



west virginia department of environmental protection

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## **Appendix F-1**

### **F-1a. WV Letter to KY DAQ, November 6, 2020**

West Virginia Division of Air Quality  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304

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Promoting a healthy environment

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Division of Air Quality  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304  
(304) 926-0475

Austin Caperton, Cabinet Secretary  
dep.wv.gov

November 6, 2020

Ms. Melissa Duff  
Director, Division for Air Quality  
Kentucky Department for Environmental Protection  
300 Sower Boulevard, 2<sup>nd</sup> Floor  
Frankfort, KY 40601

*via email: [Melissa.Duff@ky.gov](mailto:Melissa.Duff@ky.gov)*

Re: Reasonable Progress Analyses for the Regional Haze Second Planning Period (2028)

Dear Ms. Duff,

The purpose of this letter is to request that you share your state's reasonable progress evaluation for a source within Kentucky that contributes to visibility impairment in Class I federal areas (Class I areas) located within the State of West Virginia. These Class I federal areas are the Dolly Sods Wilderness Area and the Otter Creek Wilderness Area, both of which are under the management of the United States Forest Service. West Virginia has a strong interest in improving air quality and visibility at these Class I federal areas and across the State.

As you know, consultation between states is a requirement of the Regional Haze Rule (RHR) located at 40 CFR Part 51, Subpart P – Protection of Visibility under 40 CFR 51.308(f)(2)(ii):

The State must consult with those States that have emissions that are reasonably anticipated to contribute to visibility impairment in the mandatory Class I Federal area to develop coordinated emission management strategies containing the emission reductions necessary to make reasonable progress.

As part of the Visibility Improvement – State and Tribal Association of the Southeast ([VISTAS](#))<sup>1</sup>, the regional planning organization for the southeastern United States, my staff within the West Virginia Division of Air Quality (DAQ) have been working closely with your staff and

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<sup>1</sup> <https://www.metro4-sesarm.org/content/vistas-regional-haze-program>

expect to continue to do so. This collaborative approach to regional haze state implementation plan (SIP) development has been a highly productive endeavor. VISTAS states have leveraged internal resources throughout this process so that final regional haze plans will provide for significant visibility improvement by the end of this second planning period, 2028.

Below is a summary of the general process DAQ followed to determine which sources in Kentucky may be contributing to visibility impairment at West Virginia Class I areas in such a manner as to warrant a reasonable progress evaluation.

VISTAS initially used an Area of Influence (AoI) analysis to identify the areas and sources most likely contributing to poor visibility in Class I areas. The AoI analysis used the [HYSPLIT Trajectory Model](#)<sup>2</sup> to determine the origin of the air parcels affecting visibility within each Class I area. This information was spatially combined with emissions data to determine the pollutants, sectors, and individual sources that are likely to contribute to the visibility impairment at each Class I area. VISTAS analyzed this information to determine that the pollutants and sector with the largest impact on visibility impairment were sulfur dioxide and nitrogen oxides from point sources.

Next, VISTAS states used the results of the AoI analysis to identify sources to “tag” for Particulate Matter Source Apportionment Technology (PSAT) modeling. PSAT modeling uses “reactive tracers” to apportion particulate matter among different sources, source categories, and regions. PSAT was implemented with the Comprehensive Air Quality Model with Extensions (CAMX) photochemical model to determine visibility impairment due to individual facilities. PSAT results showed that in 2028 most of the anthropogenic visibility impairment at Class I areas continues to be from point source SO<sub>2</sub> and NO<sub>x</sub> emissions.

Using the PSAT data, VISTAS states identified for reasonable progress analysis the sources shown to have a sulfate or nitrate impact on one or more Class I areas that is  $\geq 1.00\%$  of the total sulfate plus nitrate point source visibility impairment on the 20% percent most impaired days for that Class I area. While no facilities in Kentucky have a nitrate impact  $\geq 1.00\%$ , one facility in Kentucky has a sulfate impact  $\geq 1.00\%$  on West Virginia's Class I areas. The projected impacts from this facility have been the topic of informal communications between our respective planning staffs. Table 1 lists the Kentucky facility that has a sulfate impact  $\geq 1.00\%$  and provides SO<sub>2</sub> emission rates used in the PSAT analysis for each facility.

**Table 1: Kentucky Facilities with  $\geq 1.00\%$  Sulfate Impact on West Virginia Class I Federal Areas**

Facility Name	Facility ID	Contribution to Visibility Impairment, Dolly Sods	Contribution to Visibility Impairment, Otter Creek	2028 Projected SO <sub>2</sub> Emissions
Tennessee Valley Authority (TVA) - Shawnee Fossil Plant	21145-6037011	1.12%	1.16%	19,505 tpy

<sup>2</sup> <https://www.ready.noaa.gov/HYSPLIT.php>

DAQ requests that you share with us your reasonable progress evaluations for these facilities when they are completed. Such evaluations could include updated 2028 emissions estimates, imposition of federally-enforceable SO<sub>2</sub> limitations such that the facility impacts to West Virginia Class I areas are <1.00%, other analyses or application of guidance indicating that current controls are sufficient for reasonable progress in this round of planning, results of four-factor analyses as described in 40 CFR 51.308(f)(2)(i), or other facility-specific information you deem pertinent to the improvement of visibility impairment at the Dolly Sods Wilderness Area and the Otter Creek Wilderness Area. Please provide this information by December 31, 2020, so that it may be included in West Virginia's consultation draft of the regional haze SIP for the second planning period.

Should your staff have any questions on this request or on West Virginia's regional haze state implementation plan development, please contact Todd Shrewsbury via email at [Todd.H.Shrewsbury@wv.gov](mailto:Todd.H.Shrewsbury@wv.gov) or via telephone at (304) 414-1908. I look forward to continuing this collaboration both directly and through VISTAS.

Sincerely,

David Fewell  
Deputy Director  
West Virginia Division of Air Quality