

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 50

[AD FRL-3141-9(b)]

Air Programs; Review of the National Secondary Ambient Air Quality Standards for Particulate Matter

AGENCY: Environmental Protection Agency.

ACTION: Advance notice of proposed rulemaking.

SUMMARY: The Environmental Protection Agency is soliciting public comment regarding the development of a new secondary national ambient air quality standard (NAAQS) for fine particles (those particles less than 2.5 micrometers (μm) in aerodynamic diameter). This action represents a continuation of the review process for the secondary standards for particulate matter discussed by the Agency on March 20, 1984 (49 FR 10408). The principal welfare effect to be addressed by such a standard is impairment of visibility.

DATE: Written comments pertaining to the issues raised in this notice must be received by September 29, 1987.

ADDRESSES: Submit all comments (duplicate copies are preferred) to: Central Docket Section (A-130), Environmental Protection Agency, Attn: Docket No. A-86-19, 401 M Street SW., Washington, DC 20460. This docket is located in the Central Docket Section at the U.S. Environmental Protection Agency, South Conference Center, Room 4, 401 M Street SW., Washington, DC. The docket may be inspected between 8:00 a.m. and 3:00 p.m. on weekdays. A reasonable fee may be charged for copying. For the availability of related information, see **SUPPLEMENTARY INFORMATION.**

FOR FURTHER INFORMATION CONTACT: Mr. John Haines, Strategies and Air Standards Division (MD-12), U.S. Environmental Protection Agency, Research Triangle Park, N.C. 27711, telephone (919) 541-5531 (FTS 629-5531).

SUPPLEMENTARY INFORMATION:

Availability of Related Information

The revised criteria document, Air Quality Criteria for Particulate Matter and Sulfur Oxides (three volumes, EPA-600/8-82-029af-cf, December, 1982; Volume I NTIS #PB-84-120401, \$24.95 paper copy and \$6.50 microfiche; Volume II NTIS #PB-84-120419, \$48.95 paper copy and \$6.50 microfiche; Volume III NTIS #PB-84-120427, \$48.95 paper copy and \$13.50 microfiche) and

the final revised staff paper, Review of the National Ambient Air Quality Standards for Particulate Matter: Assessment of Scientific and Technical Information-OAQPS Staff Paper (EPA-450/5-82-001, January, 1982; NTIS #PB-177874, \$24.95 paper copy and \$6.50 microfiche), are available from: U.S. Department of Commerce, National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161 (add \$3.00 handling charge per order). A limited number of copies of other documents generated in connection with this review, such as the Visibility Task Force report, can be obtained from: U.S. Environmental Protection Agency Library (MD-35), Research Triangle Park, N.C. 27711, telephone (919) 541-2777 (FTS 629-2777).

Background

On March 20, 1984 (49 FR 10408), the Environmental Protection Agency proposed revisions to the NAAQS for particulate matter under section 109 of the Clean Air Act, 42 USC. 7409. In a separate notice in today's Federal Register EPA is promulgating final revisions. The revised primary (health) and secondary (welfare) standards are identical and are expressed in terms of an indicator, PM_{10} , that includes only particles less than a nominal 10 μm in diameter.

Section 109(b)(2) of the Clean Air Act, 42 U.S.C. 7409(b)(2), requires that secondary ambient air quality standards specify a level of air quality requisite to "protect the public welfare from any known or anticipated adverse effects" arising from an air pollutant. In the process of reviewing and revising the particulate matter standards, the Agency considered the need for secondary standards to protect the public welfare against the effects of particulate matter on visibility and climate. These effects were found to be most strongly related to regional-scale fine particle levels¹ that result in part from regional sulfur oxide emissions (EPA, 1982b, Friedlander, 1982). For this reason, options for managing regional visibility impairment by fine particles overlap with options for managing the acidic deposition phenomenon. In light of this, EPA deferred a decision on a possible fine particle standard to permit an increased opportunity for developing compatible strategies for these related regional air quality problems (49 FR 10419; March 20, 1984). In announcing this deferral, the Agency also indicated its intent to examine the visibility/fine particle issue, including its relation to

¹ Particles less than a nominal 2.5 micrometers in aerodynamic diameter, or $\text{PM}_{2.5}$.

acid deposition control strategies, and to solicit public comment regarding a possible fine particle standard.

EPA charged an Interagency Task Force with conducting this examination as part of an ongoing evaluation of visibility strategies. The results of the Task Force's effort are contained in a report, "Developing Long-Term Strategies for Regional Haze: Findings and Recommendations of the Visibility Task Force," which is available at the address listed above. In the process of producing this report, the task force commissioned analyses that projected emissions, pollutant concentrations, and visibility for several scenarios. The task force received a number of public comments, including reviews of the draft analyses, recommendations on alternative approaches, and separate technical assessments of relationships between visibility and ambient particulate matter.

The Task Force recommended further consideration of a fine particle standard, but both the Task Force and the commenters raised a number of scientific, analytic, policy, and other questions associated with the development of such a standard. The Agency is hereby soliciting public comment on these and other issues relevant to the possible development of a fine particle standard and is today announcing the establishment of a standards review docket (No. A-86-19) for this purpose. Comments and other materials submitted to the Visibility Task Force have been placed in this docket. Materials from the earlier particulate matter standards review (Docket No. A-83-48) have been incorporated by reference. In order to permit the review and development process to proceed in a timely manner, written comments on these issues should be submitted to the Docket no later than September 29, 1987.

Major Issues

The 1982 staff assessment of the scientific and technical information on visibility and fine particles (EPA, 1982), and the more recent findings of the Interagency Task Force Assessment (EPA, 1985) identified a number of important issues to be addressed in considering a possible fine particle standard. The most important issues include the following.

1. Basis for Determining Appropriate Level of Protection

A. Regional Character of Visibility

A major difficulty in setting a national standard to protect visibility is evidence

that both the extent of visibility impairment and the value people place on visibility vary widely with affected populations, region of the country, and settings within each region. A single national air quality standard might not reasonably or effectively address all facets of the visibility problem. In particular, a national standard set at a level to protect current excellent visibility found in pristine areas of the western U.S. might require particle levels lower than natural background in the East. Because other Clean Air Act mechanisms² provide means for protecting visibility in non-urban areas of the West, EPA staff and the Interagency Task Force have recommended that a national standard establish visibility goals for those regions in the East affected by regional haze of multistate origin and those major western urban centers affected by haze predominantly of local origin. EPA solicits comment on the appropriateness of such an overall focus for standard setting.

B. Judgments on Adverse Effects

Section 109 of the Act requires that secondary NAAQS specify a level of air quality "requisite to protect the public welfare. . . ." Determining what level of visibility protection is requisite to protect the public welfare is quite difficult, and is complicated by intra-regional variability, by uncertainties in both the value and perception associated with visibility improvements or decrements, and by uncertainties in the relation of current or projected impairment to natural background. Recent information on these issues is summarized in the Visibility Task Force Report (EPA, 1985).

Alternative approaches that have been advanced for setting a visibility protection standard include:

(i) Setting the standard at a level that would ensure visibility is not perceptibly degraded from estimated natural background conditions.

(ii) Determining the level through a comparison of benefits of visibility and other environmental improvements with the costs of control.

(iii) Setting the standard at a level that would maintain current conditions.

The Agency has already received a number of comments relevant to the second alternative, that of considering costs as one of the factors to be examined in setting secondary standards, in response to a request made in conjunction with the proposed NAAQS for particulate matter (49 FR 10408). In that notice, EPA details the reasons why it may be appropriate to consider costs in secondary standards (49 FR 10417-10418). Based on that rationale and the comments received to date, the Administrator intends to give serious consideration to this possibility in the process of reaching a decision on a secondary standard for fine particles. Accordingly, EPA is exploring alternative approaches and techniques in this area. The Agency encourages full public comment on the desirability and appropriateness of considering costs in secondary standards, as well as on the particular approaches listed above, and on any alternatives. EPA also solicits public comment on the adequacy of the current scientific and technical bases for applying these approaches to setting a fine particle standard.

2. Pollutant-Visibility and Source-Receptor Relationships

Staff recommendations for consideration of a fine particle standard were based on the documented quantitative relationships between ambient particulate matter and visibility summarized in Chapter 9 of the criteria document (EPA, 1982a) and in Appendix C of the staff paper (EPA, 1982b). A number of uncertainties exist in these relationships of potential importance in determining both the levels and measurement principles to be used in the appropriate standard. Even more uncertainties exist in characterizing and predicting relationships between emissions and ambient concentrations of important components of fine particles. A comprehensive summary of recent information on these issues was submitted by the Utility Air Regulatory Group (UARG) in a report entitled "Assessment of the Technical Basis Regarding Regional Haze and Visibility Impairment," a copy of which has been placed in the Docket.

EPA solicits comments on the implications of these uncertainties for EPA's ability to set, and the states' ability to implement, ambient standards and on the extent to which the UARG report accurately reflects the latest scientific information in these areas.

3. Timing With Respect to Related Strategies

As noted above, a decision on a visibility-based fine particle standard was deferred to provide adequate time for consideration of the compatibility of, or potential conflict between, additional sulfur control programs initiated for the management of visibility and those initiated for the management of acid deposition. A decision on the need for additional emission controls for acid deposition has been deferred because of a lack of adequate scientific understanding. Scientific research is currently underway which should adequately address these uncertainties. However, the general direction or timing of an acid deposition control decision cannot be predicted prior to reviewing the results of this research now in progress.

Because of the time required to fully assess the scientific information, to establish a new secondary standard for particulate matter to protect visibility, and to develop and approve State implementation plans under section 110 of the Clean Air Act, it could take a number of years before actual implementation of control strategies begins. Given the uncertainty in the timing of an acid deposition control decision, it may be prudent to consider now the development of a secondary fine particulate standard for the purposes of protecting and maintaining visibility. It is possible that most of the potential conflicts or inefficiencies which might arise between the two programs can be adequately addressed during their implementation phases. EPA solicits public comment on the desirability of proceeding with this approach.

List of Subjects in 40 CFR Part 50

Intergovernmental relations, Air pollution control, Carbon monoxide, Ozone, Sulfur oxides, Particulate matter, Nitrogen dioxide, Lead.

Dated: June 2, 1987.

Lee M. Thomas,
Administrator.

[FR Doc. 87-13708 Filed 6-30-87; 8:45 am]

BILLING CODE 6560-50-M

² Section 169A of the Act establishes a national goal of protecting visibility in mandatory Federal Class I areas (certain national parks, and wilderness areas). Section 165(d) (Prevention of Significant Deterioration) provides for consideration of visibility impairment in siting new sources near such areas. The comparatively high density and distribution of Class I areas in the west led to the suggestion that use of these mechanisms could protect visibility in the west generally. Conversely, the sparsity of Class I areas in the east led the task force to recommend an ambient standard as a more appropriate approach for dealing with regional haze in the east.