6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 51

[FRL-]

Docket No A-95-38

Regional Haze Regulations

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of proposed rulemaking.

SUMMARY: On July 18, 1997 EPA published revisions to the national ambient air quality standards (NAAQS) for ozone and particulate matter (PM). In the final action revising the PM NAAQS, EPA recognized that visibility impairment is an important effect of PM on public welfare and concluded that the most appropriate approach for addressing visibility impairment is to establish secondary standards for PM identical to the suite of primary standards in conjunction with a revised visibility protection program to address regional haze in mandatory Class I Federal areas (certain large national parks and wilderness areas). Section 169A of the Clean Air Act (Act) sets forth a national goal for visibility which is 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 calls for regulations to assure reasonable progress toward meeting the

national goal.

Today's proposal sets forth a program to address regional haze visibility impairment in the nation's most treasured national parks and wilderness areas. Because much of the pollution affecting haze in these generally rural areas is transported long distances, measures to protect these areas should also reduce air pollution and improve visibility outside of these areas as well.

DATES: The EPA will hold a public hearing on the proposed rules on September 18, 1997. Written comments on this proposal must be received by October 20, 1997.

ADDRESSES: Comments. Comments should be submitted (in duplicate if possible) to the Air and Radiation Docket and Information Center, 401 M Street, SW, Washington, DC 20460, Attention Docket Number A-95-38. Comments and data may also be submitted electronically by following the instructions under SUPPLEMENTARY INFORMATION of this document. No Confidential Business Information (CBI) should be submitted through e-mail.

Public Hearing. The regional haze rule is subject to the requirements of section 307(d)(5) of the Act that the Agency provide opportunity for public hearing. The EPA will hold a public hearing on the proposed rules at the Adam's Mark Hotel, 1550 Court Place, Denver, Colorado beginning at 10:00 AM on the date noted above. The EPA will hold the public

comment period open for 30 days after completion of the public hearing to provide an opportunity for submission of rebuttal and supplemental information. Persons wishing to speak at the public hearing should contact Barbara Miles at 919 541 5531.

Docket. The public docket for this action is available for public inspection and copying between 8:00 a.m. and 4:00 p.m., Monday through Friday, at the Air and Radiation Docket and Information Center (6102), Attention Docket A-95-38, South Conference Center, Room 4, 401 M Street, SW, Washington, DC 20460. A reasonable fee for copying may be charged. The regional haze regulations are subject to the rulemaking procedures under section 307(d) of the Act. The documents relied on to develop the proposed regional haze regulations have been placed in the docket.

FOR FURTHER INFORMATION CONTACT: For general questions regarding this notice, contact Bruce Polkowsky, U.S. EPA, MD-15, Research Triangle Park, NC 27711, telephone (919) 541-5532.

SUPPLEMENTARY INFORMATION:

Electronic Availability - The official record for this rulemaking, as well as the public version, has been established under docket number A-95-38 (including comments and data submitted electronically as described below). A public version of this record, including printed, paper

versions of electronic comments, which does not include any information claimed as CBI, is available for inspection from 8 a.m. to 4 p.m., Monday through Friday, excluding legal holidays. The official rulemaking record is located at the address in ADDRESSES at the beginning of this document. Electronic comments can be sent directly to EPA at: A-and-R-Docket@epamail.epa.gov. Electronic comments must be submitted as an ASCII file avoiding the use of special characters and any form of encryption. Comments and data will also be accepted on disks in WordPerfect in 5.1 file format or ASCII file format. All comments and data in electronic form must be identified by the docket number A-95-38. Electronic comments on this proposal may be filed online at many Federal Depository Libraries. In addition, the following communications and outreach mechanisms have been established regarding implementation of the ozone and PM NAAQS and regional haze programs:

Overview information - World Wide Web (WWW) sites have been developed for overview information on visibility issues, the NAAQS, and discussions of implementation issues by the Clean Air Act Advisory Committee, Subcommittee on Ozone, Particulate Matter, and Regional Haze Implementation Programs. These web sites can be accessed from Uniform Resource Locator (URL): http://www.epa.gov/airlinks/.

Detailed and technical information - Information

related to implementation issues under discussion by the above Subcommittee, established under the Federal Advisory Committee Act (FACA), is available on the Ozone, Particulate Matter, and Regional Haze (O3/PM/RH) Bulletin Board on the Office of Air Quality Planning and Standards (OAQPS) Technology Transfer Network (TTN), which is a collection of electronic bulletin board systems operated by OAQPS containing information about a wide variety of air pollution topics. The O3/PM/RH Bulletin Board contains separate areas for each of the five work groups of the FACA Subcommittee, with information on issue papers currently under discussion, materials for upcoming meetings, summaries of past meetings, general information about the process, lists of Subcommittee and work group members, and so on. The TTN can be accessed by any of the following three methods:

- By modem; the dial-in number is (919) 541-5742. Communications software should be set with the following parameters: 8 Data Bits, No Parity, 1 Stop Bit (8-N-1) 14,400 bps (or less).
- Full Duplex.
- ANSI or VT-100 Terminal Emulation.

The TTN is also available on the WWW site at the following URL: http://ttnwww.rtpnc.epa.gov. The TTN can also be accessed on the Internet using File Transfer Protocol (FTP); the FTP address is ttnftp.rtpnc.epa.gov. The TTN Helpline

is (919) 541-5384.

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I. Regional Haze Program

A. Introduction

The visibility protection program under sections 110(a)(2)(J), 169A, and 169B of the Act is designed to protect mandatory Federal Class I areas[1] from impairment due to manmade air pollution. Congress adopted the visibility provisions in the Clean Air Act to protect visibility in these “areas of great scenic importance.”[2] The current regulatory program addresses visibility impairment in these areas that is "reasonably attributable"[3] to a specific source or small group of sources. In adopting section 169A, the core visibility provisions adopted in the 1977 Clean Air Act Amendments, Congress also expressed its concern with “hazes” and the potential corresponding need to control a

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[1] Areas designated as mandatory Class I Federal areas are those national parks exceeding 6000 acres, wilderness areas and national memorial parks exceeding 5000 areas, and all international parks which were in existence on August 7, 1977. Visibility has been identified as an important value in 156 of these areas. See 40 CFR Part 81, Subpart D. The extent of a mandatory Class I Federal area includes subsequent changes in boundaries, such as park expansions. CAA section 162(a).

[2] H.R. Rep. No. 294, 95th Cong. 1st Sess. at 205 (1977).

[3] "Reasonably attributable" visibility impairment, as defined in 40 CFR 51.301(s), means "attributable by visual observation or any other technique the State deems appropriate." It includes impacts to mandatory Federal Class I areas caused by plumes or layered hazes from a single source or small group of sources.

"variety of sources" and "regionally distributed sources."[4] The purpose of today's proposal to revise the existing visibility regulations at 40 CFR sections 51.300-307 is to integrate certain fundamental provisions addressing regional haze impairment. The resulting regulation will reflect a comprehensive visibility protection program for mandatory Class I Federal areas.

Regional haze is produced by a multitude of sources located across a broad geographic area emitting fine particles and their precursors. Twenty years ago, when initially adopting the visibility protection provisions of the Act, Congress specifically recognized that the "visibility problem is caused primarily by emission into the atmosphere of sulfur dioxide, oxides of nitrogen, and particulate matter, especially fine particulate matter, from inadequate[ly] controlled sources."[5] The fine particulate matter (PM)(e.g., sulfates, nitrates, organic and elemental carbon, and soil dust) that impair visibility by scattering and absorbing light are among the same particles related to serious health effects and mortality in humans, as well as to environmental effects such as acid deposition. The role of regional transport of fine particles in contributing to

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[4] H.R. Rep. No. 95-294 at 204 (1977).

[5] H.R. Rep. No. 95-294 at 204 (1977).

elevated PM levels and regional haze impairment has been well documented by many researchers[6] and recognized as a significant issue by many policy makers.[7] Data from the existing visibility monitoring network show that visibility impairment caused by air pollution occurs virtually all the time at most national park and wilderness area monitoring stations. Average visual range in most of the Western U.S. is 100-150 kilometers (km), or about one-half to two-thirds of the visual range that would exist without manmade air pollution. In most of the East, the average visual range is less than 30 kilometers, or about one-fifth of the visual range that would exist under natural conditions.

B. Background

Section 169A of the Act, established in the 1977 Amendments, sets forth a national visibility goal that calls for "the prevention of any future, and the remedying of any

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[6] See Table 24-6, Long-Term Visibility and Aerosol Data Bases, in "Acidic Deposition, State of Science and Technology, Volume III, Terrestrial, Materials, and Health and Visibility Effects, Report 24, Visibility Existing and Historical Conditions, Causes and Effects. p. 24-51, 1991, and Chapter 8, "Effects on Visibility and Climate" in "Air Quality Criteria for Particulate Matter", U.S. EPA, EPA 600/P-95/001bF, April 1996.

[7] See Clean Air Act Advisory Committee, Subcommittee on Ozone, Particulate Matter, and Regional Haze Implementation Programs, *Initial Report on Subcommittee Discussions*, April 1997. See also Grand Canyon Visibility Transport Commission, *Recommendations for Improving Western Vistas*, June 1996.

existing, impairment of visibility in mandatory Class I Federal areas which impairment results from manmade air pollution." The EPA's existing visibility regulations[8], developed in 1980, address visibility impairment that is "reasonably attributable" to a single source or small group of sources. Under these rules, the 35 States and 1 territory (Virgin Islands) containing mandatory Class I Federal areas are required to: 1) revise their SIPs to assure reasonable progress toward the national visibility goal; 2) determine which existing stationary facilities should install the Best Available Retrofit Technology (BART) for controlling pollutants which impair visibility; 3) develop, adopt, implement, and evaluate long-term strategies for making reasonable progress toward remedying existing and preventing future impairment in the mandatory Class I Federal areas; 4) adopt certain measures to assess potential visibility impacts due to new or modified major stationary sources, including measures to notify FLMs of proposed new source permit applications, and to consider visibility analyses conducted by FLMs in their new source permitting decisions; and 5) conduct visibility monitoring in mandatory Class I Federal areas.

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[8] See 45 Fed. Reg. 80084 (December 2, 1980) and 40 CFR 51.300-307.

The 1980 rules were designed to be the first phase in EPA's overall program to protect visibility. The EPA explicitly deferred action addressing regional haze impairment until some future date "when improvement in monitoring techniques provides more data on source-specific levels of visibility impairment, regional scale models become refined, and our scientific knowledge about the relationships between emitted air pollutants and visibility impairment improves."[9]

While EPA is addressing visibility protection in phases, the visibility protection provisions of the Act are broad. The national visibility goal in section 169A calls for addressing visibility impairment generally, including regional haze.[10] Further, Congress added section 169B as part of the 1990 Amendments to the Act to focus attention on regional haze issues. This section includes provisions for EPA to conduct visibility research on regional regulatory tools with the National Park Service and other federal

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[9] See 45 FR 80086.

[10] State of Maine v. Thomas, 874 F. 2d 883, 885 (1st Cir. 1989) ("EPA's mandate to control the vexing problem of regional haze emanates directly from the Clean Air Act, which 'declares as a national goal 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.'") (citation omitted).

agencies, to develop an interim findings report on the visibility research[11], and to provide periodic reports to Congress on visibility improvements due to implementation of other air pollution protection programs.[12] Section 169B allows the Administrator to establish visibility transport commissions. Section 169B(f) called for EPA to establish a visibility transport commission for the region affecting visibility of the Grand Canyon National Park, the purpose of which was to assess scientific and technical information pertaining to adverse impacts on visibility from existing and projected growth in emissions, and to issue a report to EPA recommending measures to remedy such impacts. The statute specifically called for the report to address long-term strategies for addressing regional haze.[13] In 1991 EPA established the Grand Canyon Visibility Transport Commission (GCVTC) and its final report was completed in June 1996[14].

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[11] See U.S. EPA, "Interim Findings on the Status of Visibility Research", February 1995, (EPA/600/R-95/021); see also 60 FR 8659 notice announcing the report availability and how to obtain copies (Feb. 15, 1995).

[12] See U.S. EPA, "Effects of the 1990 Clean Air Act Amendments on Visibility in Class I Areas; An EPA Report to Congress," October 1993, (EPA-452/R-93-014)

[13] CAA Section 169B(e)(1)

[14] Grand Canyon Visibility Transport Commission (GCVTC), "Recommendations for Improving Western Vistas", Report to the U.S. EPA, June 10, 1996 (hereafter "GCVTC

Section 169B(e) calls for the Administrator, within 18 months of receipt of the GCVTC report, to carry out her "regulatory responsibilities under section [169A], including criteria for measuring 'reasonable progress' toward the national goal."[15] Today's proposal is the first step toward fulfilling EPA's responsibility, defined since 1980, to put in place a national regulatory program that addresses both reasonably attributable and regional haze visibility impairment.

Today's proposal also implements the Administrator's decision to address the general national public welfare concern for visibility through a combined program of setting a new $PM_{2.5}$ secondary national ambient air quality standard equivalent to the primary standard, promulgated in a recent Federal Register notice, and a revised visibility protection program to address regional haze impairment in mandatory Class I Federal areas.

The regional haze program is being proposed in a manner that can facilitate integration to the extent possible with the implementation programs for new NAAQS for ozone and particulate matter (PM) given the sources, precursor pollutants, and geographic areas of concern that these air

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Report").

[15] CAA Section 169B(e)(1).

quality programs have in common. The regional haze program recognizes the value of multistate coordination for regional haze program planning and implementation because of the key role of regional pollutant transport in contributing to haze at mandatory Class I Federal areas, most of which are in remote locations. At a minimum, voluntary regional planning activities, such as establishing common protocols and approaches for emission inventory development, emissions tracking, progress assessments, and regional model development, can benefit those States that will need to participate in future development of emission management strategies for PM standards as well. EPA plans to address this multistate coordination process in future guidance. An example of voluntary coordination among States to address visibility issues is the effort under way by western States and Tribes to form the Western Regional Air Partnership.

C. Key Organizations Addressing Regional Haze Issues

In developing these proposed revisions, EPA has taken into account a significant body of knowledge, developed by a wide range of stakeholders, on regional haze technical and policy issues. Three important bodies in particular have recently addressed regional haze issues: the National Academy of Sciences Committee on Haze in National Parks and Wilderness Areas, the Clean Air Act Advisory Committee

(Subcommittee on Ozone, Particulate Matter, and Regional Haze Implementation Programs), and the Grand Canyon Visibility Transport Commission (GCVTC). An overview of these groups follows.

1. National Academy of Sciences.

The 1993 report by the National Academy of Sciences, *Protecting Visibility in National Parks and Wilderness Areas*, contributed significantly to the state of the science regarding regional haze visibility impairment. 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 anthropogenic source contributions to haze and methods for considering alternative source control measures. The Committee issued several important conclusions in the report, including: 1) Current scientific knowledge is adequate and control technologies are available for taking regulatory action to address regional haze; 2) progress toward the national goal will require regional programs that operate over large geographic areas and limit emissions of pollutants that can cause regional haze; 3) a program to address regional haze visibility impairment that focuses solely on determining the contributions of individual emission sources to such visibility impairment is likely to fail, and strategies instead should be adopted to consider

the effect of many sources simultaneously on a regional basis; 4) visibility impairment can be attributed to emission sources on a regional scale through the use of several kinds of models; 5) visibility and control policies might need to be different in the West than the East; 6) efforts to improve visibility within Class I areas will benefit visibility outside these areas, and could help alleviate other types of air quality problems as well; 7) achieving the national visibility goal will require a substantial, long-term program; and 8) continued progress toward this goal will require a greater commitment toward atmospheric research, monitoring, and emissions control research and development. The EPA has taken these conclusions and recommendations into account in developing today's notice.

2. Clean Air Act Advisory Committee and Its Subcommittee on Ozone, Particulate Matter, and Regional Haze Implementation Programs

The Subcommittee on Ozone, PM and Regional Haze Implementation Programs, established in September 1995, has also provided important input on regional haze and NAAQS implementation issues. The Subcommittee discussed a range of policy and technical issues related to implementation programs for attaining new and revised NAAQS and reducing

regional haze in Class I areas. The Subcommittee includes representatives of several important stakeholder groups, including State, Tribal, and local governments, industry and small business, environmental groups, academia, and others. Between September 1995 and July 1997, the Subcommittee has held 10 meetings in various locations across the U.S. Work groups reporting to the Subcommittee have developed (and continue to develop) recommendations on a number of air quality management issues. One paper specifically addressed regional haze issues. Several other issue papers have been developed on planning and implementation issues related to all three programs. The Subcommittee has issued a report to the full Committee summarizing the Subcommittee's discussions through November 1996.[16]

In discussing the various issue papers to date, the Subcommittee has provided important input to EPA on potential implementation options and approaches for the three air quality programs under consideration. The Subcommittee has recognized the significant role of transport of pollutants contributing to ozone, PM, and regional haze throughout the country. The Subcommittee has also recognized that in order to properly address air

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[16] Clean Air Act Advisory Committee, Subcommittee on Ozone, Particulate Matter, and Regional Haze Implementation Programs, *Initial Report on Subcommittee Discussions*, April 1997.

quality problems resulting from transported emissions, it is important to identify the broader geographic area contributing emissions to a particular area of concern (such as an area violating the NAAQS, or a mandatory Federal Class I area identified for visibility protection). For air quality problems that do not result predominantly from local emissions sources, the Subcommittee has generally supported the concept of initiating, as appropriate, multistate planning processes for conducting technical assessments (emission inventories, modeling, source attribution) and developing regional emission reduction strategy alternatives. A framework for regional planning efforts is addressed in the Subcommittee's "Institutional Mechanisms" paper, which is still under development to date. The procedures and functions of regional planning efforts such as the Ozone Transport Assessment Group and the Grand Canyon Visibility Transport Commission can serve as models for future voluntary regional planning efforts. The Subcommittee has also recognized the need for expanded monitoring networks, particularly chemical analysis of $PM_{2.5}$ for implementation of both PM NAAQS and regional haze programs. The Subcommittee has discussed key program elements related to regional haze, including the definition of "reasonable progress," criteria for measuring progress, and control strategies for achieving such progress. The

discussions covered issues related to how regional institutions should be involved in determining reasonable progress objectives and the need for a regional haze program to include a federal "backstop" for such objectives, as well as specific timeframes for setting objectives and periodically assessing progress.

3. **Grand Canyon Visibility Transport Commission (GCVTC)**

As noted, the GCVTC issued a report in June 1996 containing recommendations for visibility protection. Today's rulemaking addresses the Commission's recommendations to EPA.

The EPA established the GCVTC on November 13, 1991 (56 FR 57522, Nov. 12, 1991). Based on EPA's "broad discretionary authority under section 169B(c) . . . to establish visibility transport regions and commissions," it expanded the scope of the GCVTC,

> to include additional Class I areas in the vicinity of the Grand Canyon National Park---what is sometimes referred to as the 'Golden Circle' of parks and wilderness areas. This includes most of the national parks and national wilderness areas of the Colorado Plateau.[17]

The GCVTC was charged with assessing information about visibility impacts in the region and making policy

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[17] See 56 FR 57523.

recommendations to EPA to address such impacts. The Act called for the Commission to assess studies conducted under section 169B as well as other available information "pertaining to adverse impacts on visibility from potential or projected growth in emissions for sources located in the . . . Region," and to issue a report to EPA recommending what measures, if any, should be taken to protect visibility.[18] The Act specifically provided for the Commission's report to address the following measures: 1) the establishment of clean air corridors,[19] in which additional restrictions on increases in emissions may be appropriate to protect visibility in affected class I areas; 2) the imposition of additional new source review requirements in clean air corridors; and 3) the promulgation of regulations addressing regional haze.

In June 1996, the GCVTC issued its recommendations to EPA. The Act calls for EPA, taking into account the recommendations and other relevant information, to "carry out [its] regulatory responsibilities under section [169A], including criteria for measuring 'reasonable progress'

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[18] See CAA Section 169B(d).

[19] A clean air corridor is defined as a region that generally brings clear air to a receptor region, such as the Class I areas of the Golden Circle.

toward the national goal" within eighteen months of receiving the recommendations[20]. Regulations issued under section 169A must provide guidelines to the States on appropriate techniques and methods for characterizing, modeling and controlling visibility impairment, and must require applicable SIPs to contain such emission limits, schedules of compliance and other measures as may be necessary to make reasonable progress toward meeting the national goal.[21] The EPA regulations issued after considering the Commission report must require affected States to revise their SIPs within 12 months.

The GCVTC 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 of the Golden Circle. The primary recommendations of the GCVTC include: 1) Air pollution prevention and reduction of per capita pollution is a high priority; 2) Emissions growth should be tracked for its effect on clean air corridors; 3) Stationary source emissions should be closely monitored and regional targets should be established for sulfur dioxide emissions in 2000,

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[20] See section 169B(e)(2).

[21] See section 169A(b).

with triggers for regulatory programs if targets are not met; 4) Focus should be given to emissions reductions in and near class I areas; 5) Mobile source emissions should be capped and national measures aimed at further reducing tailpipe emissions are supported; 6) Further assessment of the contribution of road dust to visibility impairment and its potential future impacts should be given high priority; 7) Further study is needed on emissions from Mexico; 8) Fire emissions are recognized as significantly impacting visibility, and programs should be implemented to minimize effects on visibility; and 9) A future regional coordinating entity is needed to follow through on the Commission's recommendations. The Commission also adopted an approach to "reasonable progress" that, consistent with the national visibility goal, is based on remedying existing impairment and preventing future impairment.

The EPA has taken the Commission's recommendations, as well as the body of technical information developed by Commission, into account in developing the regional haze rules set forth in this proposal. The Commission's recommendations have components that contemplate implementation through a combination of actions by EPA, other Federal agencies, States and Tribes in the region, and voluntary measures on the part of public and private entities throughout the region. The Commission's

recommendations also distinguish between recommended actions and policy or strategy options for consideration. The EPA has considered these factors in addressing the recommendations, discussed below.

a. Reasonable Progress.

The EPA's proposed approach to "reasonable progress" is consistent with the Commission's approach. The Commission's report provides that "[t]he overall goal of the Commission's recommendations is to improve visibility on the worst days and to preserve existing visibility on the best days, at Class I areas on the Colorado Plateau." Thus, the Commission highlights the importance of not only remedying existing impairment but preserving and protecting good visibility. The Commission's report further provides that "[r]easonable progress towards the national visibility goal is achieving continuous emission reductions necessary to reduce existing impairment and attain steady improvement of visibility in mandatory Class I areas and managing emissions growth so as to prevent perceptible degradation of clean air days."[22]

The EPA's proposed criteria for measuring reasonable progress, the proposed reasonable progress target, has been informed by the Commission's report in several respects.

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[22] GCVTC Report, p. 26.

EPA proposes both to improve visibility on the most impaired days and to prevent visibility degradation on the least impaired days.[23] Similar to the Commission's provision for "steady improvement of visibility," EPA proposes a quantitative visibility target and proposes to require that progress toward the target be demonstrated and evaluated on an on-going periodic basis. Finally, EPA proposes to provide that State plans consider emissions reductions in evaluating whether the quantitative reasonable progress target has been achieved.[24]

b. Clean Air Corridors.

The Commission concluded that a clean air corridor does exist for the Golden Circle region and that clean air corridors are key sources of clear air at Class I areas. At the same time, the GCVTC found that future growth in this area is not expected to perceptibly impact visibility in the Class I areas modeled, and that additional new source review requirements would not be needed in this area.[25] The GCVTC recommended careful tracking of emissions growth in these areas but did not recommend additional control measures

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[23] See proposed definition of "reasonable progress target," 40 CFR 51.301(z).

[24] See proposed 40 CFR 51.306(d).

[25] GCVTC Report, p. 87.

beyond those required under current laws.

The EPA generally agrees that no special requirements need to be proposed for clean air corridors. Nevertheless, these corridors contain a significant number of mandatory Federal Class I areas, and the regional emissions control strategies necessary to ensure reasonable progress toward the national visibility goal will need to address sources of pollution in these areas.

c. Stationary Sources.

The Commission found that continuing implementation of existing Clean Air Act requirements such as efforts to address visibility impairment under the current rules would, in the short-term, result in significant sulfur dioxide (SO2) emissions reductions in the region and corresponding improvements in visibility.[26] The Report specifically encourages States and Tribes to review the visibility impacts at Class I areas on the Colorado Plateau from uncontrolled pollution sources and to make expeditious determinations regarding the need for additional control. The Commission also provides for the establishment and tracking of progress toward an initial stationary source SO2 emissions target to be achieved by the year 2000. A long-term target for the year 2040 and provisions for interim

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[26] GCVTC Report, p. ii and 32-37.

targets were also recommended. Progress in complying with emission targets would be assessed periodically. Exceeding the targets would trigger a regulatory emissions reduction program (such as an emission cap and incentive-based market trading program).[27] The report indicates that State and Tribal participants will evaluate development of a regional emissions cap and trading regulatory program to achieve the emissions reductions. Finally, the report provides that the participants in the Commission process intend to design the emissions reduction strategy for EPA's consideration before it takes final regulatory action on the Commission's recommendations in order to create economic incentives for early reductions, and to provide flexibility and certainty to sources in planning future actions.

The EPA fully agrees with the importance of addressing existing visibility impairment in the Golden Circle parks and wilderness areas that is attributable to single or small groups of stationary sources. The EPA has retained its existing visibility protection program, and intends for States to continue making progress in addressing visibility impairment from such sources. The EPA is committed to working with States, Tribes, and Federal Land Managers to address such impairment.

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[27] GCVTC Report, p. 36.

Likewise, EPA is fully supportive of long-term efforts by the States in the region addressing regional haze in the Golden Circle to address visibility-impairing emissions from stationary sources. Indeed, a centerpiece of today's proposal is a long-term strategy, to be adopted by affected States throughout the country. The proposed long-term strategy requirements are intended to provide a flexible air quality planning framework to facilitate the interstate coordination necessary to reduce regional haze visibility impairment in mandatory Class I Federal areas nationwide.

The long-term strategy proposed herein would be due one year after issuance of these final rules, estimated to be due in 1999. Implementation would occur in phases, with initial planning for additional monitoring, emissions tracking and modeling to begin in 1999, and identification of stationary sources and potential emissions reductions to occur by 2001. Emissions control strategies would be due in 2003, or 2005 for States preparing $PM_{2.5}$ nonattainment control strategy SIP revisions, and revised every three years thereafter. The planning schedule for the long-term strategy has been developed to facilitate integration with State planning for the PM and Ozone NAAQS. Similarly, EPA intends to address specific visibility emissions control strategies in more detail in conjunction with the PM and Ozone NAAQS control strategies.

In today's proposal, EPA has not included the Commission's specific stationary source emissions target and related provisions as regulatory requirements. However, the proposed rule in no way precludes the States in the GCVTC transport region from expeditiously adopting, on their own initiative, these control strategy provisions. These States are well-situated for achieving earlier reductions in light of the technical and policy groundwork established during the Commission's deliberations, and the importance of protecting visibility in the premiere natural resources that comprise the Golden Circle. The EPA requests public comment on whether it should instead adopt, or adopt with modification, these specific recommendations.

d. Mobile Sources.

The Commission determined that mobile source emissions are projected to decrease through about the year 2005 due to improved control technologies but was concerned that emissions would increase thereafter. The Commission recommended a number of national, regional and local strategies related to mobile sources.[28] Recognizing the problems with establishing a national mobile source control program based strictly on the impact of the Golden Circle, the Commission report "promotes" several national

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[28] GCVTC Report, p. ii and 38-45.

initiatives that may benefit air quality in the transport region.

The EPA agrees with the central policy embodied in the Commission's recommendations on mobile sources--that there are certain categories of pollution sources that especially lend themselves to national control strategies. The EPA administers and is developing programs under Title II of the Clean Air Act that address emissions from motor vehicles, highway and non-road heavy-duty engines, marine engines (including recreational outboard and personal watercraft), small gasoline engines and locomotives. The EPA will continue to implement these and other nationally-applicable programs, such as the new source performance standards and national emission standards for sources of hazardous pollutants, that provide important air pollution protection in the Commission Transport region and other areas of the country.

e. Prescribed Fire.

The Commission made a number of recommendations related to minimizing the emissions and visibility impacts of both prescribed fire used by Federal land management agencies to maintain ecosystem balances and agricultural/silvicultural prescribed burning practices.[29] The recommendation

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[29] GCVTC Report, p. ii-iii and 47-50.

directed at EPA suggested that EPA require all Federal, State, Tribal, and private prescribed fire programs to incorporate smoke effects in planning and application by the year 2000.

The EPA has long recognized that prescribed fire can have significant effects on visibility. The EPA's current visibility protection regulations require States to consider smoke management techniques for agricultural and forestry management purposes in developing long-term strategies.[30] This requirement would apply to the long-term strategies for addressing regional haze visibility impairment proposed in this notice. Further, EPA currently participates in an interagency forum on prescribed fire to support on-going efforts to address these issues.

f. Air Pollution Prevention, Future Regional Coordinating Entity, and Areas in Need of Additional Research.

The Commission recommended a number of regional, State, and local policies for air pollution prevention including energy conservation, increased energy efficiency, promotion of the use of renewable resources for energy production, and

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[30] See 40 CFR 51.306(e)(5).

enhanced public education and outreach.[31] The EPA strongly supports pollution prevention initiatives and has taken numerous steps to promote pollution prevention under the Pollution Prevention Act of 1990, the Emergency Planning and Community Right-to-Know Act, and other environmental statutes EPA administers. The EPA has carried out important voluntary pollution prevention programs, such as the Green Lights program. Under this program, EPA uses education and outreach to encourage businesses, public schools, and government agencies to reduce the amount of electricity used while maintaining lighting quality.

The Commission determined that there is a need for a group like the Commission to oversee, promote, and support many of its recommendations, and urged EPA to provide support for such an organization. States and Tribes in the Commission's transport region are currently discussing the formation of an organization to succeed the Commission. At the request of the States and Tribes, EPA has participated in and supported these efforts.

The Commission's report identified areas warranting further research and analysis, including the impact from emissions within and near the Golden Circle Class I areas, the contribution of road dust, and emissions from Mexico.

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[31] GCVTC Report, p. i and 28-31.

EPA especially encourages the States and Tribes to address the informational deficiencies that would inhibit development of long-term strategies to address regional haze visibility impairment.

g. Conclusions

The preceding discussion addresses the key Commission recommendations to EPA. As discussed here and elsewhere in today's notice, the Commission's recommendations have informed EPA's proposed rules. The EPA seeks public comment on the manner it has proposed to address the Commission's recommendations in this rulemaking, and EPA requests alternative suggestions for addressing the recommendations.

D. Overview of Proposed Revisions to Visibility Regulations

In developing the proposed revisions to the visibility regulations, EPA has tried to maintain as much of the existing regulatory language as possible, where such provisions appropriately apply to both reasonably attributable and regional haze visibility impairment. This approach is intended to minimize the level of effort needed for States to adopt new regulations and revise SIPs in order to address regional haze requirements, particularly for those States that have already adopted plans to implement the existing visibility program.

Several new elements of the visibility protection

program are proposed in this notice. These elements are outlined below and discussed in greater detail in subsequent subsections of this notice:

- Expanded applicability of the regional haze program to all States, the District of Columbia, and certain territories
- Establishment of presumptive reasonable progress targets
- Requirements for periodic SIP revisions, including periodic demonstrations by States on whether reasonable progress targets are being achieved for each mandatory Class I Federal area
- Analysis of sources contributing to regional haze impairment, including sources potentially subject to BART
- Expansion of the current monitoring network as necessary to be representative of all mandatory Class I Federal areas
- Development of strategies to reduce emissions of visibility impairing pollutants in conjunction with strategies to meet the new and revised NAAQS for $PM_{2.5}$ and ozone.

The current program for addressing reasonably attributable impairment remains in place, including, for example, requirements for BART and a long-term strategy to

address “reasonably attributable” visibility impairment, State consultation with FLMs on SIP revisions, consideration of integral vistas, and visibility monitoring. Further, the program requires the review of new source impacts on visibility in mandatory Class I Federal areas to prevent future visibility impairment. The existing regulations have been in place for nearly seventeen years and EPA is not reopening those regulations for public comment in this rulemaking. However, EPA seeks public comment on the regulatory changes proposed in this notice related to integrating the new regional haze provisions with the existing visibility regulations. For example, EPA seeks comment on its proposed revisions to 40 CFR 51.306(c) to integrate periodic long-term strategy revisions for regional haze with the periodic long-term strategy assessments for reasonably attributable visibility impairment. The EPA is also seeking comment on a revision to 40 CFR 51.306(a)(1) which requires the State to address any certification of reasonably attributable impairment that occurs 6 months before a long-term strategy is due in the next long-term strategy revision. This revision clarifies that the State has the same grace period in considering certifications of impairment as when the original visibility SIP was developed. Beyond specific revisions proposed today, comments on the existing regulations are generally outside

of the scope of this proposal.

The EPA is proposing to make technical corrections to cross-references to other rules within the existing rule language to reflect changes in the numbering of Part 51. In addition, EPA is proposing to add "light extinction" to the list of indices (visual range, contrast, and coloration) currently used to define "visibility impairment" in 40 CFR 51.301(x) and referenced throughout the rule. Light extinction is the underlying physical property of the atmosphere that determines visual range. EPA is also proposing to coordinate the Federal Land Manager notification, consultation, and timing requirements for regional haze plan development and revision with those of the current program addressing reasonably attributable impairment. This approach will allow for efficient coordination between the State and Federal land managers on comprehensive visibility SIP submittals and revisions.

The proposed revisions establish a new framework for States to follow in revising their visibility SIPs. The key milestones of the proposed visibility program are contained in the table below:

DATE	ACTIVITY
July 1997	Promulgation of revised ozone and PM NAAQS and proposal of revised visibility regulations

February 1998	Promulgation of revised visibility regulations.
March 1998	Commence regional planning activities as necessary
February 1999	States submit new/revised visibility SIPs, including monitoring plan, identification of potential BART sources, and schedule for assessing BART and associated emission reductions by February 2001, long-term strategy provisions (including procedures for future plan requirements), revisions as necessary to address section 110(a)(2) requirements relevant to regional haze, and provisions / procedures for State coordination with FLM.
February 2000	New monitoring sites online.
February 2001	State assessment of BART sources to be completed and available for use in regional modeling and control strategy development.
July 2003	SIPs due for emission reduction strategies for regional haze. First demonstration of progress in relation to reasonable progress targets due. One year monitoring reporting begins. (July 2005 for States preparing $PM_{2.5}$ nonattainment control strategy SIPs.)
July 2006 (and every 3 years thereafter)	Visibility SIP revision to demonstrate progress in relation to reasonable progress targets, and to adjust emission reduction strategies as necessary. (July 2008 for States noted above)

The following sections focus on proposed new elements of the visibility protection program.

E. Applicability

Section 51.300(b) of the existing visibility regulations addresses “reasonably attributable” impairment

from relatively nearby sources and requires the 36 States containing mandatory Class I Federal areas to submit SIP revisions to assure reasonable progress toward the national visibility goal. A proposed section 300(b)(3) would expand the applicability of the program to all States (excluding certain territories) for the purpose of addressing regional haze visibility impairment. This provision would require the following additional States to participate in the program: Nebraska, Kansas, Iowa, Wisconsin, Illinois, Indiana, Ohio, Mississippi, New York, Pennsylvania, Massachusetts, Rhode Island, Connecticut, Maryland and Washington, DC. The territories of Puerto Rico, Guam, American Samoa, and the Northern Mariana Islands would not be subject to the program because of their great distance from any mandatory Class I Federal area. However, Hawaii, Alaska, and the Virgin Islands would be subject to the regional haze provisions because of the potential for emissions from sources within their borders to contribute to regional haze impairment in mandatory Class I Federal areas also located within these States. These States would not need to participate in regional planning activities, but would be expected to implement programs to develop emission reduction strategies to achieve the reasonable progress targets established by these revised regulations.

Section 169A(b)(2) requires States containing mandatory

Class I Federal areas or having emissions which "may reasonably be anticipated to cause or contribute to any impairment of visibility in any such area" to revise their visibility SIPs in order to make reasonable progress toward the national visibility goal. Many scientific studies and technical assessments, including the 1990 report from the National Acid Precipitation Assessment Program, the 1993 NAS report, and the 1996 GCVTC report “Recommendations for Improving Western Vistas,” have shown that regional haze is frequently caused by fine particles that are transported significant distances, even hundreds or thousands of kilometers[32]. Modeling analyses have been conducted for EPA that use county-to-Class I area transfer coefficients for PM-fine to identify counties which may reasonably be anticipated to contribute transported PM-fine to mandatory Class I Federal areas. These studies by Latimer and Associates[33] and Environ International Corporation[34] suggest

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[32] National Research Council, *Protecting Visibility in National Parks and Wilderness Areas*, 1993.

[33] Latimer and Associates, *Particulate Matter Source-Receptor Relationships Between All Point and Area Sources in the United States and PSD Class I Area Receptors*, Report prepared for EPA Office of Air Quality Planning and Standards, September 1996.

[34] ENVIRON International Corporation, *Development of Revised Federal Class I Area Groups in Support of Regional Haze Regulations*, Report prepared for EPA Office of Air Quality Planning and Standards, September 1996.

that, to varying degrees, emissions from each of the contiguous 48 States contribute to PM-fine loadings and associated visibility impairment in at least one mandatory Class I Federal area. Other analyses using the Regional Acid Deposition Model (RADM) have estimated that sulfate and nitrate deposition receptors are influenced by sources located up to 600-800 kilometers away.[35] These analyses, combined with the geographic distribution of large emission sources and mandatory Class I Federal areas, provide the basis for the expanded applicability of the visibility program to all States for the purposes of protecting against visibility impairment due to regional haze. In addition, the 1993 NAS report observed that the section 169A requirement for a State to revise its implementation plan if it "may reasonably be anticipated" to cause or contribute to impairment in any mandatory Class I Federal area[36] indicates that Congress intended that "the philosophy of precautionary action should apply to visibility protection as it applies to other areas [such as the NAAQS]."

However, this expanded applicability should not be

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[35] Dennis, Robin L. "Using the Regional Acid Deposition Model to Determine the Nitrogen Deposition Airshed of the Chesapeake Bay Watershed," in Atmospheric Deposition to the Great Lakes and Coastal Waters, edited by Joel Baker, 1996.

[36] Clean Air Act, section 169A(b)(2).

interpreted by the States to mean that they will necessarily have to adopt control strategies for regional haze immediately. Instead, it means that a State subject to the program first should participate in a regional air quality planning group to further establish and refine the relative contributions of various States to regional haze conditions in mandatory Class I Federal areas. Thus, it will be important for all States having emissions which may be reasonably anticipated to contribute to regional haze in mandatory Class I Federal areas to participate in the planning process employed to develop regional recommendations on State apportionment of emission reduction and control measure responsibilities. The States subject to the program will need to establish or identify existing SIP authorities enabling the State to take actions to address its contribution to visibility problems in other States and to carry out other proposed planning requirements. The EPA seeks public comment on the proposed applicability of the regional haze visibility protection program.

Regarding applicability for the purpose of addressing reasonably attributable impairment, the existing regulations continue to apply to the 36 States and territories in which at least one mandatory Class I Federal area is located. It should be recognized, the existing requirement in 40 CFR 51.300(b)(1), along with sections 110(k)(5) and 169A of the

Act, provide EPA with general authority to request a SIP revision from any State (including those not having a mandatory Class I Federal area) in the event that information exists demonstrating that emissions from sources in the State are reasonably anticipated to contribute to "reasonably attributable" visibility impairment in a mandatory Class I Federal area located in another State.

F. Definitions

1. Deciview

The proposed reasonable progress targets are expressed in terms of the "deciview" metric, the definition of which is proposed in section 301(bb). The deciview is an atmospheric haze index that expresses uniform changes in haziness in terms of common increments across the entire range of conditions, from pristine to extremely impaired environments.[37] A one deciview change in haziness is a small but noticeable change in haziness under most circumstances when viewing scenes in mandatory Class I Federal areas. The deciview is a means of expressing atmospheric light extinction, just as visual range is an expression of atmospheric light extinction. All three of these visibility metrics are mathematically related. Just

[37] See Pitchford, M. and Malm, W. "Development and Applications of a Standard Visual Index," Atmospheric Environment, v.28, no. 5, March 1994.

as in the case of atmospheric light extinction or visual range, deciview levels can also be calculated from ambient $PM_{2.5}$ and PM_{10} data using certain assumptions for average light extinction efficiency attributed to specific components of PM (such as sulfates, nitrates, elemental carbon, and so on). One can use these same assumptions to evaluate whether potential emission reduction strategies will lead to perceptible visibility changes in the future.

An advantage to using the deciview is that it can be used to express changes in visibility impairment linearly with human perception. The scales for light extinction coefficient and visual range do not express perception linearly. For example, a 5-mile change in visual range can in some cases be very significant, such as a change from 5 to 10 miles in an impaired environment, whereas it may be barely perceptible on a clearer day (such as from 95 to 100 miles). The EPA recognized the deciview as an appropriate metric for regulatory purposes in chapter 8 of the Staff Paper for the Particulate Matter NAAQS review.[38] The EPA proposes use of the deciview metric in the proposed definition of the reasonable progress target, at 40 CFR 301(z) of the proposed regulations, because of the

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[38] U.S. Environmental Protection Agency. Air Quality Criteria for Particulate Matter. Research Triangle Park, NC: National Center for Environmental Assessment. Office of Research and Development. July 1996.

importance that progress for visibility be measured in terms of “perceptible” changes in visibility, and due to the simplicity of its useful scale. In contrast, the sole use of a metric such as emission reductions or ambient particle mass would not directly relate to the visibility conditions since the composition of the ambient particle mass is key to its effect on visibility. Additionally, the atmospheric processes and transport that affect the way in which pollutant loadings translate into visibility impairment varies by location. The EPA requests comment on its proposed use of the deciview metric in EPA's visibility regulations.

The EPA is also proposing, as noted in the discussion below, to use the tracking of pollutant emissions to supplement the periodic evaluation of deciview changes in implementing the regional haze reasonable progress requirement. When calculating the ability of a SIP or Tribal plan[39] to demonstrate reasonable progress, the States

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[39] EPA has referenced Tribal plans because section 301(d) of the Act calls for EPA to issue regulations specifying those provisions of the Act for which it is appropriate to treat Indian Tribes in the same manner as States. On August 25, 1994, EPA published its proposed rules. See 59 FR 43,956. EPA has not yet issued final rules. However, the proposed rules would allow eligible Tribes that seek to be treated in the same manner as States to administer visibility implementation plans. See 59 FR 43,966 & 43,980. If the final rules addressing Tribal authority under the Clean Air Act are issued and similarly allow eligible Indian Tribes to administer visibility

or Tribes can consider other emissions reduction requirements (e.g., emission reductions meeting RFP for the NAAQS) toward meeting the reasonable progress target. However, given that other air quality progress measures rely on tracking emissions reductions of key pollutants, the EPA requests comments regarding appropriate methods for translating other program metrics into visibility changes.

2. Reasonable Progress Target

a. Protection for Most Impaired and Least Impaired Days

The proposed definition in 40 CFR 51.301(z) for "reasonable progress target" sets forth presumptive quantitative objectives to be met in each mandatory Class I Federal area nationally. The proposed targets provide for progress toward the national visibility goal of reducing any existing and preventing any future impairment by perceptibly improving the days that are most impaired (i.e., the average of the 20 percent most impaired days over an entire year) and allowing no degradation in the “cleanest" or least impaired days (i.e., the average of the 20 percent least impaired days over an entire year). In deciding upon an appropriate characterization of the “most” and “least” impaired days, EPA considered the typical frequency of

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implementation plans, EPA may make conforming changes in the final visibility rules proposed here (in this notice) to reflect such potential Tribal plans without providing additional opportunity for public comment.

visibility monitoring in the IMPROVE network[40] (twice a week), and the number of samples that would be available for analysis annually (104 possible samples per year). The EPA determined that basing these targets on any fewer than 20 data points annually would allow an average value to be unduly influenced by a single anomalous data point. EPA's basis is consistent with the approach used by the GCVTC in its technical assessment work. The GCVTC also characterized the most and least impaired days as the average of the best and worst 20% days in a given year.

The approach of improving the most impaired days and preventing degradation of the least impaired days is also supported by the legislative history of the 1990 Clean Air Act Amendments and the reasonable progress definition used by the GCVTC. The legislative history provides that, "At a minimum, progress and improvement must require that visibility be perceptibly improved compared to periods of impairment, and that it not be degraded or impaired during conditions that historically contribute to relatively unimpaired visibility."[41] The approach taken by the GCVTC, also emphasized improving the impaired days and protecting

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[40] The IMPROVE network is described in Unit I.H. of this notice.

[41] 136 Cong. Rec. S2878 (daily ed. March 21, 1990) (statement of Sen. Adams).

the clean days. The GCVTC interpreted the requirement for reasonable progress to be met by "achieving continuous emissions reductions necessary to reduce existing impairment and attain a steady improvement in visibility in mandatory Class I areas, and managing emissions growth so as to prevent perceptible degradation of clear air days."[42] In establishing this definition, the GCVTC in effect set forth continuous emission reductions as a basic strategy for meeting the goals of improving the most impaired days and maintaining the least impaired days.

In today's rule, EPA is similarly providing for "attaining a steady improvement in visibility" and "preventing perceptible degradation of clean air days" through its proposed definition of a reasonable progress target. Under the proposed rules, States meeting the reasonable progress target requirements would satisfy the reasonable progress requirements of section 169A for the purpose of addressing regional haze impairment. The EPA is setting forth proposed requirements for periodic reasonable progress demonstrations to be developed for all mandatory Class I Federal areas beginning as early as July 2003 and every 3 years thereafter.[43] These demonstrations should

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[42] GCVTC Report, p. x.

[43] See proposed 40 CFR 51.306

incorporate control strategies developed by each State, in conjunction with strategies developed for the NAAQS and other programs. Recognizing that many factors will determine if a State can develop and implement control measures to meet a specific increment of visibility change, EPA is also proposing in 40 CFR 306(d)(5) that States, in consultation with the Federal Land Managers and approval from EPA, may develop alternate reasonable progress targets. At the same time, the alternate target must be explained based on relevant statutory factors and may not allow for visibility degradation.[44] The relevant statutory factors are listed in section 169A(g)(1) and include the costs of compliance, the time necessary for compliance, and the energy and nonair quality environmental impacts of compliance, and the remaining useful life of any existing source subject to such requirements. Inclusion of the alternative reasonable progress provision is intended to recognize that the qualitative factors listed in the Act may influence what is considered "reasonable progress" in individual mandatory class I Federal area. In such cases consideration of these factors might lead a State to adopt an alternative target for a given mandatory Class I Federal area which might differ from targets of other mandatory

[44] See CAA section 169A(g)(1) and 169A(g)(2).

Class I Federal areas within a larger planning region. Further discussion of the alternate progress target is included in Unit I.I. of this preamble below. The EPA requests public comment on the presumptive “reasonable progress target” proposed in this notice as well as the proposal to allow alternative targets.

The proposed "reasonable progress target" has two elements: 1) for the most impaired days, a rate of improvement equivalent to 1.0 deciview over a 10-year or 15-year period; and 2) for the least impaired days, no increase in deciview as compared to the baseline conditions.[45] The EPA is proposing two options for the rate of improvement for the most impaired days. One option is 1.0 deciview improvement every 10 years, the second option is 1.0 deciview every 15 years. The EPA proposes to express the presumptive reasonable progress targets in terms of deciview changes to reflect perceptible changes for complex scenes like those found in mandatory Federal Class I areas. The EPA believes it is important to express progress measures for visibility in terms of “perceptible” changes.

EPA proposes the presumptive rate of progress for the most impaired days equivalent to a 1.0 deciview improvement over 10 to 15 years for three main reasons. The first

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[45] See proposed 40 CFR 51.301(z).

reason is that tracking visibility over longer time periods, allows for better analysis of trends despite inter-annual changes in weather conditions, transport patterns, and variances in naturally occurring emissions of fine particles. Secondly, the 10 to 15 year time periods are consistent with the Clean Air Act requirement for each SIP to contain a long term strategy for visibility protection covering the next 10-15 years.[46] It logically follows that the public would expect a visibility strategy covering a 10 to 15-year period to actually result in a perceptible improvement in visibility over that period. Third, a gradual improvement in visibility conditions over a 10 to 15 year period is consistent with the GCVTC definition of reasonable progress, which is "achieving continuous emission reductions necessary to reduce existing impairment and attain steady improvement of visibility in mandatory Class I areas..."

In considering the choice between the 10 and 15 year options, EPA notes the following. Both time periods are within the statutory provisions for long-term strategies of 10 to 15 years. However, While the 15-year option allows more time for States to plan and implement control strategies, a presumptive rate of 1.0 deciview in 15 years

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[46] See CAA Section 169A(b)(2)(B).

would take 50 percent longer to attain the national goal than a presumptive rate of 1.0 deciview in 10 years. Congress did not specify a time frame within which the national goal is to be achieved, but given the magnitude of current impairment in some areas, even with the more expeditious 10-year presumptive target, it will take a long time to achieve the national visibility goal in all mandatory Class I Federal areas. At the same time, the costs of the program may be substantial (see Unit II.A below). The more conservative 15-year presumptive target would allow these costs to be spread out over a longer time period. The EPA solicits comment on the these two options for presumptive rate of improvement for the most impaired days.

With respect to the "no degradation" target (0.0 deciview change) for the least impaired days, EPA believes this target is consistent with the national goal of preventing future impairment, as well as with the GCVTC definition of reasonable progress ("...managing emissions growth so as to prevent perceptible degradation of clean air days").

The EPA solicits comment on these and any other proposed options for reasonable progress targets for the most impaired and least impaired days. Commenters should address how alternative proposals would ensure reasonable

progress toward the national visibility protection goal.

The proposed regulations require States to provide a demonstration of reasonable progress every 3 years. The EPA intends that a demonstration of compliance with the presumptive reasonable progress targets be the principal means of measuring reasonable progress with respect to regional haze impairment. Measures to achieve this progress must include measures to address Best Available Retrofit Technology requirements and other measures necessary to achieve such progress that are contained in State SIPs and long-term strategies.

b. Determining Baseline Conditions

The demonstration of compliance with the reasonable progress targets, beginning as early as 2003, will require States to determine the baseline conditions, for both the haziest days and the clearest days,[47] for all mandatory Class I Federal areas in the State. The EPA proposes that for each Class I area in the State, the State computes a simple annual average of the haziest and clearest days to establish a record over time. As noted in the previous section, the haziest and clearest days are to be represented by the average of the 20% highest and lowest deciview values measured each calendar year. Baseline values should be

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[47] See proposed 40 CFR 51.306(d)(2).

calculated based on a minimum of three years of monitoring data collected at the Class I area, or at a monitoring location that is determined to be representative of that Class I area. EPA would allow up to nine years of monitoring data collected prior to the first reasonable progress demonstration SIP submittal (due as early as 2003) to be used to establish baseline haziest and clearest conditions. Currently, there are 30 Class I sites with 8 consecutive years of visibility monitoring data (1988-95). A baseline established on more than three years of data may better account for inter-annual variability due to meteorology. However, a baseline established on more than three years of data also may not accurately represent current conditions if significant emission reductions have occurred during that time period. The EPA is considering allowing any State that establishes a baseline using only three years of data to call that baseline an interim baseline, and to be able to modify that baseline at the time of future reasonable progress demonstration SIP revisions so that up to nine years of data are used for establishing a final baseline. It should be noted that if there are substantial changes to regional emissions during this time period that affect visibility levels (e.g. large reduction in emissions from the acid rain program) then the State should demonstrate why use of that time period is

appropriate for baseline determinations. The EPA solicits comment on this approach for setting baselines from which to track reasonable progress for the haziest and cleanest days, specifically on the use of the simple annual averaging of the twenty percent haziest and clearest days, on the three year minimum and nine year maximum number of years used in establishing current baseline conditions, and on the interim baseline concept.

It is proposed that tracking of the haziest and clearest days be maintained on a three year SIP review and revision cycle. The EPA is contemplating using a simple average of the 20 percent most impaired days and the 20 percent least impaired days for each year over a three year period as the indicator for determining whether the "reasonable progress target" is being met. Since a three year period may be subject to higher variation in both meteorological conditions and natural emissions that impair visibility than a ten-year period, EPA is considering supplementing the three year review of measured visibility progress with evaluation of the emissions reductions used to support the planned improvement in visibility during SIP development. This evaluation of planned emission reductions is based on the approach taken by the GCVTC in calling for continuous emissions reductions and tracking. Analysis of IMPROVE data collected since 1988 shows that some sites may

not be meeting the proposed reasonable progress targets. If the monitoring data representing a Class I area does not track along the presumptive reasonable progress rate, the State would need to review emissions inventory estimates for both anthropogenic and natural emissions and anthropogenic emissions reduction assumptions, that were used in estimating compliance with the presumptive rate as part of the three year SIP revision process. If anthropogenic emissions tracked as planned, the State, using any additional visibility data (i.e., optical instrument measurements) and meteorological data, should demonstrate that current emissions strategies will make progress in the next 3-year planning period. A State would need to revise its SIP emission reduction strategies in order to bring the visibility conditions to a level at or below the reasonable progress target when anthropogenic emissions were shown to exceed levels used in planning to meet the reasonable progress target. The EPA solicits comment on this approach toward tracking the reasonable progress target, specifically on 1) approaches other than a simple block average, 2) the approach for compliance with the presumptive target supplemented by a check on anthropogenic emissions, and 3) on whether the compliance assessment should be set forth in the regulations proposed here or in guidance.

Under the proposed rules, once the visibility

conditions for the haziest days in a mandatory Class I Federal area are within 1.0 deciview of natural conditions, the visibility SIP would be considered a type of maintenance plan. The reasonable progress demonstration would need to reflect no further degradation of visibility conditions for both the haziest and clearest days consistent with the national goal to prevent future impairment.

Due to the broad variety of scenic, atmospheric, and lighting conditions at the mandatory Class I Federal areas across the country, at any specific time a given area may contain vistas for which slightly more or less than one deciview above background conditions represents a perceptible impact for the components of the scene. For example, a view of a snow-capped mountain may be more sensitive to changes in air quality than a view of a forest with the result that less than a 1.0 deciview change is perceptible for that portion of the scene. Conversely, in another scene a deciview change slightly greater than 1.0 may not be perceptible. The EPA proposes a one deciview increment above natural conditions to be perceived as sufficiently near to natural conditions for those sensitive scenes that are thought to exist in all mandatory Class I Federal areas. However EPA acknowledges that for specific scenes a greater or lesser deciview change can be perceived, and so requests comments on whether it would be more

appropriate to establish a 0.5 deciview, 1.5 deciview, or 2.0 deciview cut point for determining when visibility planning should become exclusively preventative to assure maintenance of existing natural conditions.

This concern is less important for the presumptive reasonable progress target of 1.0 deciview improvement in the haziest days every ten to fifteen years contained in today's proposal. Generally, a rate of progress for the haziest days equivalent to 1.0 deciview every 10 or 15 years should result in a perceptible improvement across the range of complex views found in all Class I areas. If there are particular Class I areas for which a slight variation can be demonstrated, the adequacy of 1.0 deciview in realizing perceptible improvement may be a relevant consideration in evaluating an alternative reasonable progress target so that a perceptible improvement is the target for the planning period.

c. Protecting Vistas Seen from Within Class I Areas

The proposed presumptive reasonable progress targets are designed to improve visibility conditions in all mandatory Class I Federal areas. The scenic vistas enjoyed by visitors to many parks often extend to important natural features outside these parks. In developing the 1980 program addressing reasonably attributable impairment, the EPA afforded the Federal Land Managers the opportunity to

account for specific impairment outside of the mandatory Federal class I areas by establishing "integral vistas." Integral vistas are views perceived from within a mandatory Class I Federal area of a specific panorama or landmark located outside the Class I area boundary. These vistas are considered “integral” to the enjoyment of the Class I area and were afforded a level of protection similar to views contained within the Class I boundaries. With respect to regional haze, a monitoring station in or near the Class I area that is established as representing the regional haze conditions for that area may not be representative of all views that can be seen from that Class I area, many of which may have been critical to the reasons Congress established these protected areas. The EPA solicits comment on whether, under a regional haze program, such important views require special protection, what support under the Clean Air Act exists for establishment of such protection, and the appropriate mechanism for protecting such views outside Class I areas within requirements of a State implementation plan.

d. Calculating Changes in Deciviews

The revised rule proposes in 40 CFR 51.306(d) that every 3 years, States perform a comparison of actual or representative monitoring data to presumptive reasonable progress targets. The EPA expects that tracking of

visibility conditions will be accomplished by measuring the particle constituents at representative monitoring sites using techniques developed and peer-reviewed, such as those used in the IMPROVE monitoring network. Progress is to be tracked in terms of deciviews. Deciviews can be calculated from light extinction values derived from speciated particle monitoring (known as reconstructed light extinction), or from optical measurements of light scattering (nephelometers) or light extinction (transmissometers). A deciview measure derived from reconstructed light extinction avoids the need of eliminating data for weather events which can obstruct optical monitoring devices and therefore allows for a consistent technique to be applied from year to year. The EPA solicits comments on using a reconstructed light extinction approach as the basis for calculating visibility changes in terms of deciview, whether this approach should be specifically included in the regulatory requirements, and on other approaches for calculating visibility changes using other monitoring information collected at Class I areas.

G. Implementation Plan Revisions

1. SIPs Due 12 Months After Promulgation

40 CFR 51.302 of the existing visibility regulations required States to revise implementation plans within 9 months of rule promulgation to include a long-term strategy for making progress toward the national goal, provisions for

notification of Federal Land Managers for certain new source permits, a monitoring strategy, an assessment of visibility impairment in mandatory Class I Federal areas, and emission limitations representing BART. Under 40 CFR 51.306(c) in the existing regulations, long-term strategies are to be reviewed and revised as appropriate every three years.

Proposed section 40 CFR 51.302(a)(1)(ii) would require States to submit visibility SIP revisions for regional haze within 12 months of issuance of the final regional haze rules. This is consistent with section 169B(c)(2) of the Act and comparable to the time allowed for visibility SIP revisions under the 1980 regulations. Based on the current schedule, EPA plans to finalize this rule in February 1998, so the first visibility SIP revision would be due 12 months later, in February 1999.

The EPA is proposing that 40 CFR 51.302 of the existing regulations be revised to incorporate timing requirements for future SIP revisions and to outline additional plan elements required specifically to address regional haze impairment. Specifically, proposed 40 CFR 51.302(a)(1)(ii) requires that implementation plans be revised to require States to in the future revise SIPs in accordance with the proposed new timing requirements in proposed 40 CFR 306(c). In this proposed section, the next implementation plan revision is required 4 years later in order to coordinate

implementation plan revisions with those for the NAAQS to the extent possible. Future visibility implementation plan revisions are required in proposed section 306(c) every 3 years thereafter. These implementation plan revisions will include an assessment of whether reasonable progress targets have been met for all mandatory Class I Federal areas in the State, and emission reduction strategies as appropriate for meeting reasonable progress targets for each subsequent 3-year period.

Many of the 40 CFR 51.302 elements currently required in visibility SIPs for reasonably attributable impairment will also be needed in visibility SIPs to address regional haze impairment. These include provisions for coordination with FLMs as found in 40 CFR 51.302(b) of the existing regulations for which EPA is proposing revisions related to regional haze, and general implementation plan requirements for a long-term strategy and a monitoring strategy, as found in the existing 40 CFR 51.302(c).

In addition, implementation plan requirements due within 12 months that are specific to regional haze are proposed in 40 CFR 51.302(c)(5). The proposed revision identifies two principal new elements: identification of sources potentially subject to BART, and revisions as necessary for the State to meet the requirements under section 110(a)(2) of the Act as they pertain to

implementation of measures to address regional haze. These elements are discussed in greater detail in the next two sections below.

2. Plan Revisions to Address Best Available Retrofit Technology (BART)

The first new element in proposed 40 CFR 51.302(c)(5) requires States to identify, within the first 12 months after rule promulgation, sources located in the State that are potentially subject to BART (i.e., "existing stationary facilities" as defined in existing 40 CFR 51.301(e)). The list should include those sources potentially subject to BART that emit any air pollutant which may reasonably be anticipated to cause or contribute to regional haze visibility impairment in any mandatory Class I Federal area, and which meet certain specific criteria. These criteria require that potential BART sources are major stationary sources, including reconstructed sources, from one of 26 identified source categories which have the potential to emit 250 tpy or more of any air pollutant, and which were placed into operation between August 1962 and August 1977. The 26 source categories identified in existing 40 CFR 51.301(e) and section 169A(g)(7) of the Clean Air Act include sources such as electric utilities, smelters, petroleum refineries, and kraft pulp mills. The purpose of this requirement is to have the States identify early in the

planning process the universe of sources potentially subject to BART so related information can be taken into account in developing future control strategies, both for the NAAQS and regional haze.

Several factors must be taken into consideration in determining BART, including the technology available, the costs of compliance, the energy and nonair environmental impacts of compliance, any pollution control equipment in use at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology.[48] The provisions in the Act requiring BART appear to demonstrate Congress' intention to focus attention on this specific set of large existing sources, which are minimally controlling emissions, as possible candidates for emissions reductions needed to make reasonable progress toward the national visibility goal.

Note that the States are responsible for revising their SIPs to contain “such emission limits, schedules of compliance, and other measures” as may be necessary to make reasonable progress toward the national visibility goal.[49] Such implementation plan revisions are to include, at a

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[48] See CAA section 169A(g)(2).

[49] See CAA section 169A(b)(2).

minimum, provisions meeting the BART and long-term strategy requirements of the Act.[50] Thus, these SIPs can ensure reasonable progress by addressing emissions reductions from a wide range of existing emissions sources that may reasonably be anticipated to cause or contribute to regional haze impairment, some of which are specifically subject to the BART requirement and some of which are not.

Proposed 40 CFR 51.302(c)(5) also requires States to submit within 12 months a plan and schedule for evaluating BART for applicable sources within the next 3 years after rule promulgation (i.e., between February 1998 and February 2001). A three-year time frame has been proposed for this requirement so that possible emission limits and associated emission reductions for all applicable BART sources can be integrated into future regional modeling and control strategy development activities for attainment of the PM2.5 and ozone standards as well. In this way, States can assess the degree to which reductions from sources subject to BART will also benefit other air quality problems, and vice versa. In this way, States can explore ways to integrate control strategies for ozone and PM with the requirement for

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[50] See CAA section 169A(b)(2). The legislative history also explains that at a minimum, visibility SIPs are to include two principal elements: BART and the long-term strategy. H.R. Rep. No. 564, 95th Congress, 1st Sess. at 154 (1977).

BART. It is expected that control strategy options will be analyzed by States as part of regional technical assessments.

The EPA believes that because regional haze is the cumulative product of emissions from many sources over a broad area, the test for determining whether a single source "may reasonably be anticipated to contribute" to regional haze in a mandatory Class I Federal area should not involve extremely costly or lengthy studies of specific sources. The National Academy of Sciences report supports this recommendation, stating that "it would be an extremely time-consuming and expensive undertaking to try to determine, one source at a time, the percent contribution of each source to haze." While one of the factors to consider in determining BART is "the degree of improvement in visibility which may reasonably be anticipated," EPA believes this factor should be evaluated to reflect the degree of improvement in visibility that could be expected at each class I area if BART requirements are implemented for applicable BART sources. This evaluation would be similar to developing attainment strategies for the NAAQS, and could be accomplished using a basic technique, such as a speciated rollback approach,[51] or a more complex technique, such as a

[51] The 1993 report of the National Research Council, *Protecting Visibility in National Parks and Wilderness*

regional model (like REMSAD or MODELS3)[52]. Thus, while the other BART factors would be evaluated for each source that is reasonably anticipated to contribute to regional haze in a mandatory Class I Federal area, EPA proposes that the degree of visibility improvement expected to result would be evaluated in the context of the overall emissions reduction strategy. As the descriptive name "regional haze" implies, regional haze is characterized by regional or region wide impairment of mandatory Class I Federal areas. The EPA requests public comments on this proposed approach for the BART assessment process for regional haze.

By comparison, under the existing visibility regulations, the BART process is triggered by the Federal land manager. The FLM may certify to the State at any time that impairment exists in any mandatory Class I Federal area. See existing 40 CFR 51.302(c)(1). State implementation plans must provide for a BART analysis for any existing stationary facility that may cause or

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Areas, provides an example, using a speciated rollback model, of the apportionment of anthropogenic light extinction among source types in the eastern, southwestern, and northwestern United States. This example illustrates some of the key issues that arise in any apportionment of visibility impairment.

[52] REMSAD and MODELS3 are regional-scale computer models under development that will predict particulate matter and visual air quality based on emissions, transport, and atmospheric chemistry.

contribute to “reasonably attributable” impairment in any Class I area identified by the Federal land manager. In determining BART, the State must consider the various factors listed in section 169A(g)(2), including costs of compliance and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology on a specific source. See existing 40 CFR 51.301(c).

The proposed approach to evaluating potential improvements in regional haze visibility impairment due to BART differs from the current approach for reasonably attributable impairment in that the degree to which visibility is expected to improve in a mandatory Class I Federal area would take into account the emission reductions from the multiple sources affecting that Class I area. An alternative approach would be to evaluate the degree of improvement in regional haze impairment expected from each specific BART source. Under this approach, a single source’s contribution to regional haze visibility impairment in a Class I area would be assessed. Section 169A(b)(2)(A) provides that BART is required for applicable sources that emit air pollution that is reasonably anticipated to contribute to any visibility impairment in a Class I area. Thus, the “degree of improvement” estimated under section 169A(g)(2), which in most cases may be less than

perceptible, would be based on the improvement projected from a single BART source. The concern with this approach is the substantial technical difficulty in establishing source-specific receptor relationships for a regional transport environmental effect. The National Academy of Sciences Committee on Haze in National Parks and Wilderness Areas has expressed doubt that such source specific attributions could be the basis for a workable visibility protection program. However, allowing assessment of BART sources on a source-specific basis would not preclude States from including controls on BART sources in their long-term strategy in order to achieve the applicable reasonable progress targets, even if source-specific impairment could not be demonstrated. This option would likely give States greater flexibility in developing the most cost-effective means to address the BART and long-term strategy requirements. The EPA requests comment on these alternative approaches to implementing the BART and long-term strategy requirements to address regional haze visibility impairment.

In the proposed 40 CFR 51.306(d)(3), this notice also sets forth the timing requirement for States to include provisions to address the BART requirement in their implementation plans due in July 2003 except as discussed in Unit I.I. This approach is consistent with recommendations of the Clean Air Act Advisory Committee (CAAAC) and its

Subcommittee to integrate control strategies across programs to the greatest extent possible. The CAAAC's Subcommittee on Ozone, Particulate Matter, and Regional Haze Implementation Programs is currently discussing a number of issues related to control strategies, and EPA intends to consider any CAAAC recommendations in future implementation guidance.

Finally, with respect to proposed regulatory changes related to BART, EPA notes that the existing 40 CFR 51.302(c)(4)(iv) of the existing visibility regulations requires BART to be implemented no later than five years after "plan approval." EPA proposes to clarify this provision to read "plan approval or revision" consistent with section 169A(g)(4) of the Act.

The EPA requests comment on all of the proposed BART requirements discussed above including whether additional regulatory revisions beyond those addressed here are necessary. While EPA requests comment on possible emission reduction strategies to be used for implementing BART and long-term strategy requirements under the regional haze program, EPA also expects to address more specific control strategy options for BART and the long-term strategy requirements for regional haze in later guidance.

3. Plan Revisions for Section 110(a)(2) Requirements

The second element of proposed 40 CFR 51.302(c)(5)

relates to SIP revisions necessary to meet the various requirements under section 110(a)(2) of the Act. Section 169B(e)(2) provides for EPA to require States to revise their section 110 implementation plans within 12 months to contain "such emission limits, schedules of compliance, and other measures as necessary" to carry out these regulations. In addition, visibility protection is specifically provided for in section 110(a)(2)(J).

The elements of section 110(a)(2) are critical to establishing a strong foundation for ongoing implementation of the visibility protection program. The EPA believes that during this initial 12-month period, the States should focus first on plan requirements providing for adequate future planning activities in conjunction with other States. Important planning activities include development of enhanced emission inventories and emissions tracking systems, monitoring network deployment, and refinement of regional models. The EPA encourages all States to participate in regional planning activities. This planning will then facilitate the future assessment of regional strategies to achieve reasonable progress targets, and will also provide beneficial data and tools needed for attainment of the new ozone and PM NAAQS.

States will need to address each of the section 110 elements needing revision to support implementation of the

revised visibility program. The EPA believes that the following sections should be closely reviewed for meeting the needs of a regional haze program.

- Section 110(a)(2)(D) requires the State plan to contain adequate provisions to prohibit interstate transport that contributes significantly to nonattainment in or interferes with maintenance by other States with respect to the NAAQS or interferes with measures in other States to protect visibility. This provision is highlighted to emphasize the critical role of transport in dealing with visibility issues and to serve as an incentive to regional planning and cooperation among States.
- Section 110(a)(2)(K) requires SIPs to provide for air quality modeling for the NAAQS and collection of necessary emissions inventory information to use as input to the models. Many primary and secondary PM and ozone emissions (VOC, NOx, SO2, ammonia, primary PM, elemental carbon, organic carbon) also result in visibility impairment, so developing enhanced statewide emission inventories for these pollutants will benefit all three programs. Further, sections 110(a)(2)(F), 110(a)(2)(A), and 169A(b) provide specific authority for emissions inventory requirements and general authority to require measures necessary to protect

visibility. It will be important for States to develop inventories both for sources potentially subject to BART, and for other sources that are reasonably anticipated to contribute to regional haze visibility impairment. The inventories can then be used as inputs to regional models and possibly as the basis for regional pollutant trading programs, as suggested by the GCVTC. Integrated modeling tools such as MODELS3 are under development which will be able to predict ozone and PM concentrations, as well as the resulting regional haze, using the enhanced inventory data. It is anticipated that emission inventory inputs to regional modeling will be needed in the 1999-2000 time frame. The need for enhanced inventory development and expanded regional modeling capabilities has been greatly emphasized by a number of organizations, including the GCVTC and CAAAC.

- Section 110(a)(2)(B). Expansion of the existing visibility monitoring network to provide for representative monitoring of all Class I areas is the third major technical task for State emphasis. Proposed revisions related to monitoring are more fully discussed in Unit I.H. of this notice.
- Section 110(a)(2)(A) requires States to submit enforceable emission limits and compliance schedules.

The EPA believes that, in general, enforceable "emission limitations" and "schedules of compliance" as required under sections 169A and 169B of the Act should be appropriately incorporated into SIPs after assessment of regional strategies can be coordinated with the ozone and PM implementation programs. However, it is important to recognize that regional haze "areas of concern" (i.e., mandatory Class I Federal areas) are already defined, and modeling work can begin early in the planning process to define the areas of influence affecting them. In addition, there may be some parts of the country that have no nonattainment areas (or areas of violation) for which the assessment of regional strategies for haze could proceed earlier, but these modeling activities would be dependent upon completion of inventory enhancements and availability of adequate regional models.

Timing requirements for future SIP revisions after the "12-month SIP" are included in proposed section 40 CFR 51.306(c). The proposal states that the next SIP revision will be due 4 years after the first SIP revision is required, in July 2003, except as noted below. By doing this, EPA seeks to allow for integration of planning activities and control strategy development to the maximum extent possible. The EPA recognizes that the implementation

schedule for the Ozone and PM NAAQS may change in light of monitoring data availability and other factors related to development of a SIP attainment strategy.

In light of EPA's intent to foster coordinated planning and implementation of the regional haze requirements proposed and the new $PM_{2.5}$ while still addressing the need to ensure reasonable progress in addressing visibility impairment, EPA is also proposing to allow States preparing nonattainment plans for fine particulate matter ($PM_{2.5}$) to submit their regional haze emissions control strategy SIP revisions by but not later than the required date for submittal of the State's $PM_{2.5}$ attainment control strategy SIP revisions. See proposed 40 CFR 51.306(d)(3) and (d)(6). This approach would allow the initial emissions management measures portion of the regional haze long-term strategies to be developed in conjunction with the first round of $PM_{2.5}$ nonattainment actions. EPA also takes comment on how to appropriately balance coordination among SIP requirements with the potential delay in ensuring reasonable progress toward the national visibility protection goal.

The proposed 40 CFR 51.306(c) also states that visibility SIPs are to be revised every 3 years thereafter (e.g., 2006, 2009, etc.) This requirement is consistent with the overall need to track reasonable progress over time, as well as with the 3-year requirement for long-term

strategy review and revision in the current rules. The EPA has clarified this provision by proposing to remove reference to periodic review and revision "as appropriate." The EPA proposes to require a SIP revision every 3 years, and proposes that the process for developing the plan revision include consideration of a "report" outlining progress toward the national goal. The EPA believes that a requirement for regular SIP revisions will result in a more effective program over time and provide a focus for demonstrating ongoing progress and making mid-course corrections in emissions strategies.

To the extent possible, the EPA will endeavor to coordinate timing requirements for RFP submittals for the NAAQS with long-term strategy revisions for visibility. The timing of progress reviews for RFP for the NAAQS will be addressed in future guidance.

Instead of periodic SIP revisions every three years, the EPA is also considering requiring that the SIPs be revised every 5 years after the initial visibility long-term strategy SIP (e.g., 2008, 2013, etc.). This would allow more time for collection of visibility data to be used in assessing compliance with the visibility target. This longer time period would also be less influenced by unusual meteorological conditions than a three-year period. Periodic five-year revisions would also reduce the

administrative burden on the States. However, a five-year period may not as easily allow for mid-course corrections in sufficient time to ensure meeting the progress target over a 10-year or 15-year period. A 5-year revision period would also be inconsistent with the 3-year timing for long-term strategy revisions for reasonably attributable visibility impairment in the existing rules. The EPA requests public comment on the frequency of periodic SIP revisions. In particular, EPA seeks public input on whether a five-year periodic SIP revision schedule would be more appropriate. In considering a 5-year review period for regional haze, the EPA also seeks comment on whether to it should revise current rules to adopt a 5-year SIP revision schedule for "reasonable attributable" impairment SIP requirements to allow for administrative efficiency.

H. Visibility Monitoring

Visibility monitoring is authorized under the section 169A(b)(1) provision for issuing guidelines to the States on monitoring, the section 169A(b)(2) provision re requiring SIPs to address "other measures as may be necessary," as well as the section 110(a)(2)(B) authority requiring State implementation plans to provide for the monitoring of ambient air quality. Since 1986, visibility monitoring (using aerosol, optical, and photographic techniques) has been coordinated through the IMPROVE program, a cooperative,

multi-agency approach with participation by EPA, the FLMs, and States. Each of the participants in the IMPROVE Steering Committee contributes funding for the purchase and operation of monitoring equipment, and participates in resource and siting decisions. Speciated fine PM data and reconstructed light extinction data has been collected since 1988 for 30 sites, and more than 60 sites have at least 1 year of data collected using IMPROVE protocols. The IMPROVE protocols and quality assurance procedures that have been enhanced over the years are the basis for forthcoming EPA guidance.

EPA believes that continued coordination of visibility monitoring is critical due to the common responsibilities of States, FLMs, and EPA for visibility protection. Proposed in 40 CFR 51.305(b) are various monitoring requirements for implementation of the regional haze program, including a requirement that development of monitoring strategies be coordinated with the FLMs and other agencies, such as EPA, that are involved in existing visibility monitoring efforts.

Proposed 40 CFR 51.302(c)(2)(iv) requires States to submit monitoring strategies (revisions for those States with existing strategies) as part of their implementation plans within 12 months of promulgation, and proposed section 40 CFR 51.302(c)(2)(v) requires revisions of these strategies four years later (in 2003), and every 3 years

thereafter, at the same time that long-term strategy revisions would be required.

A central element of each State's visibility program will be the demonstration every 3 years of current trends in visibility compared to reasonable progress targets for each mandatory Class I Federal area in the State. This demonstration must rely on historical monitoring data to the greatest extent possible. Since visibility monitoring does not exist at all 156 mandatory Class I Federal areas, it will be essential for each State to develop a monitoring strategy, in conjunction with the appropriate FLMs and other States, which ensures that "representative" monitoring has been or will be established for each mandatory Class I Federal area in the State.

Proposed section 40 CFR 51.305(b)(2) requires that additional monitoring sites be established within 12 months of plan submittal as necessary to ensure that progress in relation to the reasonable progress targets can be determined. The EPA recognizes that due to resource limitations, it would be difficult to establish monitoring sites at all 156 mandatory Class I Federal areas. This section, in conjunction with the proposed new provisions in sections 40 CFR 51.305(b)(1) and (b)(3), call for the establishment of additional monitoring sites such that monitoring can be considered representative of all Class I

areas. The EPA believes that several additional sites are needed to more effectively characterize regional transport of haze on a national basis. However, the concept of a "representative" network will likely be the subject of much discussion, and ultimately it will need to incorporate both technical and policy concerns of the States and FLMs. The EPA encourages the States and FLMs to discuss this issue in depth, possibly using the IMPROVE Steering Committee as a forum for further discussion. EPA takes comment on whether 12 months from plan submittal is an adequate amount of time for installation of new sites.

In the strategy, the participants in the monitoring network should address the following questions:

- For areas with monitoring funded solely by one agency, will such monitoring remain in place until the next progress demonstration?
- For an area without existing monitoring, is there a monitoring site nearby that can be considered "representative" of this area? If not, the strategy should implement the addition of a site to the network.
- For which mandatory Class I Federal areas in the State will new visibility or fine particle monitoring be initiated within the next 3 years?

The EPA plans to issue a visibility monitoring guidance document in the near future that will be designed to assist

the States in developing this monitoring strategy. The document will provide guidance for determining "representative" sites and will include technical criteria and procedures for conducting aerosol, optical, and scene monitoring of visibility conditions in Class I areas. The procedures currently used in the IMPROVE network will be included in this guidance. For the purpose of assuring that monitoring data will be complete in assessing and modifying long-term strategies, States should review the existing monitoring strategy with the FLMs and other participating agencies to assess the need for additional monitoring sites or modifications to existing ones on the same periodic basis as the long-term strategy revisions.

States should emphasize the coordination of the design of monitoring networks for $PM_{2.5}$ and visibility to the greatest extent possible in order to optimize resources. In some situations, existing visibility monitoring sites can be used to meet Part 58 requirements to characterize regional $PM_{2.5}$ levels. However, States needing to establish new $PM_{2.5}$ monitoring sites to characterize regional levels should consider siting new monitors at or near a mandatory Class I Federal area that currently has no monitoring. Reconstructed light extinction can be calculated for any $PM_{2.5}$ site collecting aerosol data that undergoes compositional analysis. This information can help fill

certain spatial gaps and can be used for calibration of regional models for PM and visibility, as well as for assessments of visibility nationally under the secondary particulate matter standard.

Proposed 40 CFR 51.305(b)(4) requires the States to report to EPA all visibility monitoring data on at least an annual basis. The characterization of visibility trends is one important reason for this requirement. It will be important for States to track annual trends in relation to the reasonable progress targets. Annual trend data can provide the States with an early indication of the effectiveness of current strategies in meeting presumptive reasonable progress targets for specific mandatory Class I Federal areas before the triennial long-term strategy review comes due. Annual consolidation of this data will also enable EPA to better characterize national and regional visibility trends in its annual air quality trends report.

Another important reason for this requirement is to provide for the ultimate integration of monitoring data from the new $PM_{2.5}$ monitoring network and the visibility monitoring network, both of which will include $PM_{2.5}$ and PM_{10} mass as well as compositional analysis by aerosol species. Class I area particle mass and speciation data can fill important data gaps in defining regional concentrations for air quality modeling analyses. As noted above, EPA seeks

for these two monitoring networks to be developed in a complementary manner.

Due to the well-established quality assurance procedures and accessibility of data collected through the IMPROVE network, EPA does not expect this reporting requirement to be exceptionally burdensome. The electronic transfer of data should facilitate the process as well. The EPA requests public comment on its proposed requirement for reporting of data, and on the other proposed revisions to the visibility monitoring requirements.

I. Long-Term Strategy

The existing long-term strategy provisions in 40 CFR 51.306 require several basic elements:

- A strategy for making reasonable progress in improving visibility in all mandatory Class I Federal areas in the State. Specifically, The strategy should include measures necessary to remedy any reasonably attributable impairment certified by a FLM. The strategy should specify emission reduction measures for sources subject to BART requirements, and for other sources causing or contributing to such visibility impairment in these areas. The strategy should also include measures necessary for reasonable progress to be achieved in other mandatory Class I Federal areas located outside the State that may be affected by emissions within the State. - A SIP assessment every 3 years, including a

review of progress made and a revision of the long-term strategy as appropriate, including consultation with the FLM and a report to EPA and the public.

- Provisions for review of new source impacts on visibility
- Coordination with existing plans and goals, including those of FLMs.

The basic framework for the long-term strategy provisions in 40 CFR 51.306 remains the same. The proposed revisions do not affect the on-going requirement for States to continue to address reasonably attributable impairment while adding new provisions to address regional haze impairment. The EPA has specifically revised the regulation to preserve the requirements in the existing visibility program for addressing reasonably attributable impairment. These requirements are to continue to be implemented independent of whether the State is currently meeting reasonable progress targets or not. Proposed 40 CFR 51.306(a)(1) has been revised to address this point. This proposed revision requires the State to first identify whether there is an active certification of reasonably attributable impairment for any Class I area in the State. If an active certification is pending, the long-term strategy needs to address the progress made in assessing BART pursuant to this certification and other related activities. This proposed section provides that all other

visibility impairment will be considered as regional haze and be addressed in accordance with other provisions in 40 CFR 51.306, including the proposed 40 CFR 51.306(d).

The proposed 40 CFR 51.306(d)(1) and (2) set forth requirements for the State, within 12 months to develop a procedure that will, by a date 5 years from rule promulgation, determine current visibility conditions for every mandatory Class I Federal area. The procedure should provide for coordination with the FLMs and use appropriate data available or planned for under the monitoring plan. Current conditions are to be defined (or estimated for mandatory Class I Federal areas without monitoring at the time of promulgation of these revisions) for the average of the 20 percent most impaired days and 20 percent least impaired days, using the deciview scale. The State should use all years where monitoring data are available or estimation and apportionment techniques noted in Agency guidance can be applied. As mentioned in the discussion of the baseline in Part E. above, a minimum of three years of monitoring data should be used. Adjustments to a baseline using 3 years of data can be made using more ambient data up to nine consecutive years.

In addition, proposed 40 CFR 51.306(d)(1) requires the State to establish a procedure in consultation with the FLMs by which levels of naturally-occurring PM-fine and

visibility will be established within five years. Estimates from NAPAP 1990 and developed by Trijonis ($PM_{2.5}$: 1.5 μg/m^3 in west, 3.3 μg/m^3 in east) may be converted to deciview and used as a default as necessary. After the SIP revision due in 2003, these assessments will then be required every 3 years. The periodic assessment of natural and current conditions should take into consideration new findings from the research community, improved emissions estimates for wildfire, prescribed fire and windblown dust, and any future policies for ecosystem management, prescribed fire, and so on.

The proposed 40 CFR 51.306(d)(3) also requires that the regional haze long-term strategy submitted within 1 year of the final promulgation of these rules include provisions for requiring that for each Class I area with existing anthropogenic impairment greater than 1 deciview, the State shall within 5 years of rule promulgation (except in the case of States concurrently preparing nonattainment control strategy SIP revisions for $PM_{2.5}$) adopt measures and revise its SIP to include emission reduction strategies that would meet the reasonable progress targets within the next 3-year period. These measures are to address the best available retrofit technology requirement, as well as other necessary measures from non-BART sources to ensure that reasonable progress targets are achieved. Such measures should include

a combination of local and regional measures. Regional measures recommended through the multistate implementation process are expected to take regional modeling efforts into consideration. States will take these assessments into account, but will be the ultimate authority responsible for control strategy development and implementation. The types of analyses conducted by the GCVTC to identify and assess the various source categories contributing to regional haze on the Colorado plateau can serve as a model for regional approaches to develop strategies for making reasonable progress. Although the GCVTC process did not emphasize analysis of sources potentially subject to BART, EPA believes it is important that States make such an analysis a primary component of the long-term strategy.

The proposed timing for required emission reduction strategies for regional haze is designed to allow sufficient time to conduct technical assessments on a regional scale. The EPA also proposes that emission reduction strategies for visibility be revised every 3 years thereafter in order to meet the reasonable progress targets for any mandatory Class I Federal areas located in the State. These revised strategies are to be implemented through SIP revisions.

Section 51.306(f) of 40 CFR specifies a number of factors, currently set forth in 40 CFR 51.306(e), in considering the need for visibility-specific measures,

including the measures being implemented for other programs. It is possible that for some areas of the country, such as parts of the Eastern U.S., emission reductions achieved for the acid rain program could be sufficient to meet the presumptive reasonable progress targets initially. The EPA has proposed revisions that would require the State to address the anticipated net effect on visibility due to projected changes in point, area, and mobile source emissions over the next 10-15 years when developing emissions strategies that will meet the reasonable progress requirements. In some areas, these changes in emissions would be expected primarily from population growth, while in others emissions changes may result from potential new industrial, energy, natural resource development, or land management activities.

The proposed 40 CFR 51.306(d)(3)(ii)(B) would require SIPs to explicitly address the contribution by each State needed to meet reasonable progress targets. This section provides that such strategies should be consistent with strategies recommended through regional planning processes conducted for related air quality issues. This provision should serve as an incentive for States to participate in regional planning activities. The EPA believes that multi-state planning, modeling, and control strategy assessment will be important in addressing regional haze. At the same

time, each State is ultimately responsible for determining its contribution to ensure reasonable progress in mandatory Class I Federal areas affected by its emissions sources and implementing appropriate emissions control strategies. In evaluating visibility SIP revisions, the EPA will consider the information submitted by the State as well as any relevant regional planning analysis.

The proposed 40 CFR 306(d)(4) sets forth requirements to be addressed by the State in the implementation plan revision if it has not met the presumptive reasonable progress targets over the past 3-year period. This provision requires the State to first determine whether targeted emissions reductions planned for in its previous long-term strategy revision were achieved. This approach follows from the GCVTC definition of reasonable progress as "continuous emission reductions." This step would involve reviewing emissions sources, inventories, and other data used as the "baseline" for any modeling assessments or assumptions used in developing the strategy. If such reductions were found to have been actually achieved, the State must then evaluate other factors, such as meteorological conditions, that were responsible for not achieving the targets. This assessment must be provided to EPA as part of the implementation plan revision process. If planned emission reductions were not achieved, then the

State must revise its emissions reduction strategies to enable it to meet over the next 3-year period the presumptive reasonable progress targets that would have been required if the targets had been achieved initially. This 3-year submittal, review and adjustment of emission reduction strategies is similar to the tracking of reasonable further progress for the NAAQS. Additional discussion on achieving reasonable progress targets is found in Unit I.F.2.b., Determining Baseline Conditions, of this notice.

The proposed 40 CFR 51.306(d)(5) introduces requirements for States to follow in developing “alternate progress targets.” A State would pursue development of such targets if it can demonstrate that achievement of the presumptive targets would not be reasonable due to the factors found in section 169(A)(g)(1) of the Act that are to be considered in developing long-term strategies. These factors include the costs of compliance, the time necessary for compliance, the energy and nonair quality environmental impacts of compliance, and the remaining useful life of any affected source or equipment therein. This section requires the State to provide to EPA a satisfactory justification for any alternate progress target. The State should consult with other States whose emissions may contribute to regional haze in the Class I area, the appropriate Federal Land

Manager, and EPA in development of an alternative reasonable progress target for any Class I area. This provision recognizes that consideration of these factors may lead a State to adopt alternative reasonable progress targets for a mandatory Class I Federal area that differ from those of other mandatory Class I Federal areas within a planning region. However, the proposed rules prohibit States from interpreting the alternative target to allow a degradation of visibility conditions due to human-caused emissions. At a minimum, for any three year period between long-term strategy revisions, the State's plan should provide maintenance of current conditions for the most and least impaired days. The alternative target and corresponding justification must be submitted as part of the State visibility SIP revision process. Any alternative reasonable progress target submitted by the State will be reviewable through public hearings on the SIP revision and will be subject to approval by EPA.

The EPA seeks public comment on all aspects of its proposed regulatory revisions to the visibility long-term strategy requirements in 40 CFR 51.306 as well as all of the other proposed policies and regulatory revisions related to regional haze SIP requirements set forth in this notice.

II. Regulatory Requirements

The discussion below addresses requirements of the

Regulatory Flexibility Act, Unfunded Mandates Reform Act, Paperwork Reduction Act, Executive Order 12898, and Executive Order 12866 for purposes of the proposed regional haze rule.

A. Executive Order 12866

Under Executive Order 12866, the Agency must determine whether a regulatory action is "significant" and, therefore, subject to Office of Management and Budget (OMB) review and other requirements of the Executive Order. The order defines "significant regulatory action" as one that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) create a serious inconsistency or otherwise interfere with an action taken or planned by another Agency;

(3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

In view of its important policy implications, the proposed regional haze rule has been judged to be a

"significant regulatory action" within the meaning of the Executive Order, and EPA has submitted it to OMB for review. The drafts of proposed rules submitted to OMB, the documents accompanying such drafts, written comments thereon, written responses by EPA, and identification of the changes made in response to OMB suggestions or recommendations will be documented in the public docket and made available for public inspection at EPA's Air and Radiation Docket Information Center (Docket No. A-95-38).

The EPA has prepared and entered into the docket a Regulatory Impact Analysis (RIA) entitled Regulatory Impact Analysis for Proposed Ozone and Particulate Matter National Ambient Air Quality Standard and Regional Haze Rule. This RIA assesses the costs, economic impacts, and benefits associated with the implementation of the current and several alternative NAAQS for ozone and PM and the regional haze rule. As discussed in the RIA, there are an unusually large number of limitations and uncertainties associated with the analyses and resulting cost impacts and benefit estimates. Furthermore, the assumptions regarding implementation are necessarily speculative in nature. Under the proposed regional haze rule, States bear the primary responsibility for establishing control requirements for assuring reasonable progress toward the national visibility goal. Until such time as States make decisions regarding

control measures, EPA may only speculate as to which sources may be regulated and as to what types of control requirements or emission limits may be required.

The proposed regional haze rule establishes presumptive targets for visibility improvements in mandatory Class I Federal areas, but also provides discretion to the States to establish alternate targets where warranted. The EPA has prepared a RIA that analyzes the costs and benefits of implementing a regional haze program to achieve 2 different presumptive targets for visibility improvement: one target equal to a rate over 10 years, the other over 15 years. The targets can be attained by taking into account emissions reductions achieved under other air quality programs, including implementation of the new ozone and particulate matter standards. The RIA analysis estimates that annual costs over the period 2000-2010 would likely result in the expenditure by State, local, and tribal governments and the private sector, in aggregate, of over $100 million per year for both presumptive options.

It is important to note, however, that there is significant uncertainty in these cost estimates for a number of technical reasons specific to the analysis, but more importantly because of the flexibility that States have in establishing alternate targets and in developing emissions control strategies to meet the target. The EPA has no way

of estimating the number of States that may seek to establish alternate progress targets for any of the 156 mandatory Class I Federal areas required to make progress or in predicting the actual control measures that will be employed. For this reason, the costs associated with the presumptive target options in the RIA may be significantly overstated. As stated in the RIA, total annual costs of the rule in 2010 would be zero if all States adopted alternative reasonable progress targets which imposed no additional controls beyond those required for the PM NAAQS, $2.1 billion if all States adopted the proposed presumptive reasonable progress target of 1.0 deciview improvement in the most impaired days over 15 years, and $2.7 billion if all States adopted the proposed presumptive reasonable progress target of 1.0 deciview improvement over 10 years. Nevertheless, it is likely that they would exceed the $100 million threshold in any event.

Total annual benefits in 2010 under these three alternative scenarios would be $0, $1.3 to $3.2 billion, or $1.7 to $5.7 billion respectively. Since it is likely that some States will adopt the presumptive targets and some will adopt alternative targets for mandatory Class I Federal areas, actual costs and benefits would probably fall within these ranges. These benefits are incremental to the visibility benefits, including those for mandatory Class I

Federal area visibility improvement expected from implementation of the PM and Ozone NAAQS recently promulgated. There are important benefits to human health and welfare, and to the environment from improving air quality in these important natural areas by reducing emissions of fine particles (the main contributors to visibility impairment).

B. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA), 5 U.S.C. 601 et seq., provides that, whenever an agency is required to publish a general notice of rulemaking for a proposed rule, the agency must prepare regulatory flexibility analyses for the proposed and final rule unless the head of the agency certifies that it will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small governments (e.g., cities, towns, school districts), and small non-profit organizations. The regional haze rule being proposed today applies to States, not to small entities. It proposes to establish presumptive visibility protection goals for certain national parks and wilderness areas that States may modify, where appropriate, based on a review of specific criteria related to the degree of visibility impairment, the costs of controlling emissions and other relevant information, after consultation with the Federal Land

Managers. In addition, the rule proposes planning, monitoring and progress reporting requirements that would apply to States to assure that States are making progress toward the national visibility goal for mandatory Class I Federal areas.

Under the proposed rules, States would decide how to obtain sufficient emissions control measures through State-level rulemakings. In developing emission control measures, section 169A of the Clean Air Act requires States to address best available retrofit technology requirements (BART) for a select list of major stationary sources defined by the Clean Air Act section 169A(g)(7). Before any such major stationary source would be subject to BART for regional haze, however, the State would have to make a determination which involves some State discretion in considering a number of relevant statutory factors set forth in section 169A(g)(2), including the costs of compliance, any existing control technology in use at the source, the remaining useful life of the source, the energy and nonair quality environmental impacts of compliance, and the degree of visibility improvement that may reasonably be anticipated. Further, EPA is seeking public comment on the potential for alternative approaches to addressing the BART requirement, as discussed earlier in the notice. For BART and for other measures the State may adopt to meet the requirements of a

regional haze rule, EPA will also be exploring further policy issues in a future implementation guidance. The potential consequences of today's proposal are thus speculative at this time. Any requirements for emission control measures, like the SIP process for attaining national ambient air quality standards, will be established by State rulemaking. Because the States will exercise substantial intervening discretion in implementing the proposed rule, EPA certifies that the regional haze rule being proposed today will not, if promulgated, have a significant economic impact on a substantial number of small entities within the meaning of the RFA. The legal reasoning supporting this certification is analogous to the reasoning explained in certifying the recent NAAQS rulemakings for ozone and particulate matter; a full statement of this reasoning was published previously in the Federal Register as part of the Notices of Final Rulemaking on July 18, 1997, for those two NAAQS rulemakings.

The EPA's finding that today's proposed regional haze rule will not have a significant economic impact on a substantial number of small entities also entails that the small-entity provisions in section 609 of the RFA do not apply. Nevertheless, EPA undertook small-entity outreach activities modeled on these provisions on a voluntary basis. These activities include conducting a review panel,

following RFA procedures, to solicit advice and recommendations from representatives of small businesses, small governments, and other small organizations. This panel review resulted in a final report entitled “Final Report of the Review Panel Convened to Consider EPA’s Planned Phase I Guidance on Implementation of New or Revised Ozone and Particulate Matter NAAQS and Proposed Rule on Regional Haze”, dated June 10, 1997. A copy of the report has been placed in the docket for this rulemaking. The EPA has also added a number of additional small-entity representatives to its CAAAC Subcommittee on NAAQS and regional haze implementation.

The goal of this outreach activity is to work with the small-entity representatives to find implementation approaches that minimize impacts on small entities, and to help and encourage the States to use these approaches as they develop their State Implementation Plans for NAAQS attainment and regional haze reduction. It should be noted that the principal way States can minimize small-entity impact is by their choices of control strategies. While development of control strategies will be required in order for States to fully implement a regional haze program, EPA plans to address coordination of regional haze and NAAQS-related implementation strategies in future guidance. However, the small-entity review panel felt that it was

important to share whatever information available with the States, so that states can begin thinking about small-entity impacts as part of their early planning. Therefore, the panel recommended that EPA develop and publish a guidance memorandum to the States which will summarize current knowledge on approaches to minimize small-entity impacts. The EPA has accepted that recommendation, and will publish such a memorandum shortly after today's notice appears. Included in the guidance memorandum will be a preliminary list of various actions that States might take to alleviate adverse implementation impacts on small business while at the same time assuring that air quality goals are achieved. This list will then continue to be refined as part of the process to develop the future guidance.

C. Impact on Reporting Requirements

The information collection requirements in this proposed rule relating to State requirements for the protection of visibility in specially-protected national parks and wilderness areas have been submitted to OMB for review under the Paperwork Reduction Act, 44 U.S.C. § 3501, *et seq*. An Information Collection Request document has been prepared by EPA (ICR No. 1813.01 and a copy may be obtained from Sandy Farmer, Information Policy Branch; EPA; 401 M St., SW (Milked 2137); Washington, D.C. 20460 or by calling (202) 260-2740.

This collection of information has an estimated reporting burden for the fifty States and District of Columbia, averaging 623 hours per year per State. The Agency expects the Federal burden will be approximately 216 hours per year. The Agency anticipates annual States costs of about $1.0 million, approximately $25,000 per State. The Agency estimates the annual Federal costs to be approximately $7000. These estimates include time for reviewing requirements and instructions, evaluating data sources, gathering and maintaining data, and completing and reviewing the collection of information.

Send comments by October 20, 1997 regarding these burden estimates or any other aspect of these collections of information, including suggestions for reducing this burden to Chief, Information Policy Branch; EPA; 401 M St., S.W. (Mailcode 2137); Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503, marked “Attention: Desk Officer for EPA.” The final rule will be accompanied with responses to OMB or public comments on the information collection requirements contained in this proposal.

D. Unfunded Mandates Reform Act

Section 202 of the Unfunded Mandates Reform Act of 1995 ("Unfunded Mandates Act") (signed into law on March 22, 1995) requires that the Agency must prepare a budgetary

impact statement before promulgating a rule that includes a Federal mandate that may result in expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of $100 million or more in any one year. The budgetary impact statement must include: (i) identification of the Federal law under which the rule is promulgated; (ii) a qualitative and quantitative assessment of anticipated costs and benefits of the Federal mandate and an analysis of the extent to which such costs to State, local, and tribal governments may be paid with Federal financial assistance; (iii) if feasible, estimates of the future compliance costs and any disproportionate budgetary effects of the mandate; (iv) if feasible, estimates of the effect on the national economy; and (v) a description of the Agency's prior consultation with elected representatives of State, local, and tribal governments and a summary and evaluation of the comments and concerns presented. Section 203 requires the Agency to establish a plan for obtaining input from and informing, educating, and advising any small governments that may be significantly or uniquely impacted by the rule. Section 204 requires the Agency to provide for an effective process for State, local, and Tribal officials to provide meaningful and timely input in the development of regulatory proposals containing significant intergovernmental mandates.

Under section 205 of the Unfunded Mandates Act, the Agency must identify and consider a reasonable number of regulatory alternatives before promulgating a rule for which a budgetary impact statement must be prepared. The Agency must select from those alternatives the least costly, most cost-effective, or least burdensome alternative, for State, local, and tribal governments and the private sector, that achieves the objectives of the rule, unless the Agency explains why this alternative is not selected or unless the selection of this alternative is inconsistent with law.

This rule is being developed under the Federal Clean Air Act. The RIA, discussed in Unit II.A. above, contains an assessment of the costs and benefits of this proposed rule. Federal funds are available to meet some of the largely administrative costs to State, local, and Tribal governments through grants provided by EPA under the authority of section 105 of the Clean Air Act.

As reflected in the RIA, the rule is expected to have a greater effect initially on the private sector in the western United States than the eastern U.S. because certain emissions control measures under the Clean Air Act acid rain program are already under way to reduce sulfur oxides emissions in the eastern U.S., a major precursor to sulfate particles, the dominant fine particle constituent in the eastern U.S. Phase II of the acid rain trading program will

continue through 2007. The rule is not expected to have any disproportionate budgetary effects on any State, local, or tribal government, or urban or rural or other type of community. The rule is not expected to have a material effect on the national economy.

In developing the proposed rule, EPA has provided numerous opportunities for consultation with interested parties, including State, local, and tribal governments. These opportunities include meetings and discussions under the Clean Air Act Advisory Committee, Subcommittee on Ozone, Particulate Matter, and Regional Haze Implementation Programs, and the Grand Canyon Visibility Transport Commission. The EPA's consideration of the recommendations from these two groups is discussed extensively in Unit I.C. of the preamble. The principal comments of State, local, and Tribal groups are also documented in the Subcommittee's *Initial Report on Subcommittee Discussions* (April 1997) and the GCVTC's *Recommendations on Improving Western Vistas*. Being comprised of State and Tribal governments, the GCVTC issued recommendations on a wide range of topics, including emission management alternatives, technical findings, and areas for further research. The EPA also will have a public comment period of at least 60 days on the proposed rule, as well as a public hearing, in order to allow for additional meaningful input into the development of the regulation.

The Agency is considering two main options for presumptive reasonable progress targets in developing the rule. EPA believes that because the rule also includes the flexibility for States to propose alternate reasonable progress targets based on certain criteria, one of which is the costs of compliance, the proposed rule meets the UMRA requirement in section 205 to select the least costly and burdensome alternative in light of the statutory mandate to issue regulations that make reasonable progress toward the national visibility protection goal. EPA also has provided a technical rationale in the preamble for defining the presumptive reasonable progress target rate equal to 1.0 deciview improvement in the most impaired days over 10 or 15 years.

E. Environmental Justice

Executive Order 12898 requires that each Federal agency make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minorities and low-income populations. These requirements have been addressed to the extent practicable in the RIA cited above.

List of Subjects in 40 CFR Part 51

Environmental protection, Administrative practice and

procedure, Air pollution control, Carbon monoxide, Nitrogen dioxide, Particulate matter, Sulfur oxides, Volatile organic compounds.

Dated:

_____
Carol M. Browner
Administrator

For the reasons set forth in the preamble, part 51 of chapter I of title 40 of the Code of Federal Regulations are proposed to be amended as follows

PART 51 - REQUIREMENTS FOR PREPARATION, ADOPTION, AND SUBMITTAL OF IMPLEMENTATION PLANS

Subpart P - Protection of Visibility

1. The authority citation for Part 51 is revised to read as follows:

Authority: 42 U.S.C. 7410, 7414, 7421, 7470-7479, 7491, 7492, 7601, and 7602.

2. Section 51.300 is amended as follows:

a. Replacing “§51.24" with “§51.166" in paragraph (a);

b. Adding a sentence to the end of paragraph (a)(2);

c. Revising paragraph (b)(1);

d. Revising paragraph (b)(2);

e. Adding a new paragraph b(3);

§ 51.300 Purpose and applicability.

* * * * *

(a) * * *

(2) * * * This subpart sets forth requirements addressing visibility impairment in its two principal forms: “reasonably attributable” impairment (i.e., impairment attributable to a single source/small group of sources) and regional haze (i.e., widespread haze from a multitude of

sources which impairs visibility in every direction over a large area).

(b) Applicability. (1) General Applicability. The provisions of this subpart pertaining to implementation plan requirements for assuring reasonable progress in preventing any future and remedying any existing visibility impairment are applicable to:

* * * * *

(2) The provisions of this supbart pertaining to implemenation plans to address reasonably attributable visibility impairment are applicable to the following States:

* * * * *

(3) The provisions of this subpart pertaining to implementation plans to address regional haze visibility impairment are applicable to all States as defined in section 302(d) of the Clean Air Act except Guam, Puerto Rico, American Samoa, and the Northern Mariana Islands.

3. Section 51.301 is amended as follows:

a. Adding the words “(or the Secretary’s designee)” after the word “area” to paragraph (g);

b. Replacing “§ 51.24" with “§ 51.166" in paragraph (p);

c. Adding the words “light extinction,” after the phrase “in terms of” in paragraph (q);

d. Adding the words “light extinction,” to the beginning of the parenthetical “(visual range, contrast, coloration)” in paragraph (x);

e. Adding new paragraphs (z) through (cc).

§51.301 Definitions.

* * * * *

(z) *Reasonable progress target* means for the purposes of addressing regional haze visibility impairment: an improvement in the average of the twenty percent most impaired days each year, equivalent to an improvement (decrease) of [Option A: 1.0 deciview per 10 years; Option B: 1.0 deciview in 15 years], and no degradation (less than 0.1 deciview increase) in the average of the twenty percent least impaired days each year.

(aa) *Regional haze visibility impairment* means any humanly perceptible change in visibility (light extinction, visual range, contrast, coloration) from that which would have existed under natural conditions that is caused predominantly by a combination of many sources, over a wide geographic area. Such sources include, but are not limited to, major and minor stationary sources, mobile sources, area sources, fugitive emissions, and forestry and agricultural practices.

(bb) *deciview* (*dv*) means the metric, based on light extinction, used for an atmospheric haze index, such that

uniform changes in haziness correspond to the same metric increment across the entire range from pristine to highly impaired haze conditions. Deciview values are calculated by multiplying by 10 the natural logarithm of 1/10th of the atmospheric light extinction coefficient expressed in units of inverse megameters.

(cc) *State* means “State” as defined in section 302(d) of the Clean Air Act.

4. Section 51.302 is amended as follows:

a. Revising paragraph (a)(1);

b. Amending paragraph (a)(2)(i) by replacing “§51.4" with “§51.102";

c. Replacing “§51.4" with “§51.102" in paragraph (a)(2)(ii);

d. Adding the word “revision” to the end of paragraph (a)(2)(ii);

e. Replacing “§51.5" with “§51.103" in paragraph (a)(3);

f. Revising paragraph (b);

g. Adding the words “reasonably attributable” after the word “exists” in paragraph (c)(1);

h. Revising paragraph (c)(2);

i. Adding the phrase “, including a schedule” after the word “measures” in paragraph (c)(2)(i);

j. Adding paragraph (c)(2)(iv);

k. Adding paragraph (c)(2)(v);

l. Adding the words “reasonably attributable” after the phrase “for any existing” in paragraph (c)(4);

m. Adding the words “or revision” after the word “approval” at the end of the sentence in paragraph (c)(4)(iv);

n. Adding a new paragraph (c)(5).

§51.302 Implementation control strategies.

(a) * * *

(1) (i) Each State identified in section 300(b)(2) must have submitted, not later than September 2, 1981, an implementation plan revision meeting the requirements of this subpart pertaining to reasonably attributable visibility impairment.

(ii) Each State identified in section 300(b)(3) must submit, by [insert date one year from promulgation of revisions to this subpart], an implementation plan revision meeting the requirements set forth in this subpart addressing regional haze visibility impairment, including provisions for submittal of future implementation plan revisions in accordance with section 306(c), with the exception of requirements related to reasonably attributable visibility impairment in paragraphs (c)(2)(iii) and (c)(4) of this section, section 304 and section 305(a).

* * * * *

(b) *State and Federal Land Manager Coordination*. (1) The State must identify to the Federal Land Managers, in writing and by [insert date 30 days from the date of promulgation of the revisions to these regulations], the title of the official to which the Federal Land Manager of any mandatory Class I Federal area can submit a recommendation on the implementation of this subpart including but not limited to:

(i) Identification of reasonably attributable and regional haze visibility impairment in any mandatory Class I Federal area(s),

(ii) Identification of elements for inclusion in the visibility monitoring strategy required by section 305, and

(iii) Identification of elements for inclusion in the long-term strategy and its periodic revisions required by section 306.

(2) The State must provide opportunity for consultation, in person and at least 60 days prior to holding any public comment on proposed implementation plan revisions, with the Federal Land Manager on the proposed SIP revisions required by this subpart. This consultation must include the opportunity for the affected Federal Land Managers to discuss their:

(i) Recommendations on the methods for estimating natural conditions and levels of impairment of visibility in

any mandatory Class I Federal area, and

(ii) Recommendations on the development and implementation of the long-term strategy.

(3) The plan or plan revisions must provide procedures for continuing consultation between the State and the Federal Land Manager on the implementation of the visibility protection program required by this subpart.

(c) *General Plan Requirements*.

* * * * *

(2) The implementation plan must contain the following to address reasonably attributable and regional haze visibility impairment:

* * * * *

(iv) A monitoring strategy as required in section 305.

(v) A requirement for revision of the plan, including revisions to the monitoring strategy required in section 305 and the long-term strategy required in section 306, no later than four years from the date of the plan revision required in paragraph (a)(1)(ii) of this section, and no later than every 3 years thereafter.

* * * * *

(5) *Plan revisions for regional haze visibility impairment*. The implementation plan due pursuant to paragraph (a)(1)(ii) of this section by [insert date one year from the date of the FEDERAL REGISTER publication of

the final rule] must contain:

(i) A list of existing stationary facilities in the State, and a plan and schedule for evaluating, by [insert date 3 years from the date of FEDERAL REGISTER publication of the final rule], the best available retrofit technology and corresponding potential emission reductions for those existing stationary facilities the State determines may reasonably be anticipated to contribute to regional haze visibility impairment in any mandatory Class I Federal area located within or outside the State.

(ii) Revisions as necessary for the State to meet the requirements of section 110(a)(2) of the Clean Air Act as they pertain to implementation of measures to address regional haze visibility impairment.

5. Section 51.305 is amended as follows:

a. Replace the words “The State” new introductory language in paragraph (a);

b. Reordering existing paragraph (b) as paragraph (c);

c. Adding new paragraph (b).

§51.305 Monitoring.

(a) For the purposes of addressing reasonably attributable visibility impairment, each State containing a mandatory Class I Federal area where visibility has been identified as an important value (i.e., each State

identified in section 300(b)(2))

* * *

(b) For the purposes of addressing regional haze visibility impairment, the State must include in the plan required under section 302(a)(1)(ii) a monitoring strategy for characterizing regional haze visibility impairment that is representative of all mandatory Class I Federal areas within the State. The strategy must be revised no later than four years from the date of the plan revision required in section 302(a)(1)(ii), and no later than every three years thereafter. The strategy must be coordinated as appropriate with Federal Land Managers, other States, and EPA, and must take into account such guidance as is provided by the Agency.

(1) The plan must provide for establishment, within 12 months, of any additional monitoring sites needed to assess whether reasonable progress targets are being achieved for all mandatory Class I Federal areas within the State.

(2) The plan must include a requirement to assess the relative contribution to regional haze visibility impairment at each mandatory Class I Federal area in the State by emissions from within and outside the State.

(3) A State required to submit a plan under section 302(a)(1)(ii) and having no mandatory Class I Federal areas must include in its plan procedures by which monitoring data

will be used to determine the contribution of emissions from within the State to regional haze visibility impairment in any mandatory Class I Federal area.

(4) The plan must provide for the reporting of all visibility monitoring data to EPA at least annually for each mandatory Class I Federal area in the State having such monitoring. The State should follow reporting procedures found in applicable EPA guidance. To the extent possible, reporting of visibility monitoring data shall be accomplished through electronic data transfer techniques.

* * * * *

6. Section 51.306 is amended as follows:

a. Adding introductory language to paragraph (a);

b. Revising paragraph (a)(1);

c. Revising paragraph (c);

d. Revising paragraph (c)(1);

e. Revising paragraph (c)(2);

f. Revising paragraph (c)(4);

g. Redesignating paragraphs (d) through (g) as new paragraphs (e) through (h);

h. Adding new paragraph (d);

i. Amending the newly redesignated paragraph (e) by adding the words “on reasonably attributable impairment and regional haze impairment” after the word “impacts” in the first sentence, by replacing “§51.24" with “§51.166", and

by replacing “§51.18" with “§51.165";

j. Adding a new paragraph (f)(7);

k. Revising the newly redesignated paragraph (g).

§51.306 Long-term strategy.

(a) For the purposes of addressing reasonably attributable visibility impairment and regional haze visibility impairment:

(1) Each plan required under section 302(a)(1)(i) and (ii) must include a long-term (10-15 years) strategy for making reasonable progress toward the national goal specified in section 300(a). This strategy must cover any existing reasonably attributable visibility impairment the Federal Land Manager certifies to the State at least 6 months prior to plan submission, or 6 months prior to the due date for subsequent long-term strategy revisions as required by this section, unless the State determines that this impairment is not reasonably attributable to a single source or small group of sources. Any impairment determined by the State not to be reasonably attributable impairment must be addressed as regional haze impairment according to the provisions in this section. The long-term strategy must address any integral vista which the Federal Land Manager has adopted in accordance with section 304.

* * * * *

(c) The plan must provide for periodic revision of the

long-term strategy no later than four years from the date of the plan revision required in 302(a)(1)(ii), and no later than every three years thereafter. This process for developing the periodic plan revision must include consultation with the appropriate Federal Land Managers, and a State report to the public and the Administrator on progress toward the national goal, including:

(1) The progress achieved in remedying existing impairment of visibility in any mandatory Class I Federal area, including an evaluation of whether the reasonable progress target was achieved for each mandatory Class I Federal area addressed by the plan since the last plan revision;

(2) The ability of the long-term strategy to prevent future impairment of visibility in any mandatory Class I Federal area, including an evaluation of whether the reasonable progress target will be achieved for each mandatory Class I Federal area addressed by the plan until the next plan revision;

* * * * *

(4) Additional measures, including the need for SIP revisions, that may be necessary to assure reasonable progress toward the national goal and achievement of the reasonable progress target for any mandatory Class I Federal area;

* * * * *

(d) *Regional haze long-term strategy*. The plan required under section 302(a)(1)(ii) must include a long-term strategy that addresses regional haze visibility impairment for each mandatory Class I Federal area within the State and for each mandatory Class I Federal area located outside the State which may be affected by emissions within the State, including provisions requiring the following:

(1) Not later than [insert date 12 months from the date of FEDERAL REGISTER publication of final rules] the State, in consultation with the appropriate Federal Land Managers, must define the procedure to be used for estimating the visibility under natural conditions expressed in deciviews, in each mandatory Class I Federal area, for the average of the twenty percent most impaired days and for the average of the twenty percent least impaired days for a representative year. In the long-term strategy revision due after determination of the procedure, the State must complete the procedure and establish the natural conditions estimate. For each long-term strategy revision due after establishment of the natural conditions estimate, the State shall consider, in consultation with the Federal Land Manager, any new data since the last long-term strategy revision that would alter the established estimate of

natural conditions and propose appropriate changes as part of the plan revision.

(2) Not later than [insert date 12 months from the date of FEDERAL REGISTER publication of the final rules], the State, in consultation with the appropriate Federal Land Managers, must determine for each mandatory Class I Federal area a procedure for establishing current visibility conditions expressed in deciviews, for the average of twenty percent most impaired days each year, and for the average of the twenty percent least impaired days each year using the existing visibility monitoring network taking into account the monitoring techniques described in EPA guidance. For mandatory Class I Federal areas without representative data, the plan shall identify procedures to be followed to establish current visibility conditions not later than [insert date 5 years from Federal Register publication of final rules].

(3) No later than [insert date 5 years from the date of FEDERAL REGISTER publication of final rules] and as part of each long-term strategy revision due thereafter, the State must:

(i) identify visibility under representative natural conditions for the average of the twenty percent most and least impaired days for each mandatory Class I Federal area;

(ii) for any mandatory Class I Federal area where

current conditions for the average of 20 percent most impaired or 20 percent least impaired days exceed natural background by one deciview or more, include, in the plan, emission management strategies to meet the reasonable progress target for the period covered by the long-term (10-15 years) strategy. At a minimum, these emission management strategies must include:

(A) Provisions to address the BART requirement for those existing stationary facilities determined to be causing or contributing to regional haze visibility impairment, in accordance with section 302(c)(4)(ii)-(v).

(B) Other measures necessary to obtain the portion of emission reductions from sources located within the State, developed based upon all available information, to achieve the reasonable progress target for each mandatory Class I Federal area in the State or affected by emissions from the State. These measures should be consistent with strategies developed in conjunction with other States through regional planning processes to address related air quality issues and clearly identify the emissions changes expected to occur that will produce the expected improvement in visibility. The portion of emissions contribution being addressed by a State's plan revision and the technical basis for the apportionment should be clearly specified.

(4) States not achieving the reasonable progress target

for any mandatory Class I Federal area over the three year time period since establishment of the strategy or the prior plan revision (i.e., State more than 10 percent deficient in meeting the reasonable progress target for either the most or least impaired days) must provide in the plan revision a review of emissions reduction estimates relied on in the development of the prior long-term strategy revision. If expected emissions reductions occurred, then the State must at a minimum provide an assessment of meteorological conditions, completeness of emissions sources subject to strategies, and other factors that likely influenced the relationship between emissions and visibility conditions. If expected emissions reductions were not achieved, the State shall revise emissions management strategies as appropriate to achieve the presumptive reasonable progress target.

(5) For establishment of an alternate reasonable progress target for a mandatory Class I Federal area, the State must provide a justification for the alternate target demonstrated to the satisfaction of EPA. Any justification for an alternate reasonable progress target must address the following factors: the availability of source control technology, the costs of compliance with the reasonable progress target, the energy and non-air quality environmental impacts of compliance, the existing pollution

control measures in use at sources, the remaining useful life of sources, the degree of improvement of visibility which may reasonably be anticipated to result from application of control technologies or other measures. In no event shall an alternate progress target allow visibility to degrade over the planning period covered. The State shall consult with the Federal Land Managers and all other States the emissions from which may reasonably be anticipated to cause or contribute to visibility impairment in the affected mandatory Class I Federal area in considering development of an alternate target.

(6) States preparing nonattainment plans for fine particulate matter ($PM_{2.5}$) may submit the plan requirements under paragraph (d)(3) by but no later than the required date for submittal of the State's $PM_{2.5}$ attainment control strategy plan.

* * * * *

(f) * * *

(7) The anticipated net effect on visibility due to projected changes in point, area, and mobile source emissions over the next 10-15 years.

(g) The plan must explain why the factors in paragraph (f) above and other reasonable measures were or were not evaluated as part of the long-term strategy.

* * * * *

8. Section 51.307 is amended as follows:

a. Replacing “§51.24" with “§51.166" in paragraph (a);

b. Replacing “§51.24" with “§51.166" in paragraph (a)(2);

c. Replacing “§51.24(o)” with “§51.166(o)" in paragraph (c).