

STATE IMPLEMENTATION PLAN REVISIONS FOR
VISIBILITY PROTECTION IN CLASS I AREAS
PHASE I

A. Introduction.

Section 169A of the Federal Clean Air Act (FCAA) requires visibility protection for all Class I federal areas where visibility has been determined to be of significant aesthetic value. Mandatory Class I areas include all international parks and certain national parks and wilderness areas. Big Bend National Park and Guadalupe Mountains National Park are the two Class I areas in Texas. The stated policy and purpose of the Texas Clean Air Act (TCAA) is to safeguard the air resources of the state, "including the esthetic enjoyment of the air resources by the people and the maintenance of adequate visibility." The Texas Air Control Board (TACB), therefore, considers significant visibility impairment within a national park to constitute a condition of air pollution, as defined in the TCAA, which interferes with the normal use and enjoyment of the property for its intended purpose as a recognized national recreational area.

The U. S. Environmental Protection Agency (EPA) published regulations in the December 2, 1980 Federal Register (Appendix A) which required states to develop programs to assure reasonable progress toward meeting the national goal of preventing any future and remedying any existing man-made visibility impairment in mandatory Class I areas. Phase I visibility State Implementation Plan (SIP) revisions pertain to visibility impairment attributable to single sources or small groups of sources. EPA has not yet published regulations for Phase II visibility SIP revisions which will require states to develop

programs to address visibility impairment from regional haze and urban plumes.

States were to submit first phase SIP revisions which addressed the concern of impairment due to attributable sources by September 2, 1981. However, the federal visibility regulations were challenged by numerous parties and few states responded by that date pending the outcome of that judicial review. In December, 1982, the Environmental Defense Fund filed suit against EPA for failure to promulgate visibility SIP's for those states which had not submitted approvable revisions by the initial deadline. In an agreed settlement to this litigation (Appendix A), EPA was to require states to submit visibility SIP revisions in accordance with a revised two-part schedule. Additionally, EPA was required to promulgate federal SIP revisions for portions of the visibility protection requirements which were not submitted by the states in accordance with the new deadlines.

The new schedule required states to submit Part 1 (of Phase I) of the visibility SIP revisions to EPA by May, 1985. These revisions were to address the new source review provisions of 40 CFR 51.307 and the visibility monitoring provisions of 40 CFR 51.305.

On October 23, 1984, EPA determined that the Texas SIP was inadequate and proposed promulgation of a federal visibility plan to satisfy Part 1 requirements. In the Federal Register notice describing these proposals, EPA acknowledged that a federal Prevention of Significant Deterioration (PSD) program administered by EPA or the state would provide the necessary visibility new source review required for Class I areas located in attainment areas. The TACB has been delegated the technical review authority for the PSD program in Texas and is seeking full permitting delegation.

Furthermore, amendments to the federal PSD regulations were published by EPA on July 12, 1985 which describe additional procedures and criteria for visibility review of new sources and included a new requirement for state consultation with the Federal Land Manager (FLM) regarding potentially affected Class I areas. The TACB adopted the amended PSD regulations by reference into TACB Regulation VI, Control of Air Pollution by Permits for New Construction or Modification. These revisions were submitted to EPA by the Governor of Texas on December 11, 1985. EPA approval of these Regulation VI changes and resolution of several PSD modeling questions will result in full delegation of the PSD program to Texas. Until full delegation is granted, the TACB will continue to conduct the technical review of new sources in accordance with the amended federal visibility provisions of the PSD program.

In the October, 1984 Federal Register notice, EPA also proposed creation of a national visibility monitoring network for background data collection to be coordinated with programs already implemented by the FLM or states. Since the U. S. National Park Service (NPS) operates extensive visibility monitoring in both Class I areas in Texas, the TACB elected not to augment the network. Therefore, on July 12, 1985, EPA promulgated a national visibility network utilizing existing NPS monitors to determine visibility impairment in Texas' Class I areas.

Part 2 (of Phase I) of the visibility SIP revisions was initially scheduled to be submitted to EPA by December, 1986. This deadline was extended by the courts in a July 11, 1986 consent decree to allow EPA sufficient time to provide adequate guidance to the states on what should be included in this revision. The revised schedule requires states to submit SIP revisions by August 31, 1987 to avoid promulgation of Federal Implementation Plans.

B. General.

The Part 2 visibility SIP revisions must identify any existing visibility impairment in Class I areas, provide for continued consultation with the FLM regarding future visibility impairment, address the implementation of control strategies pursuant to 40 CFR 51.302, and consider long-term strategies under 40 CFR 51.306. These revisions are to remedy any identified existing visibility impairment and prevent future visibility impairment in the Class I areas and designated integral vistas which can be attributed to specific single sources or small groups of sources. Visibility impairment of this type is referred to as "plume blight." In addition, these revisions must provide for periodic reporting to EPA to document changes in visibility conditions in the Class I areas; information regarding newly identified sources, if any, which are affecting visibility impairment; and revisions to programs and regulations which address visibility protection.

1. Existing Visibility Impairment.

EPA guidelines provide the designated FLM with the opportunity to certify to a state that visibility impairment exists within a Class I area and to make recommendations regarding the development of a long-term strategy. The designated FLM for both Class I areas in Texas is the United States Secretary of the Interior with authority delegated to the Assistant Secretary for Fish and Wildlife and Parks. The TACB officially requested information from the authorized FLM regarding the assessment of visibility impairment resulting from attributable sources, including the nature and degree of the impairment, and the identification of specific sources of pollutant emissions which may be adversely affecting visibility. The NPS, acting on behalf of the FLM, did not identify any impairment caused by a single source or small group of sources in

Texas. However, NPS has provided the TACB with data from visibility and atmospheric monitoring, dispersion and receptor modeling, and personal observations which indicate that visibility impairment due to regional haze does exist in both the Class I areas in Texas.

According to NPS information, periods of reduced visual range in the Texas parks closely correlate with elevated concentrations of fine sulfur particulates, primarily man-made sulfates, measured at park monitors. Sulfates are formed in the atmosphere from sulfur dioxide emitted from industrial sources such as large combustion units, petroleum production and refining, petrochemical processes, and metal smelting operations. The NPS staff has performed computer modeling and statistical analyses of wind trajectories and fine sulfate particulate monitoring data throughout the southwest region of the United States to determine the most likely sources of the observed visibility impairment. This analysis has isolated several geographical regions which have industrial sources that may contribute to ambient sulfate levels and, therefore, reduced visual range within the Class I areas of Texas. The two most significant regions appear to be northeastern Mexico around Monterrey and the Texas Gulf Coast. Another area which also appears to influence visibility, not only in the two Texas parks but in other Class I areas in the Southwest, is El Paso, Texas and neighboring Ciudad Juarez, Mexico.

While the general geographic areas and types of industrial sources contributing to visibility impairment have been established, more detailed information is needed regarding the relative portion of the responsible emissions which can be attributed to specific sources, the cost of controls, and the degree of improvement which could be expected from implementing controls. Since the majority of sulfates affecting the

Class I areas appears to be generated from the large, uncontrolled industrial area around Monterrey, Mexico, there is no method of determining if control measures on any or all potential sources of sulfates on the Texas Gulf Coast and in the El Paso area would produce observable improvement in visibility. Until the scientific and technical limitations of visibility monitoring and modeling methods are resolved, the TACB cannot provide the cost-benefit analysis necessary to determine the appropriateness of specific potential control measures.

Visibility impairment due to regional haze and urban plumes will be addressed in the second phase of visibility SIP development. Guidelines for these SIP revisions have not yet been published by EPA. However, the TACB will continue its cooperative effort with the NPS to develop a better understanding of the causes and remedies of regional haze in the national parks and to participate in the promotion of voluntary measures, including international negotiations with Mexico, to reduce the emissions responsible for the elevated levels of sulfate particulates creating the visibility impairment.

2. Federal Land Manager Consultation.

The December 2, 1980 EPA guidelines require states to provide the opportunity for consultation with the appropriate FLM regarding identification of impairment of visibility in Class I areas, identification of integral vistas, identification of elements of a visibility monitoring strategy, and recommendations on the development of a long-term strategy. During the development of Part 1 of the visibility SIP revisions, the TACB established an effective working relationship with the NPS staff, supported by correspondence, meetings, and frequent telephone contacts. This consultation process has continued with the development of the Part 2 SIP revisions. Relevant

technical information and policy determinations regarding existing visibility impairment, monitoring activities, integral vista identification, and new source review procedures have been exchanged. Appendix B includes a listing of the communications between the TACB and NPS to document this consultation.

The TACB will continue to consult with the FLM in the future. Specifically, the TACB will: (1) inform the FLM of additional SIP revisions or regulation changes which may affect any Class I area or any area within 100 kilometers (km) of a Class I area; (2) notify the FLM of pertinent public hearings; (3) notify the FLM of permit applications and provide an opportunity for comment regarding proposed new major sources or modifications within 100 km of any Class I area; (4) respond to information provided by the FLM identifying individual sources of attributable visibility impairment in any Class I area; (5) coordinate with the FLM in the development of the periodic reports required by 40 CFR 51.306; and (6) consider recommendations from FLM regarding any source-specific control plans which may be necessary to remedy the causes of visibility degradation confirmed in the future. In addition, the TACB will continue to consult with the FLM regarding the characterization of visibility impairment due to regional haze including the estimation of the relative contribution of emission sources suspected of increasing sulfate levels which cause significant visibility degradation, the evaluation of potential control measures which may be applied to these suspected sources, and the quantification of the costs and benefits which can reasonably be expected if such controls are implemented.

3. Control Strategies for Existing Sources.

In the December 2, 1980 guidelines, EPA specified procedures for implementation and control strategies which included

identifying and analyzing Best Available Retrofit Technology (BART) for existing sources (40 CFR 51.302), and for qualifying for an exemption from BART controls (40 CFR 51.303). These requirements, however, are only applicable to areas where visibility impairment can be attributed to specific single sources or small groups of sources. The NPS has provided no information which indicates that such impairment currently exists in the two Class I areas in Texas. Therefore, the review and control requirements for BART included in the EPA regulations, as well as other source specific control strategies, or exemptions from BART, are not applicable in Texas and are not required by these SIP revisions. Procedures for consideration of additional requirements which may be needed to control sources of visibility impairment identified by the FLM in the future are addressed in Section 4, Long-Term Strategy.

4. Long-Term Strategy.

EPA guidelines require states to establish a long-term (10-15 years) strategy for making reasonable progress toward meeting the national goal of preventing future and remedying existing Class I area visibility impairment which can be attributed to specific sources. EPA guidelines require the states to consider six issues: (1) ongoing emission reductions; (2) additional emission reductions; (3) construction activities; (4) source retirement and replacement; (5) smoke management techniques; and (6) enforceability of emission limitations. As stated in Section 3, Control Strategies for Existing Sources, the NPS has not identified visibility impairment in any Class I area resulting from attributable sources in Texas. Therefore, the long-term strategy for visibility protection does not require ongoing emission reductions or additional emission reductions from existing sources.

However, the long-term strategy shall require implementation of the following programs to ensure the prevention of future visibility degradation in the Class I areas in Texas.

a. New Source Review Program.

Federal PSD regulations incorporated into TACB Regulation VI, Control of Air Pollution by Permits for New Construction or Modification, require the TACB to evaluate the impact of emissions from any proposed major source or major modification to any existing source within 100 km of a Class I area to determine if visibility impairment may occur and to consult with the FLM regarding this determination and any emission limitation which may be necessary. This program should effectively address major construction activities and source retirement and replacement near Class I areas.

b. Smoke Management Program.

A program shall be established and maintained through consultation with EPA, NPS, and other land management organizations with jurisdiction near the Class I areas to minimize the impact of prescribed burning on visibility conditions. The program shall ensure that:

1) the requirements of TACB Regulation I, Control of Air Pollution from Visible Emissions and Particulate Matter, §111.2, regarding outdoor burning for forest, crop, or range management near recreational areas, are enforced as necessary,

2) area ranchers and landowners are informed of the necessity to conduct prescribed burning near the national parks in accordance with the conditions and restrictions required by TACB Regulation I, and

3) all reports of burning which adversely affects visibility within any Class I area are investigated to determine, if possible, the identity of the individuals conducting or responsible for the burning in order to advise them of the regulatory requirements and/or to initiate enforcement action, as appropriate.

c. Periodic Review and Reporting.

The TACB will conduct a periodic review of the provisions and effectiveness of the long-term strategy and will publish a report every three years summarizing the results of this evaluation. The FLM will be consulted during this review to document changes in the visibility conditions in the Class I areas and to determine additional specific sources, if any, which may be causing visibility impairment. A detailed examination of minor and area sources not included in the PSD permitting program will be conducted in conjunction with this review to determine if additional control measures are needed. This periodic review will address all types of visibility impairment, including regional haze and urban plumes, but may consider additional control requirements only for single sources or small groups of sources identified as causing attributable visibility impairment.

d. Future Control Measures.

If any source is identified in the future as causing significant attributable visibility impairment in a Class I area, the TACB shall:

1) consider all technical information provided by the FLM to document the nature and degree of the visibility impairment;

2) assess appropriate BART requirements which may apply to the suspected source(s);

3) adopt an enforceable Board Order to require the source(s) to submit and follow a specific compliance plan and schedule to ensure implementation of BART sufficient to correct confirmed attributable visibility impairment;

4) consult with the FLM regarding the adequacy of proposed control strategies in remedying observed visibility impairment; and

5) adopt and submit to EPA, after necessary public review, additional control measures and schedules as supplemental revisions to the visibility SIP.

The long-term strategy adequately provides for the prevention of future visibility degradation from attributable sources by application of the new source review requirements of the federal PSD program and by periodic evaluation and control, if necessary, of emissions from other minor and area sources. In addition, mitigation of the affects of prescribed burning in and near the Class I areas is also addressed. All program commitments and emission limitations adopted in accordance with this strategy shall be incorporated as enforceable provisions of the Texas SIP. No control requirements or programs within this strategy address existing impairment since no single source or small group of sources has been documented to be directly affecting visibility in either Class I area in Texas.

5. Integral Vistas.

An integral vista is considered to be a view perceived from within a mandatory Class I area of a specific landmark or

panorama located outside the boundary of the Class I area which has been determined by the FLM to be important to a visitor's visual experience of the area. EPA guidelines provide the FLM with the primary responsibility for identifying these integral vistas and recommending appropriate protection. On October 25, 1985, the Secretary of Interior announced his decision not to identify any integral vistas. The announcement indicated that, while consideration of these vistas was important, their specific identification would not provide significant additional protection and could be perceived as inappropriately emphasizing the importance of selected areas. In addition, the Secretary was concerned about possible adverse reactions from affected states which could hinder the efforts to protect visibility in the Class I areas.

The new source review procedures of the federal PSD program incorporated by reference into TACB regulations require an assessment of visibility impacts of all proposed sources located within 100 km of a Class I area and should provide adequate protection for integral vistas within this range. Other control strategies for the prevention of visibility degradation, such as smoke management measures and the evaluation of minor and area sources during the periodic review of the long-term strategy, should also minimize adverse impacts on important vistas. Therefore, no integral vistas or specific associated control strategies have been identified in this plan. Integral vistas officially designated by the FLM in the future shall be addressed in periodic reports discussed in Section 4, Long-Term Strategy, and appropriate control measures shall be considered, as necessary.