

W E S T E R N S T A T E S A I R R E S O U R C E S C O U N C I L



March 26, 2015

Anna Wood, Director
Air Quality Policy Division
Mail Code V404-04
Office of Air Quality Planning and Standards
U.S. Environmental Protection Agency
Research Triangle Park, NC 27711

Dear Ms. Wood,

The Western States Air Resources (WESTAR) Council is an association of 15 western state air quality managers. We appreciate the opportunity to provide additional written input on revising the Regional Haze Rule and Guidance.

WESTAR's regional haze workgroup has been reviewing the current regional haze rule and existing guidance to provide EPA with input on improvements. Initially, we presented our Five Core Issues to EPA in August 2013. In early March of this year, staff from several states, along with WESTAR staff, participated in the regional haze meeting hosted by EPA in Research Triangle Park. EPA requested additional written input by March 27, 2015. As follow up to that meeting, we are providing the information below. We also intend to continue our discussion regarding our concerns and ideas with EPA representatives at the WESTAR Spring Business meeting in San Francisco, April 8-10.

Due to the short timeframe for preparing this letter, this material has been prepared by the states to represent state concerns and has not included collaboration with our federal land management (FLM) partners. We look forward to continuing our work with the FLMs as this process moves forward.

From the materials EPA has provided to date, it is clear that EPA is listening to the states on this complex topic. We greatly appreciate that our concerns are being taken into account as EPA moves forward with rule changes and new guidance. In this letter, we highlight topics that are particularly important to the WESTAR states:

- Deadline for next State Implementation Plan (SIP)
- 5-year progress reports
- Need for a western approach
- Approaching the goal and determining when no additional controls are needed

Regional Haze SIP Deadline – 2021

The WESTAR states strongly support changing the deadline for the next round of regional haze SIPs from 2018 to 2021.

WESTAR developed a plan outlining the steps and timeframe to complete the regional analysis needed to support the next round of regional haze SIPs. According to this plan, the region is currently at least a year behind schedule based on a 2018 SIP submittal deadline largely due to a lack of guidance on exactly what work needs to be done and a lack of resources to do the work. An additional three years to complete the SIP will help, giving us more time to complete the regional analysis within a timeframe for states to make solid planning decisions based on the analysis.

5-Year Progress Reports

Simplify by removing SIP revision and adequacy determination requirements

We understand that EPA is considering proposing revisions to the Regional Haze Rule so that progress reports no longer need to be in the form of a SIP revision and do not need to contain a determination of adequacy. The WESTAR states appreciate this modification because it will reduce the effort and time needed to report on visibility changes and shift limited resources to preparing the decadal SIP revisions. We also understand the desire to allow for progress report review by the Federal Land Managers and the public before they are submitted to EPA. We believe that EPA can require a public comment period and FLM review without requiring a full SIP process for progress reports.

Concerns have been raised about the ability of EPA to address potential inadequacies in SIPs based on progress reports that are not SIP revisions. As a practical matter, any

concerns identified through a progress report would be addressed in the upcoming decadal SIP. In addition, EPA always has the option of a SIP call if a SIP is not being implemented or found to be inadequate, without needing a progress report to trigger action.

The following table summarizing the time needed for review and adoption of SIPs in selected states is included to demonstrate the extra burden that requiring the progress reports in the form of SIP revisions places on the states. The times indicated include FLM review period, public review period, and state specific adoption process. Prior to the review process, states estimate spending 5 to 8 months preparing the report.

State	Review and Adoption Process
Alaska	10 months
Hawaii	10 months
Oregon	6 months
California	6 months
Nevada	6 months
Utah	6 months
New Mexico	8 months
Colorado	12 months

In particular, we would like to remind EPA that we are all working under declining resources and we can best protect air quality by focusing our efforts on actions that make meaningful progress.

Remove progress report requirement

Modifying the requirement of the five-year progress report from a SIP revision to a simple report is one step to reducing unnecessary work. The next question becomes, “Does the overall utility of the progress reports warrant the effort and resources required?” The WESTAR states wonder if going a step further and removing the progress report requirement altogether better suits the realities of regional haze planning.

We understand that the 5-year progress report requirement was included in the RH rule to set the stage for the next round of SIP planning and to provide an early evaluation of how visibility is changing based on the actions taken in the most recent 10-year plan. However, we are finding that the short time horizon between the submission of the previous 10-year

plan and the progress report preparation is not sufficient to capture the effects of the emission reductions implemented in the plan. Since it can take from 6 up to 18 months to process IMPROVE data, the progress report at best reviews about 2½ years of IMPROVE data beyond the 10-year SIP submission date. Furthermore, many of the controls implemented under the 10-year SIPs are not required to be in place within that timeframe; thus, the progress report does not capture the effects of full SIP implementation and barely captures the effects of initial implementation.

This all begs the question, what is the purpose of the progress report? If the purpose is to inform the next round of regional haze SIPs, then perhaps it makes more sense to delay the analysis of the previous period until the state is working on the SIP and include an analysis as part of the next SIP. There will still be a lag of several years from when the data is collected to when the information is presented due to data processing and SIP planning, but there would be several additional years of data to incorporate into the analysis, giving a longer period over which to see progress.

Finally, the requirement for the progress reports is not based in the Clean Air Act. Nowhere in the visibility section of the Act did Congress require progress reports.

Western States Option

Simply put, the West is different. The 15 western states are regulating visibility-impairing emissions under a different set of circumstances than the eastern states and need metrics and methods that reflect the sources of haze they can reasonably control. Additionally, states need to be able to implement the approach with the limited resources available.

The West is home to 118 Class I areas, about 75% of the Class I areas in the United States. The regional haze regulations need to work for these areas. The rule meant to protect these areas must work in the West.

From our perspective, the natural conditions goal is flawed in several ways:

- Natural conditions imply that there will be no anthropogenic emissions on the 20% worst days. This goal is unachievable.
- Natural conditions in the West are typically dominated by fire emissions, which can vary widely from year to year, even progress period to progress period.
- Natural conditions are likely increasing from baseline conditions due to large-scale human impacts on the environment (climate change, fire suppression regimes).

Thus, natural conditions from the baseline period may not be an accurate representation of natural conditions in the future.

As described in the bullets above, states are not able to regulate emissions outside the US and not able to eliminate all emissions from sources under their jurisdiction. The goal of regional haze planning needs to account for these facts so that states have a goal they can reasonably achieve.

Emissions across the country come in several categories, as shown in the table below. Shaded categories show contributions to visibility impairment that states cannot control, yet all of these sources contribute to the pollution monitored at IMPROVE sites.

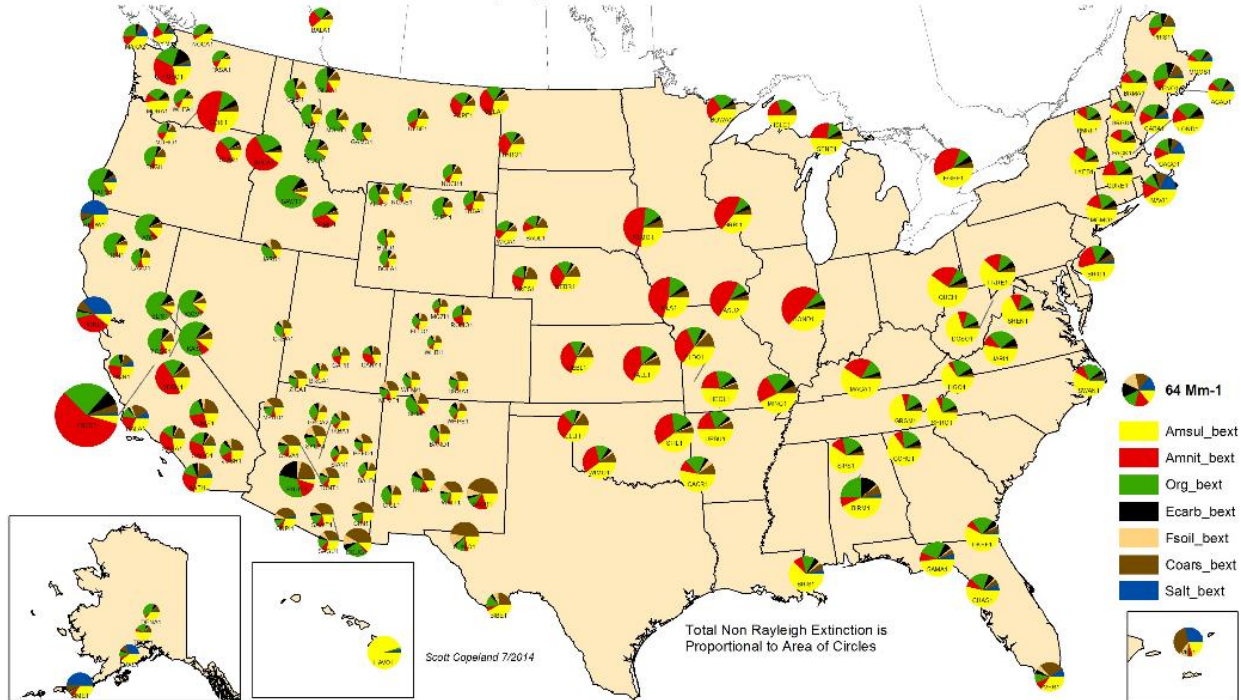
	Source	Controllability	Trend	Variability
Anthropogenic	US Anthropogenic	Some emissions are controllable	Downward as sources are controlled	Relatively stable
		Some emissions will remain after all reasonable controls implemented	Could rise because of population increases	Relatively stable
	International Anthropogenic	Not controllable by state or federal regulations	Likely increasing due to increased development worldwide and rising population	Relatively stable
Natural	Fire, Dust, Sea Salt	Natural, not controllable	Increases due to climate change and other human changes to the environment	Highly variable
	Volcanic	Natural, not controllable	Unpredictable	Highly variable
	Other Natural Sources	Not controllable	Potentially affected by climate change, e.g., changes in temperature	Relatively stable

Table Note: Shaded areas represent emissions that states cannot control.

Throughout the country, the proportional contribution from each of these different categories, along with dominating species, varies greatly by region. In the West organic carbon from wildfires dominate the 20% worst days and overall impairment is much lower than in the East. This difference in the species make-up and amount is illustrated by the map below.

IMPROVE Data - 2013 Second IMPROVE Algorithm

Non Rayleigh Mean of Hazeiest 20%



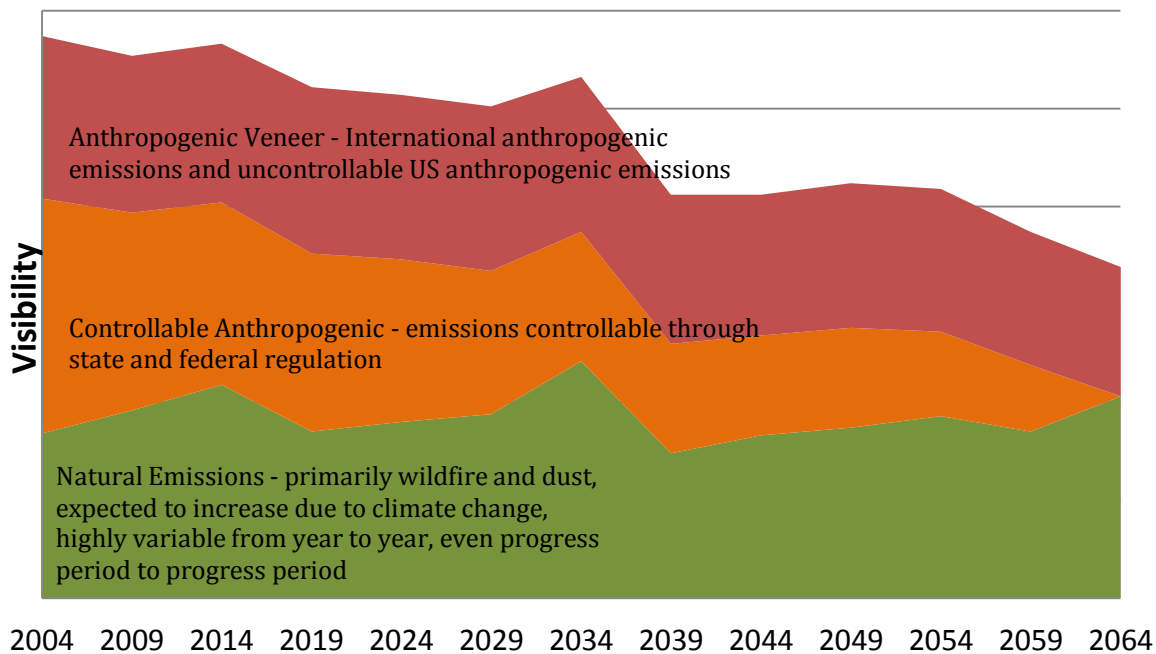
The regional haze goal must take into account these different source categories. Natural source emissions, whether from national or international sources, cannot be reduced. Further, anthropogenic international sources cannot be controlled by state or federal measures. Finally, without eliminating human populations and drastically altering existing economic systems, there will always be residual anthropogenic emissions from US sources that have been controlled to the best of our ability in any planning period before 2064, and in the years afterwards.

Identifying the contributions each of these categories make towards visibility impairment is challenging. Distinguishing between the three categories of anthropogenic emissions in monitoring data is particularly difficult. It is entirely possible for a state to make good progress on reducing emissions that are affecting visibility but to not see an improvement at the monitors:

- Emissions from some natural events can be highly variable, unpredictable, and overwhelm any other changes.

- Small increases in uncontrollable anthropogenic emissions (either domestic or international) could offset decreases in emissions achieved through controls implemented.

The chart below shows a representation of a Class I area in the western US. A portion of each species was assigned to each of the three categories (natural, anthropogenic controllable, anthropogenic not controllable). Although some visibility improvement is achievable, reaching natural conditions, as currently defined, is not. For the purposes of this discussion, controllable emissions are defined as those that can be eliminated by 2064. There may be additional technologies that come available in the future that allow for further reasonable progress than is achievable at this time or by 2064.



And, finally, the changing climate and other large-scale human-induced environmental changes are changing the emissions from some natural sources. Wildfire frequency and intensity are changing both because of past suppression practices and changing precipitation patterns. Likewise, dust storm patterns are changing with changing weather patterns.

New goal needed

The WESTAR states need an option for meeting the regional haze requirements that takes into account the conditions described above. Our plans must focus on reducing emissions within the western context and must focus on controllable emissions of pollutants that contribute to haze. The above discussion demonstrates that we cannot achieve natural conditions as currently interpreted. We need a metric for measuring progress that we can achieve.

A number of options for redefining the end goal and adjusting the deciview metrics have been discussed, as well as focusing on NO_x and SO₂ emission reductions. Another option would be to shift the focus of the planning efforts from visibility to emission reductions through a requirement similar to what came out of the Grand Canyon Visibility Transport Commission and codified under Section 309.

Whatever metric is adopted, either the means by which the metric is calculated must be straightforward and uncomplicated or the data analysis must be prepared by a federal agency. States do not have the resources for extensive and complicated calculations. If a procedure involves the use of modeling results, states without these resources (Alaska and Hawaii) must have an alternative that is reasonable and accepted by EPA, FLMs, and other stakeholders. We recognize that federal agencies are currently working on potential adjustments to monitoring data in consideration of these challenges and appreciate their efforts on these tasks that are most easily done at that level by highly skilled specialists.

The regional haze planners in the western states have an intimate understanding of the haze issues in their states. We ask that EPA involve us in designing the new program to take advantage of our 'on the ground' knowledge. We look forward to continued collaboration with EPA and other federal agencies on these issues.

Whatever options are chosen, the states need the ability to opt in or out of an alternative metric or method. The western US is a very large region, and includes concentrated population centers in nonattainment for multiple pollutants as well as vast open unpopulated areas – what works in one state may not work in another.

Finally, regardless of which approach and metrics are used, for the WESTAR states to be able to implement controls, there must be a way to show a causal link between the controls and improved visibility. States do not have the legal mandate to require emission reductions without some evidence of a causal relationship.

Nearing the Endpoint

As states approach the visibility goal, new questions arise:

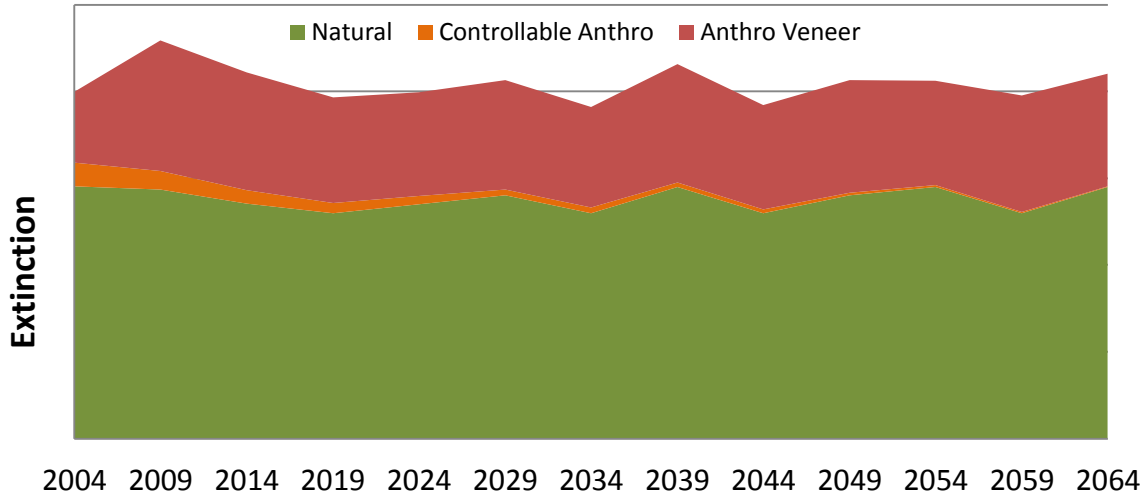
- How do we show that additional controls are not reasonable in a way that is not overly burdensome?
- What happens when we can no longer make progress?
- What if the reductions that can be made are so small that they will not affect visibility?

Alaska demonstrates this conundrum well. The following chart is based on data from Denali National Park and Preserve. Alaska attributed emissions to three categories:¹

- All nitrate and sulfate emissions were assigned to anthropogenic sources
 - All other species are attributed to natural sources
- Anthropogenic emissions were assumed to be half in state and half international
- Half of the in state emissions were assumed controllable

The controllable emissions portion of the graph is very small – even if eliminated, there is likely little to no discernable improvement in visibility. Using overall visibility as a metric may show improvement in some periods, but is likely to show backsliding in others as natural and international emissions change over time. While Alaska is likely closest to eliminating controllable emissions, a number of western Class I areas are approaching similar situations and the eastern states will be in this situation in the future, too.

¹ These assumptions are made only to generate the chart here and not intended to reflect actual source contributions, which are unknown.



Conducting sophisticated and resource intensive analysis can determine whether sources are contributing controllable emissions to visibility impairment. However, states need a simple way to screen for sources that are worth more in depth analysis.

It is worth repeating that states will not be able to require controls for visibility improvement if visibility improvement cannot be shown in some way, and we are working in an era of diminishing resources for completing this work.

Thank you for the opportunity to provide additional input to your deliberations on upcoming changes to the Regional Haze Rule and guidance.

Sincerely,

Dan Johnson, Executive Director
WESTAR Council