

Chapter Eight - Monitoring Strategy

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8.1 INTRODUCTION

The Regional Haze Rule (RHR) at 40 CFR 51.308(d)(4) requires states to submit a monitoring strategy for measuring, characterizing and reporting of regional haze visibility impairment that is representative of all mandatory Class I areas within the state. The regional haze monitoring strategy must also coordinate with the monitoring strategy required in 40 CFR 51.305 for reasonably attributable visibility impairment, as well as provide for a variety of other requirements designed to evaluate reasonable progress toward meeting national visibility goals.

8.2 NEVADA'S REGIONAL HAZE VISIBILITY IMPAIRMENT MONITORING STRATEGY

Visibility conditions are presently measured by the Interagency Monitoring of Protected Visual Environments (IMPROVE) monitoring network. In the mid-1980's, the IMPROVE network was established to measure visibility impairment in mandatory Class I areas throughout the United States. The monitoring sites are operated and maintained through a formal cooperative relationship between the USEPA and Federal Land Managers (FLM) agencies, which include: the National Park Service, the U.S. Fish and Wildlife Service, the Bureau of Land Management and the U.S. Forest Service.

The objectives of the IMPROVE program are:

1. To determine current visibility and aerosol conditions in mandatory Class I areas;
2. To identify chemical species and emission sources responsible for existing human-made visibility impairment;
3. To document long-term trends for assessing progress towards the national visibility goals; and
4. With the enactment of the regional haze program, to provide regional haze monitoring representing all visibility in mandatory Class I areas, where practical.

Given that the IMPROVE monitoring data from 2000 through 2004 serves as the baseline for the regional haze program, the future regional haze monitoring strategy must necessarily be based on, or directly comparable to the IMPROVE program. The IMPROVE measurements provide the only long-term record available for tracking visibility improvement or degradation. The data collected at these sites are used by a variety of professionals in industry and at regulatory agencies to better understand and protect the visual air quality resources in mandatory Class I areas. The IMPROVE network documents the visual air quality in wilderness areas and national parks throughout the United States.

Nevada's regional haze monitoring strategy relies on information generated through the IMPROVE network for the Jarbidge Wilderness Area (Jarbidge WA). It is expected that the IMPROVE program will:

1. Maintain a stable configuration of the individual monitors and sampling sites, and stability in network operations for the purpose of continuity in tracking reasonable progress trends;
2. Assure sufficient data capture at each site for all visibility-impairing species;

3. Comply with the USEPA quality control and assurance requirements; and
4. Prepare and disseminate periodic reports on IMPROVE operations.

8.3 COORDINATION WITH §51.305 MONITORING STRATEGY REQUIREMENT

Nevada is subject to a federal visibility protection plan (visibility FIP) as opposed to having an approved visibility protection SIP. Nevada's visibility FIP is found at 40 CFR 52.1488. The visibility monitoring strategy provisions of 40 CFR 52.26 are incorporated into Nevada's visibility FIP. 40 CFR 52.26(c)(1) requires the USEPA in cooperation with the appropriate FLM to monitor visibility within each visibility protection area in the state. Accordingly, the FLMs operate the IMPROVE program which addresses visibility monitoring at the Jarbidge WA, as well as visibility protection areas outside the state, and establishes background visibility for the purposes of the regional haze requirements.

Nevada's regional haze monitoring strategy will coordinate with the Nevada visibility FIP by continuing to utilize the data collected by the IMPROVE program and will promote reasonable progress toward the national visibility goal. Under Nevada's visibility FIP, Southern California Edison's Mohave Generating Station¹ is required to meet certain emission control and limitation requirements for SO₂; emission control and opacity requirements for PM; and emission controls for NO_x. Under this regional haze (RH) SIP, the Mohave Generating Station is subject to Best Available Retrofit Technology (BART). The BART requirements result in substantially greater reductions of SO₂ and PM₁₀ emissions than the expected reductions from the visibility FIP. NO_x emissions are also expected to decrease as a result of BART when compared to the visibility FIP. Chapter Five includes a discussion of the BART process for the Mohave Generating Station.

8.4 ASSOCIATED REGIONAL HAZE MONITORING STRATEGY REQUIREMENTS

Other associated monitoring strategy components, as required by 40 CFR 51.308(d)(4)(i-vi) for Nevada's SIP commitment, are presented below. The RHR requirement is shown below in italics, followed by Nevada's response.

The implementation plan must also provide for the following:

- (i) *The establishment of any additional monitoring sites or equipment needed to assess whether reasonable progress goals to address regional haze for all mandatory Class I Federal areas within the State are being achieved.*

Sufficient funding for a complete and representative monitoring network within the IMPROVE program is supported by the USEPA. The IMPROVE site representing Nevada's Class I area at the Jarbidge WA is considered to be sufficiently representative to support a determination of reasonable progress for the Jarbidge WA.

¹ On June 10, 2009, the owners of the Mohave Generating Station, including Southern California Edison (SCE), announced the decision to decommission the station and remove the generating facility from the site. The SCE news release states that in 2010, the plant's generating equipment will be removed and its operating permits terminated (<http://www.edison.com/pressroom/pr.asp?bu=sce&year=2009&id=7234>).

- (ii) *Procedures by which monitoring data and other information are used in determining the contribution of emissions from within the State to regional haze visibility impairment at mandatory Class I areas both within and outside the State.*

Visibility monitoring data is presently processed and maintained through the coordination of the IMPROVE program. Nevada expects the IMPROVE program monitoring operation and data collection to continue, with the fundamental assumption that network data collection operations will not change, or if changed, will remain directly comparable to those operated by the IMPROVE program during the 2000 through 2004 RHR baseline period.

Generally, the Western Regional Air Partnership (WRAP) has analyzed, reduced and provided information on relative contributions to visibility impairment. Nevada has and will continue to use data reported by the IMPROVE program as input into the regional technical support analysis tool found at the Visibility Information Exchange Web System (VIEWS) and WRAP's Technical Support System (TSS), as well as other analysis tools and efforts sponsored by the WRAP. The state will continue to participate in the regional analysis activities of the WRAP to collectively assess and verify the progress toward reasonable progress goals, as the RHR is implemented. If the technical support service that the WRAP has provided for this SIP is not available in the future, Nevada is uncertain how it would fulfill this requirement. Nevada does not have the resources to replace the functions that the WRAP has provided in support of the first planning period for the RH SIP.

Evaluation activities, using the technical support provided by the WRAP as long as possible, will occur no less than every five years in association with 5-year progress reports and 10-year SIP revisions.

- (iii) *For a State with no mandatory Class I Federal areas, procedures by which monitoring data and other information are used in determining the contribution of emissions from within the State to regional haze visibility impairment at mandatory Class I Federal areas in other States.*

Because Nevada has a mandatory Class I Federal area (Jarbridge WA), this requirement is addressed in paragraph (ii) above.

- (iv) *The implementation plan must provide for the reporting of all visibility monitoring data to the Administrator at least annually for each mandatory Class I Federal area in the State. To the extent possible, the State should report visibility monitoring data electronically.*

Visibility monitoring data is available to the public, states and the USEPA in an electronic format at the following websites: IMPROVE (<http://vista.cira.colostate.edu/improve/>) and VIEWS (<http://vista.cira.colostate.edu/views/>). Nevada will depend on the continued routine timely reporting of monitoring data by these programs.

- (v) *A statewide inventory of emissions of pollutants that are reasonably anticipated to cause or contribute to visibility impairment in any mandatory Class I Federal area. The inventory must include emissions for a baseline year, emissions for the most recent year for which data are available, and estimates of future projected emissions. The State must also include a commitment to update the inventory periodically.*

With the support of the WRAP, Nevada has prepared a statewide inventory of emissions that can reasonably be expected to cause or contribute to visibility impairment in mandatory Class I areas. Chapter Three of this SIP summarizes the emissions by pollutant and source category. Nevada commits to updating its statewide emissions inventory periodically. The inventory updates will be used for state tracking of emission changes, determining trends and providing input into the WRAP's evaluation of whether reasonable progress goals are being achieved, as well as other regional analyses.

Nevada will depend upon and participate in additional periodic collective emissions inventory efforts by the WRAP. Further, the state will continue to depend on and use the capabilities of the WRAP-sponsored Regional Modeling Center to simulate the air quality impacts of emissions for haze planning purposes. If the technical support service that the WRAP has provided for this SIP is not available in the future, Nevada is uncertain how it would fulfill the requirement for estimates of future projected emissions.

- (vi) *Other elements, including reporting, recordkeeping, and other measures, necessary to assess and report on visibility.*

Nevada will track data related to those sources for which the state has regulatory authority, and will depend on the IMPROVE program and WRAP-sponsored collection and analysis efforts and data support systems to assess and report on visibility.

8.5 OVERVIEW OF IMPROVE SITE AT THE JARBIDGE WILDERNESS AREA

The Jarbidge WA, described in Chapter One, is the only mandatory Class I area requiring visibility monitoring within Nevada. The IMPROVE monitoring site for the Jarbidge WA is located in the Humboldt National Forest in northeastern Nevada, approximately one kilometer north of the city of Jarbidge in the Jarbidge River drainage. The monitoring site has been maintained and operated by the U.S. Forest Service since 1986. As indicated previously, monitoring data may be obtained from the VIEWS and IMPROVE websites, as well as the WRAP TSS website.

8.6 COMMITMENT TO FUTURE MONITORING

Nevada is committed to continue using the IMPROVE monitoring data. If economic challenges are faced by the IMPROVE monitoring program, Nevada commits to working with federal agencies as a team to try to resolve the situation. Also, the state commits to continue developing updated emission inventory data to allow for tracking emission increases or decreases as related to regional haze, as funding and resources allow. Nevada updates its point source emission

inventory for major sources every year as required by USEPA. In addition, Nevada updates its entire emission inventory every three years (all point sources, area sources and mobile sources) as required by USEPA for the National Emission Inventory. Information collected will be made available on a periodic basis. As part of the periodic RH SIP revision discussed in Chapter 9, Nevada will re-evaluate the adequacy of the existing monitoring strategy.