

Committee on Resources

Subcommittee on Forests & Forest Health

Witness Testimony

Testimony on
Oversight hearing on
Regional Haze
JOHN S. SEITZ
Director
Office of Air Quality Planning and Standards
Office of Air and Radiation
U.S. Environmental Protection Agency
Before the
House of Representatives
Subcommittee on Forests and Forest Health
July 16, 1998

Madame Chairman, Members of the Subcommittee, thank you for inviting me to discuss issues surrounding fire management and the Environmental Protection Agency's (EPA's) proposed rule to improve visibility and reduce regional haze in our national parks and wilderness areas.

As you know, in July 1997, EPA revised the national ambient air quality standards (NAAQS) for ground-level ozone and particulate matter. These updated standards have the potential to prevent as many as 15,000 premature deaths each year, and up to hundreds of thousands of cases of significantly decreased lung function and aggravated asthma in children. In the review of the standards, EPA concluded that the most appropriate way to address the visibility impairment associated with particulate matter would be to establish a regional haze program in conjunction with setting secondary PM standards equivalent to the suite of primary standards. EPA proposed new regulations addressing regional haze in July 1997.

Madame Chairman, as you know, virtually all of our national parks and wilderness areas are subject to some degree of regional haze visibility impairment. This fact has been extensively documented by monitoring conducted since 1978 by the National Park Service, EPA, the United States Forest Service, and other agencies. Haze obscures the clarity, color, texture, and form of what we see, and it is caused by natural and anthropogenic pollutants that are emitted to the atmosphere through a number of activities, such as electric power generation, various industrial and manufacturing processes, car and truck emissions, burning activities, and so on. These emissions often are transported long distances affecting visibility in certain parks and wilderness areas that have been identified by Congress for protection under the Clean Air Act. These areas are known as "Class I" areas.

We also know that the causes and severity of regional haze vary greatly between the East and the West. The average standard visual range in most of the Western U.S. is 60 to 90 miles, or about one-half to two-thirds of the visual range that would exist without man-made air pollution. In most of the East, the average standard visual range is 15 to 30 miles, or about one-sixth to one-third of the visual range that would exist under natural conditions. One of the major challenges associated with this problem is that these conditions

are often caused not by one single source or group of sources near each park or wilderness area, but by mixing of emissions from a wide variety of sources over a broad region.

Background

The Clean Air Act established special goals for visibility in many national parks, wilderness areas, and international parks. Section 169A of the 1977 Amendments to the Clean Air Act sets a national goal for visibility as the "prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I Federal areas which impairment results from manmade air pollution." This section also calls for EPA to issue regulations to assure "reasonable progress" toward meeting the national goal. EPA issued regulations in 1980 to address the visibility problem that is "reasonably attributable" to a single source or group of sources. These rules were designed to be the first phase in EPA's overall program to protect visibility. At that time, EPA deferred action addressing regional haze impairment until improved monitoring and modeling techniques could provide more source-specific information, and EPA could improve its understanding of the pollutants causing impairment.

As part of the 1990 Amendments to the Clean Air Act, Congress added section 169B to focus on regional haze issues. Under this section, EPA was required to establish a visibility transport commission for the region affecting visibility in the Grand Canyon National Park. EPA established the Grand Canyon Visibility Transport Commission in 1991 to examine regional haze impairment for the 16 mandatory Class I Federal areas on the Colorado Plateau, located near the Four Corners area of New Mexico, Colorado, Utah and Arizona. After several years of technical assessment and policy development, the Commission completed its final report in June 1996. The Commission's recommendations covered a wide range of control strategy approaches, planning and tracking activities, and technical findings which address protection of visibility in the Class I areas in the vicinity of the Grand Canyon National Park.

Under the 1990 Amendments, Congress required EPA to take regulatory action within 18 months of receiving the Commission's recommendations. EPA proposed the regional haze rules in July of last year in conjunction with the final national ambient air quality standards for particulate matter. In developing the proposed regulations, EPA took into account the findings of the Grand Canyon Visibility Transport Commission, as well as findings from a 1993 National Academy of Sciences Report and information developed by the EPA Clean Air Act Advisory Committee (CAAAC).

The National Academy of Sciences formed a Committee on Haze in National Parks and Wilderness Areas in 1990 to address a number of regional haze-related issues, including methods for determining the contributions of manmade sources to haze as well as methods for considering alternative source control measures. In 1993, the National Academy of Sciences issued a report entitled, "Protecting Visibility in National Parks and Wilderness Areas" which discussed the science of regional haze. Among other things, the Committee concluded that "current scientific knowledge was adequate and available control technologies exist to justify regulatory action to improve and protect visibility." The Committee also concluded that progress toward the national goal will require regional programs operating over large geographic areas. Further, the Committee felt strategies should be adopted that consider many sources simultaneously on a regional basis.

In developing the proposed regional haze rule, EPA also took into consideration recommendations and discussions related to regional haze from the CAAAC Subcommittee on Ozone, Particulate Matter, and Regional Haze Implementation Programs established under the Federal Advisory Committee Act (FACA). The Subcommittee included wide representation from states, local and tribal governments, industry,

environmental groups and academia. This Subcommittee met regularly over the past two and one-half years to consider a variety of implementation issues associated with the revised national ambient air quality standards and the proposed regional haze rule. It also focused discussions on how best to develop more cost-effective, flexible strategies for implementing these requirements.

EPA's Proposed Regional Haze Rule

EPA's proposed regional haze rule is designed to establish a program to address visibility impairment in the Nation's most treasured national parks and wilderness areas. In this rule, EPA is proposing to improve visibility, or visual air quality, in 156 important natural areas found in every region of the country. These areas range from Grand Canyon, Mesa Verde, and Bryce Canyon in the southwest; to Yellowstone, Sawtooth, and Mt. Rainier in the northwest; to Shenandoah and the Great Smokies in the Appalachians; to Yosemite, Sequoia, and Point Reyes in California; to Acadia, Lye Brook, and Great Gulf in the northeast; to the Everglades and Sipsey Wilderness in the southeast; to Big Bend, Wichita Mountains, Badlands, and the Boundary Waters in the central states. More than 60 million visitors experience the spectacular beauty of these areas annually. The proposed regional haze rule, in conjunction with implementation of other Clean Air Act programs, would significantly improve visibility in these areas. Further, EPA expects visibility to improve well beyond these areas, across broader regions of the United States.

The regional haze proposal establishes a requirement for states to implement strategies to meet "reasonable progress targets" for improving visibility in Class I areas. These targets would be designed to improve visibility on the haziest days and to prevent degradation of visibility on the clearest days. EPA is proposing to express the progress targets in a way that provides flexibility from one region of the country to another by using the "deciview" as a measurement. The deciview index expresses the overall effect on visibility resulting from changing levels of the key components of fine particulate matter (sulfates, nitrates, organic and elemental carbon, soil dust) which contribute to the degradation of visibility. These components are routinely measured by an interagency visibility monitoring network that has been in place for several years in national parks and forests. Like the decibel scale which is used to measure sound, the deciview index measures perceived changes across the range of possible conditions (for example, from clear to hazy days). A change of one deciview is considered to be perceptible by the average person. Visibility monitoring data show that over the past several years, visibility impairment on the worst days ranges from 27 to 34 deciviews in eastern locations and 13 to 25 in western locations. A deciview of zero represents the absence of natural or man-made impairment in visibility.

EPA's proposed presumptive "reasonable progress target" has two elements: (1) for the 20% of days having the worst visibility, the target is a rate of improvement equal to 1.0 deciview over either a 10-year or 15-year period [EPA has solicited comments on each option]; and (2) for the 20% of days having the best visibility, the target is no degradation. For example, in a place like the Shenandoah National Park, where ambient fine particle levels for the worst days average 20 micrograms per cubic meter, a reduction of up to 2 micrograms per cubic meter would be needed to achieve a 1 deciview improvement. Whereas in the Grand Canyon, where ambient fine particle levels for the worst days average about 5 micrograms per cubic meter, a reduction of up to one-half a microgram would be sufficient to achieve a 1 deciview improvement.

EPA's proposed rule also provides important flexibility to states by allowing them to propose alternate progress targets for EPA approval. An alternate target can be proposed for a Class I area if the state can demonstrate that achieving the presumptive targets would not be reasonable. States can consider such factors as the availability and costs of controls, the time necessary for compliance, and the remaining useful life of the air pollution sources in determining whether achieving the target would be reasonable.

Alternatively, some states may find they can go further and achieve up to a 2-3 deciview improvement at some parks or wilderness areas, or that programs already adopted or in the process of being implemented will achieve such an improvement. The proposal suggests that states consult with other contributing states, the federal land managers, and EPA in developing alternate targets.

Last month, President Clinton signed the Transportation Equity Act for the 21st Century (TEA-21) which, among other things, included a provision to ensure that states' control strategies and plans for regional haze are harmonized with those required for PM_{2.5}. This dovetails with the goal expressed in our proposed rule to coordinate the state plan deadlines under the regional haze rule with those required for meeting the PM_{2.5} standard. EPA's regional haze proposal also encourages states to work cooperatively to develop modeling approaches, emission inventories, and regional implementation strategies.

EPA also proposed that either every three or five years after the adoption of their initial control strategies and plans (EPA has solicited comment on both options), states would review progress in each Class I area in relation to their established progress targets. States would also be expected to include a plan for expanding the current visibility monitoring network so that it is "representative" of all 156 Class I areas. EPA is working with the states and federal land managers to coordinate this network expansion with the deployment of the new monitoring network for the national ambient air quality standard for fine particulates. EPA is evaluating ways to efficiently use resources such that existing and new visibility monitoring sites can also provide information about transport of fine particulate pollution as it relates to the newly revised national ambient air quality standards. EPA expects to deploy more than 70 new visibility monitoring sites by December 1999.

Also as part of their initial plan submittal, states would need to address important technical activities to pursue on a regional basis, such as improvements in particulate matter emission inventories and modeling capabilities, as well as plans for assessing sources potentially subject to best available retrofit technology (or BART). As specified in the Clean Air Act, sources potentially subject to BART are any sources, from one of twenty-six groups of industrial "source categories," which began operation between 1962 and 1977, and which have the potential to individually emit 250 tons per year or more of any pollutant that impairs visibility. The twenty-six source categories include such sources as electric utilities, smelters, petroleum refineries, and pulp and paper mills. If the state determines that a source contributes to visibility impairment in any Class I area, a BART determination would include an examination of the availability of control technologies, the costs of compliance, the energy and non-air environmental impacts of compliance, any pollution control equipment in use at the source, the remaining useful life of the source, as well as the degree of improvement in visibility as a result of compliance. As with all aspects of this proposal, we solicited comments on how to address the BART requirement and will take these comments into account in developing the final rule.

Under the proposed regional haze rule, state plans would provide for adoption of emissions management strategies concurrently with other strategies for PM_{2.5} nonattainment areas. These submittals would include measures to reduce emissions from sources located within the state, including provisions addressing the BART requirement, if applicable. I would like to make two important points about the emissions reduction strategy. First, it can take into account air quality improvements due to implementation of other programs, such as the acid rain program, mobile source programs, or the national ambient air quality standards program. And second, the emissions reduction strategy can include a mix of strategies that address emissions from both stationary, areas and mobile sources. EPA's proposed rule does not focus on stationary sources only, as some have claimed. The proposed planning framework provides states with flexibility in

designing their overall program for improving visibility.

Process for Developing the Final Regional Haze Rule

EPA Administrator Browner signed the proposed haze rule on July 18, 1997. At that time, we made the proposed rule and other related materials available to the public on the Internet and through other means. It was published in the Federal Register on July 31. EPA held a public hearing that I chaired in Denver, Colorado on September 18. In response to requests by the public, we extended the public comment period by about six weeks, to December 5, 1997. We have held other sessions around the country to discuss the regional haze proposal, including a national satellite broadcast for all state and local air pollution agencies during which we discussed the proposal and answered questions from the viewers. I have also actively participated in meetings of the Western Regional Air Partnership, a follow-up organization to the Grand Canyon Visibility Transport Commission that is co-chaired by Governor Shitiva of the Pueblo of Acoma and Governor Leavitt of Utah. This is a voluntary organization established by several states and tribes which EPA will be working with to address western visibility issues.

Issues Surrounding Fire in Forest Management and EPA's Proposed Regional Haze Rule

EPA recognizes that fires have always been a natural part of forest ecosystems. Forest fires release important nutrients from flammable "fuels" or debris on the forest floor into the soil. Some plant species are dependent on fire for further reproduction. By reducing the undergrowth and debris on the forest floor, trees typically grow taller and healthier since there is less competition by other surrounding plants for nutrients. For many years, fires were aggressively suppressed in our Nation's forests, resulting in a number of problems, including long-term damage to the health of trees and increased likelihood of catastrophic wildfires. The absence of fire effects has allowed plant species (e.g., trees and shrubs) that would normally be eliminated by fires to proliferate, vegetation to become dense and insect infestations to go unchecked. We now believe that smaller, periodic fires that are well managed help reduce the risk of catastrophic wildfires.

In recognition of the serious problems caused by years of fire suppression, the U.S. Departments of Agriculture and the Interior jointly released the results of a Federal Wildland Fire Management Policy and Program Review in 1995. This report recognized the critical role fire plays in maintaining healthy wildland ecosystems and endorsed a significant increase in the use of planned, or managed, fire as a land and resource management tool. The Departments of Agriculture and the Interior adopted a policy that all future plans to manage fires on wildlands will incorporate public health and environmental considerations, including air quality. EPA also participated in developing the 1995 Program Review and endorsed its recommendations.

Unplanned wildland fires, such as catastrophic wildfires, can pose serious threats to property, and public health and safety. Wildfires cause extended periods of intense smoke, which contains particulate matter that can cause serious health problems, especially for people with respiratory illness. They can also affect visibility, a particular concern in national parks and wilderness areas.

On the other hand, fires can be planned and managed to minimize the smoke impacts that adversely affect public health and impair visibility. This can occur through techniques such as scheduling burning during favorable wind directions and weather

conditions, and controlling the amount of fuel or acreage burned. Many state agencies already use these and

other management techniques to reduce air quality problems associated with wildland and prescribed fires.

As mentioned earlier, in developing a common-sense implementation strategy for the new ozone and particulate matter standards and the regional haze program, EPA used the FACA to create a Subcommittee to obtain advice from outside experts representing industry, environmental, state, local, federal and other stakeholders. Within the Subcommittee, EPA established a special workgroup comprised of fire and air quality experts from the U.S. Departments of Agriculture, the Interior, and Defense; the National Association of State Foresters, state/local air quality agencies and others to specifically address the potential impacts of wildland and prescribed fire (e.g., smoke particles) on air quality and visibility impairment.

In May of this year, EPA issued the "Interim Air Quality Policy on Wildland and Prescribed Fires." The policy encourages all land owners/managers to work cooperatively with state and local air pollution control officials to conduct integrated planning to successfully manage ecosystem health and air quality concerns. EPA's policy outlines the basic components of smoke management plans (SMPs) and urges states to adopt and implement SMPs to mitigate the impacts of smoke on the public's health and welfare, and to prevent violations of the national ambient air quality standards and visibility impairment.

In developing this policy, EPA considered the 1996 recommendations from the Grand Canyon Visibility Transport Commission (GCVTC), which among other issues, recommended smoke management plans, and the development or improvement of other tools as means of addressing smoke impacts from prescribed burning. The "Interim Air Quality Policy on Wildland and Prescribed Fires" complements EPA's "natural events" policy issued in 1996 to address the treatment of wildfires and other natural events in meeting PM₁₀ air quality standards. Under the "natural events" policy, EPA has committed not to redesignate areas as nonattainment when natural events are clearly the cause of violations of the national ambient air quality standards for PM₁₀, provided the state develops a natural events action plan to address the public health impacts associated with future natural events, such as a wildfires. Natural event action plans include public notice and education programs, actions to minimize exposure to high particulate matter concentrations, and actions to minimize particulate matter emissions from controllable sources that contribute to natural events. The "Interim Air Quality Policy on Wildland and Prescribed Fires" incorporates the same type of flexibility and does not punish states that implement effective smoke management programs, yet occasionally experience unavoidable smoke intrusions.

Conclusions

In summary, we believe that EPA's regional haze rule, when finalized, will establish a framework to improve visibility in our Nation's parks and wilderness areas, as the Congress intended in the Clean Air Act. Over the past several months, we have been busy reviewing public comments and considering options for addressing the concerns of various commenters. At the request of various interested parties, including the Western Governors Association, STAPPA/ALAPCO, NESCAUM, and industry and environmental groups, we have held additional meetings to discuss issues related to the rule. I want to be clear that we still have not made final decisions on these matters. Our goal is to ensure that the proposed new regional haze requirements are implemented in a common sense, cost-effective and flexible manner.

We also want to assure compatibility between federal land management policies and EPA air quality programs (NAAQS, regional haze, visibility, conformity, etc.). Therefore, we plan to revisit the "Interim Air Quality Policy on Wildland and Prescribed Fires" when the final regional haze rules have been promulgated and when we receive recommendations from the USDA Air Quality Task Force on how to treat air quality

impacts from agricultural burning. We intend to continue working closely with state and local governments, other federal agencies and all other interested parties to accomplish these goals.

Madame Chairman, this concludes my written statement. I will be happy to answer any questions that you might have.

#