



## Visibility Improvement State and Tribal Association of the Southeast

---

June 22, 2020

William K. Montgomery, Associate Director  
Arkansas Office of Air Quality  
5301 Northshore Drive  
North Little Rock, Arkansas 72118-5328

RE: Request for Regional Haze Reasonable  
Progress Analysis for Arkansas Source  
Impacting VISTAS Class I Area

Dear Mr. Montgomery:

The Regional Haze Regulation 40 CFR § 51.308(d) requires each state to “address regional haze in each mandatory Class I Federal area located within the State and in each mandatory Class I Federal area located outside the State which may be affected by emissions from within the State.” 40 CFR § 51.308(f) requires states to submit a regional haze implementation plan revision by July 31, 2021. As part of the plan revision, states must establish a reasonable progress goal that provides for reasonable progress towards achieving natural visibility conditions for each mandatory Class I Federal area (Class I area) within their state. 40 CFR § 51.308(d)(1) requires that reasonable progress goals “must provide for an improvement in visibility for the most impaired days over the period of the implementation plan and ensure no degradation in visibility for the least impaired days over the same period.”

In establishing reasonable progress goals, states must consider the four factors specified in § 169A of the Federal Clean Air Act and in 40 CFR § 51.308(f)(2)(i). The four factors are: 1) the cost of compliance, 2) the time necessary for compliance, 3) the energy and non-air quality environmental impacts of compliance, and 4) the remaining useful life of any potentially affected sources. Consideration of these four factors is frequently referenced as the “four-factor analysis.”

To assist its member states, the Visibility Improvement State and Tribal Association of the Southeast<sup>1</sup> (VISTAS) and its contractors conducted technical analyses to help states identify

---

<sup>1</sup> The VISTAS states are Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia.

sources that significantly impact visibility impairment for Class I areas within and outside of the VISTAS region. 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. This Aoi analysis involved running the HYSPLIT Trajectory Model to determine the origin of the air parcels affecting visibility within each Class I area. This information was then spatially combined with emissions data to determine the pollutants, sectors, and individual sources that are most likely contributing to the visibility impairment at each Class I area. This information indicated that the pollutants and sector with the largest impact on visibility impairment were sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) from point sources. Next, VISTAS states used the results of the Aoi analysis to identify sources to “tag” for PM (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 photochemical model (CAMx Model) to determine visibility impairment due to individual sources. PSAT results showed that in 2028 the majority of visibility impairment at VISTAS Class I areas will continue 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, sources shown to have a sulfate or nitrate impact on one or more Class I areas greater than or equal to 1.00 percent of the total sulfate plus nitrate point source visibility impairment on the 20 percent most impaired days for each Class I area. This analysis has identified the following source in Arkansas that meets this criterion:

- Entergy Arkansas Inc-Independence Plant (05063-1083411)

Information regarding projected 2028 SO<sub>2</sub> and NO<sub>x</sub> emissions and visibility impacts on a VISTAS Class I area is shown in the table attached to this letter (Attachment 1).

As required in 40 CFR § 51.308(d)(1)(i)(A), VISTAS, on behalf of North Carolina, requests that Arkansas conduct, or require that the source in question initiate, and share when completed, the results of a reasonable progress analysis for the noted source with VISTAS. This will be helpful to North Carolina as they begin the formal Federal Land Manager consultation process for their individual draft Regional Haze Plan in early 2021. So that North Carolina can include the results of your state's reasonable progress analysis in developing the long-term strategy for the Shining Rock Wilderness Class I area in North Carolina, we request that you submit this information to VISTAS no later than October 30, 2020. If the reasonable progress analysis cannot be completed by this date, please provide, no later than this date, notice of an attainable date for completion of the analysis. If you determine that a four-factor analysis is not warranted for the identified source, please provide the rationale for this determination by the requested date.

In developing projected 2028 emissions for the source, VISTAS utilized ERTAC\_16.0 emissions projections with additional input from Arkansas. Please review these projections to verify that they are reasonable. Should you be aware of significantly different emission projections for

2028 for the source or pollutants, please provide revised estimates within thirty (30) days of the date of this letter. North Carolina will review any revised emission estimates, determine if a reasonable progress analysis is not needed to meet their regional haze obligations, and notify you accordingly.

Updated 2028 emission projections, if necessary, the results of your state's reasonable progress analysis for the requested source, and any necessary ongoing communications should be sent via email to [vistas@metro4-sesarm.org](mailto:vistas@metro4-sesarm.org).

Should you have any questions concerning this request, please contact me through September 30, 2020, at 404-361-4000 or [hornback@metro4-sesarm.org](mailto:hornback@metro4-sesarm.org).

Sincerely,



John E. Hornback  
Executive Director  
Metro 4/SESARM/VISTAS

Attachment

Copies: Mike Abraczinskas, North Carolina Division of Air Quality  
Michael Vince, Central States Air Resource Agencies

**Attachment 1: Projected 2028 SO<sub>2</sub> and NO<sub>x</sub> Emissions and VISTAS Class I Area Impacts**

**Table 1.** Entergy Arkansas Inc-Independence Plant (05063-1083411)  
 Modeled SO<sub>2</sub> = 13,643.5 tpy, Modeled NO<sub>x</sub> = 4,486.3 tpy

<b>Impacted VISTAS Class I Area</b>	<b>Sulfate PSAT (Mm<sup>-1</sup>)</b>	<b>Nitrate PSAT (Mm<sup>-1</sup>)</b>	<b>Total EGU &amp; non-EGU Sulfate + Nitrate (Mm<sup>-1</sup>)</b>	<b>Sulfate PSAT % Impact</b>	<b>Nitrate PSAT % Impact</b>
Shining Rock Wilderness Area	0.129	0.001	12.313	1.04%	0.01%