182 (Jan. 17, 2017)**

Docket No. EPA-HQ-OAR-2015-0310

**PETITION OF THE NAAQS IMPLEMENTATION COALITION FOR  
RECONSIDERATION OF PORTIONS OF THE FINAL RULE**

The National Ambient Air Quality Standards (“NAAQS”) Implementation Coalition<sup>1</sup> hereby petitions the Administrator of the United States Environmental Protection Agency (the “Administrator,” “EPA” or the “Agency”) to reconsider portions of the final rule referenced above.<sup>2</sup> That rule – the “Final Appendix W Rule” – was published in the *Federal Register* on January 17, 2017, 82 Fed. Reg. 5182, with an effective date of May 22, 2017.

The Final Appendix W Rule promulgates revisions to the *Guideline on Air Quality Models*, 40 C.F.R. part 51, appendix W (“Appendix W”), which lists EPA’s preferred models and recommended modeling techniques and serves as guidance for the use of air quality modeling in estimating ambient concentrations of air pollutants. Many parts of the Final Appendix W Rule provide needed improvements to EPA-preferred models, and we strongly support such improvements.

We are concerned, however, with specific provisions of the Final Rule, some of which appeared for the first time in the Final Appendix W Rule, and, thus were not previously available for comment. The remainder of this petition provides an overview of our concerns, which are of central relevance to the Final Appendix W Rule. We intend to file a more-detailed supplement to this petition at a later date that will expound further on our concerns.

---

<sup>1</sup> The NAAQS Implementation Coalition includes trade associations, companies, and other entities that confront challenges in permitting and operating facilities under increasingly-stringent NAAQS, including those for ozone and PM<sub>2.5</sub>. It is our experience that addressing these challenges is critical to fostering economic expansion, creating jobs in manufacturing and other economic sectors, and generating needed tax revenue for local communities throughout the country.

<sup>2</sup> This petition is filed pursuant to section 4(d) of the Administrative Procedure Act, 5 U.S.C. § 553(e), and, to the extent it may be applicable and relevant, section 307(d)(7)(B) of the Clean Air Act, 42 U.S.C. § 7607(d)(7)(B).

## OBJECTIONS

### Single-Source Photochemical Grid Modeling for Ozone and PM<sub>2.5</sub> Precursors

The Final Appendix W Rule establishes a new requirement that, in the absence of a screening analysis that results in a source being exempt from conducting and reporting the results of air quality modeling, applicants seeking prevention of significant deterioration (“PSD”) permits must model impacts on ambient air quality of their emissions of precursors to ozone and PM<sub>2.5</sub> using a “chemical transport model” such as a photochemical grid model or a suitable Lagrangian model.<sup>3</sup> EPA does not, however, specify a preferred model for this purpose.<sup>4</sup> We believe that the current state of modeling technology does not support this requirement.

Although the Clean Air Act requires applicants for PSD permits to provide “an analysis of air quality,”<sup>5</sup> and that the Administrator “specify with reasonable particularity each air quality model or models to be used” for this analysis,<sup>6</sup> EPA long recognized that “it was not technically sound to designate with particularity specific models to be used to assess the impacts of a single source of ozone” or PM<sub>2.5</sub> and, instead, allowed a permit applicant, working with the permitting authority, to choose a “method” to conduct the required air quality analysis.<sup>7</sup> Despite evaluation, as requested by the Sierra Club, of whether “to designate air quality models for ozone and fine particles (PM<sub>2.5</sub>) for use by all major sources applying for a prevention of significant deterioration (PSD) permit,”<sup>8</sup> EPA concluded that it could not make such designations.<sup>9</sup> EPA should, therefore, have retained the existing requirements applicable to sources emitting precursors of ozone and PM<sub>2.5</sub>.

Although photochemical grid modeling may often be capable of characterizing “[t]he complex chemistry of ozone and secondary formation of PM<sub>2.5</sub>,”<sup>10</sup> EPA recognizes that it remains the case that no single model will be most appropriate for “the diversity in chemical and physical environments across the United States.”<sup>11</sup> Selection, justification, and use of a chemical transport model for a specific PSD permit application will be both time-consuming and expensive. Indeed, it could be cost-prohibitive, particularly for smaller sources.<sup>12</sup>

---

<sup>3</sup> 82 Fed. Reg. at 5213 (to be codified at 40 C.F.R. Part 51, Appendix W 5.3.2(c)).

<sup>4</sup> *Id.* at 5193.

<sup>5</sup> Clean Air Act § 165(e)(3)(B), 42 U.S.C. § 7475(e)(3)(B).

<sup>6</sup> *Id.* at (e)(3)(D).

<sup>7</sup> Letter from Gina McCarthy, Assistant Adm’r, Office of Air and Radiation, EPA, to Mr. Robert Ukeiley 2 (Jan. 4, 2012).

<sup>8</sup> *Id.* at 1.

<sup>9</sup> *Id.* at 2.

<sup>10</sup> *Id.*

<sup>11</sup> 82 Fed. Reg. at 5193.

<sup>12</sup> *See, e.g.,* NAT’L. ASS’N. OF CLEAN AIR AGENCIES, PM<sub>2.5</sub> MODELING IMPLEMENTATION OF PROJECTS SUBJECT TO NATIONAL AMBIENT AIR QUALITY DEMONSTRATION REQUIREMENTS PURSUANT TO NEW SOURCE

What EPA has done, however, is to effectively eliminate the alternative that previously existed of exploring other methods for analyzing the impact of a proposed source on air quality. Although few alternatives may exist, a permit applicant should be free to explore them, as they have in the past.

This is important because, as noted in 2015 by the Interagency Workgroup on Air Quality Modeling Phase 3 (“IWAQM 3”), “at this time, it is not clear that a robust reduced form model exists for either O<sub>3</sub> or secondary PM<sub>2.5</sub> for the purpose of assessing single source downwind impacts of these pollutants.”<sup>13</sup> There have been no significant technical advances in ozone and PM<sub>2.5</sub> precursor modeling since that 2015 report. Nevertheless, EPA announced in its Response to Comments for the Final Appendix W Rule that it was revising IWAQM 3 to note the existence of screening tools like Model Emission Rates for Precursors (“MERPs”).<sup>14</sup> Draft guidance on development of MERPs for ozone and PM<sub>2.5</sub> was not available, however, until after the Final Appendix W Rule was published. In any case, we do not find MERPs to be “robust,” as that screening method still requires further development. The draft guidance outlining MERPs does not, at this point, provide justification for the new approach to air quality analysis of sources of precursors to ozone and PM<sub>2.5</sub> included in the Final Appendix W Rule.

Therefore, EPA should return to its long-standing prior approach to air quality analysis to support PSD application for sources that emit precursors to these pollutants. At a minimum, the Agency should adopt a moratorium on single-source precursor modeling of at least three years to further develop cost-effective models and screening techniques. EPA can reevaluate the state of technology at the close of that period to determine whether the moratorium should continue.

### **Low-Wind Speed Over-Prediction**

The prior regulatory-default versions of AERMOD and the associated AERMET meteorological model significantly over-predict short-term ambient pollution levels at low wind speeds, as shown by peer-reviewed model evaluation studies.<sup>15</sup> We appreciate that EPA has recognized and sought to address this deficiency in its preferred AERMOD modeling

---

REVIEW 2-5, Jan. 7, 2011 (“[I]t is recognized that photochemical grid models can be resource intensive and require special expertise. As such, it is anticipated that this method will be used mostly for large emitting sources.”).

<sup>13</sup> EPA, INTERAGENCY WORKGROUP ON AIR QUALITY MODELING PHASE 3 SUMMARY REPORT: NEAR-FIELD SINGLE SOURCE SECONDARY IMPACTS 3-4, EPA-454/P-15-002, July 2015.

<sup>14</sup> EPA, RESPONSE TO COMMENTS ON THE REVISIONS TO THE GUIDELINE ON AIR QUALITY MODELS: ENHANCEMENTS TO THE AERMOD DISPERSION MODELING SYSTEM AND INCORPORATION OF APPROACHES TO ADDRESS OZONE AND FINE PARTICULATE MATTER 51-52, EPA Docket No. EPA-HQ-OAR-2015-0310-0156 (Dec. 20, 2016) (hereinafter the “Final Appendix W Rule Response to Comments”).

<sup>15</sup> See, e.g., BOB PAINE, JEFFRY CONNORS, AND CARLOS SZEMBEK, AERMOD LOW WIND SPEED EVALUATION STUDY: RESULTS AND IMPLEMENTATION, Paper 2010-A-631-AWMA, 2010 (presented at the 103rd Annual Conference and Exhibition of the Air & Waste Management Association).

system.<sup>16</sup> However, the revision that EPA has adopted has not been the subject of public comment. Indeed, we have concerns that the Final Appendix W Rule insufficiently addresses AERMOD's acknowledged excessively high predictions.

### ***LOWWIND***

EPA had proposed to incorporate an AERMOD option called LOWWIND3 to address excessively high predicted pollutant concentrations under low wind speed conditions.<sup>17</sup> According to EPA, “[t]he majority of commenters supported the EPA’s proposal to incorporate the LOWWIND3 option into the regulatory version of AERMOD because they believed it would provide a more realistic treatment of low wind situations and reduce the potential for overprediction of the current regulatory version of AERMOD for such conditions.”<sup>18</sup> However, “one commenter indicated that the proposed LOWWIND3 option in AERMOD will ‘reduce model accuracy’ . . . .”<sup>19</sup> Citing modeling from this lone commenter, EPA did not include LOWWIND3, or its industry-supported predecessors, LOWWIND1 and LOWWIND2, as options in the revised regulatory default version of AERMOD.<sup>20</sup> This modeling could not have been addressed during the comment period. Other modeling, however, continues to demonstrate the suitability of the LOWWIND options.<sup>21</sup> EPA should promptly make LOWWIND3 an approved Guideline option for AERMOD through the Model Clearinghouse and work to specify through an Appendix W rulemaking when its use would be appropriate.

### ***ADJ\_U\****

The Final Appendix W Rule asserts that “EPA is adopting the proposed ADJ\_U\* option in AERMET as a regulatory option.”<sup>22</sup> We appreciate that EPA has done so. However, EPA has effectively confirmed that it has, in fact, adopted a revised, more conservative, version of ADJ\_U\* in AERMET than had been proposed.<sup>23</sup>

---

<sup>16</sup> 82 Fed. Reg. 5185 (noting “issues with AERMOD model tendency to overprediction from some sources under stable, low wind speed conditions.”).

<sup>17</sup> *Id.*

<sup>18</sup> *Id.* at 5187.

<sup>19</sup> *Id.* at 5187-5188.

<sup>20</sup> *Id.* at 5188.

<sup>21</sup> See, e.g., Bob Paine, Olga Samani, Mary Kaplan, Eladio Knipping, and Naresh Kumar, *Evaluation of Low Wind Modeling Approaches for Two Tall-Stack Databases*, 65 J. AIR & WASTE MGMT. ASS’N. 1341 (Mar. 2015); BOB PAINE, CHRISTOPHER WARREN, AND OLGA SAMANI, AERMOD LOW WIND SPEED IMPROVEMENTS: STATUS REPORT AND NEW EVALUATIONS, Paper # 935, 2016 (presented at the 109th Annual Conference and Exhibition of the Air & Waste Management Association).

<sup>22</sup> 82 Fed. Reg. 5187.

<sup>23</sup> E-mail from Rick Gillam, Env’t Engineer/Air Modeler, EPA Region 4, EPA, to State and Local Modelers (Jan. 4, 2017, 10:28 EST) (on file with author).

Since the Final Appendix W Rule's release, EPA has made additional changes to ADJ\_U\*.<sup>24</sup> Commenters clearly were unable to comment on all changes to ADJ\_U\* made since its proposal. Furthermore, the proposed version of ADJ\_U\* appears to have undergone more testing than the version(s) that EPA has subsequently adopted. That testing showed that it performed well. EPA should reconsider adopting the proposed version of ADJ\_U\* as regulatory-default.

### **Overloading of Model Clearinghouse**

The Final Appendix W Rule finalizes requirements for formal consultation with the Modeling Clearinghouse and documentation of that consultation whenever an alternative model is used.<sup>25</sup> This requirement will encumber applicants seeking PSD permits. Revisions to Appendix W will increase the number of instances in which the Model Clearinghouse would be required to concur.

For example, EPA has ended the designation of CALPUFF as the regulatory default model for long-range transport, but has not replaced it. As a result, written Model Clearinghouse approval will be required each and every time modeling of long-range transport is performed.<sup>26</sup> As we have previously noted, this can be a time-consuming process.<sup>27</sup>

Although EPA says that the average response time by the Model Clearinghouse to requests it received during the pendency of the Appendix W Rule was 28 days,<sup>28</sup> that figure is misleading. It does not take into account the time that precedes a formal request for Model Clearinghouse approval, which can be considerable. Nor is this process even certain. Notably, two projects went all the way through the alternative model process, obtaining approval from EPA Regional Offices and concurrence from the Model Clearinghouse to use ADJ\_U\* version 15181, only to have EPA recently announce in a "clarification memo" that such modeling results "would be unreliable."<sup>29</sup>

---

<sup>24</sup> *Id.*

<sup>25</sup> *Id.* at 5197 (to be codified at 40 C.F.R. Part 51, Appendix W 3.2.1(b)).

<sup>26</sup> However, we recognize that CALPUFF can be used as a screening model without Model Clearinghouse approval. 82 Fed. Reg. 5195 (to be codified at 40 C.F.R. Part 51, Appendix W 4.2.1).

<sup>27</sup> NAAQS IMPLEMENTATION COAL., COMMENTS ON EPA'S "REVISION TO THE GUIDELINE ON AIR QUALITY MODELS: ENHANCEMENTS TO THE AERMOD DISPERSION MODELING SYSTEM AND INCORPORATION OF APPROACHES TO ADDRESS OZONE AND FINE PARTICULATE MATTER: PROPOSED RULE" 8, EPA Docket No. EPA-HQ-OAR-2015-0310-0142, Oct. 27, 2015 (citing EPA, MODEL CLEARINGHOUSE: OPERATIONAL PLAN 20 (revised May 1998)) ("Given that written responses from the Model Clearinghouse could take up to four weeks or longer, we would expect that the concurrence memorandum for alternative models proposed in the Appendix W Revision Proposal will require more documentation and take more time than is presently the case.").

<sup>28</sup> Final Appendix W Rule Response to Comments at 87.

<sup>29</sup> Letter from Richard A. Wayland, Div. Dir., Air Quality Assessment Div., EPA, to Reg'l. Air Div. Dir's. 1-10, Clarification on the AERMOD Modeling System Version for Use in SO<sub>2</sub> Implementation Efforts and Other Regulatory Actions 2-3 (Mar. 8, 2017).

EPA should make the approval process more efficient, rather than add additional red tape to the process. One way to achieve this would be to allow permitting agencies – frequently individual states – to determine which model should be used in instances where EPA has been unable to specify a preferred one. This would promote creative thinking about new modeling approaches and enhance the partnership between states and the federal government in implementing the Act.

### **NO<sub>2</sub> Tier 2 Ambient Ratio Method**

The version of the NO<sub>2</sub> Tier 2 Ambient Ratio Method (“ARM2”) adopted in the Final Appendix W Rule was modified from the original tool in a way that makes ARM2 unnecessarily conservative.<sup>30</sup> While even the revised ARM2 tool represents an improved Tier 2 screening method to model NO<sub>2</sub>, EPA should approve use of the original ARM2.

### **Probabilistic Modeling**

Because tighter margins between background pollutant concentrations and increasingly-stringent NAAQS make it increasingly difficult to demonstrate compliance using overly-conservative modeling assumptions that are increasingly obsolete, EPA should adopt more probabilistic approaches to modeling. For example, modeling should be allowed to take into account the variability of both background air quality and emission rates for modelled sources. While commenters suggested this approach to EPA during consideration of the Final Appendix W Rule,<sup>31</sup> EPA declined to take such action.<sup>32</sup>

### **CONCLUSION**

Because these objections address matters of central relevance to the Final Appendix W Rule, we request that the Administrator partially reconsider it, and revise it in light of the new information herein as well as that to be included in our supplement to this petition. We appreciate your attention to this matter and hope to foster an effective dialogue with EPA as the regulated community continues to face implementation challenges under increasingly more-stringent NAAQS. To that end, we look forward to working with EPA to identify improvements to the Final Appendix W Rule that accomplish efficient NAAQS implementation.

---

<sup>30</sup> See 82 Fed. Reg. 5189 (noting that “national default model inputs need to be conservative, in line with the CAA’s objective to prevent potential NAAQS violations.”).

<sup>31</sup> See AM. FOREST & PAPER ASSOC. AND AM. WOOD COUNCIL, COMMENTS ON EPA’S “REVISION TO THE GUIDELINE ON AIR QUALITY MODELS: ENHANCEMENTS TO THE AERMOD DISPERSION MODELING SYSTEM AND INCORPORATION OF APPROACHES TO ADDRESS OZONE AND FINE PARTICULATE MATTER: PROPOSED RULE” 15-18, EPA Docket No. EPA-HQ-OAR-2015-0310-0141, Oct. 27, 2015 (discussing variable emissions).

<sup>32</sup> Final Appendix W Rule Response to Comments at 91.