

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF AIR POLLUTION CONTROL

AIR QUALITY PROGRAM POLICIES AND PROCEDURES

TITLE: IMPLEMENTATION OF THE PREVENTION OF SIGNIFICANT DETERIORATION (PSD)
OF AIR QUALITY PROGRAM

NUMBER: AQP-11

EFFECTIVE DATE: January 1, 1993

APPROVED: Wallace N. Davis
Wallace N. Davis
Executive Director

PURPOSE

The purpose of this document is to establish procedures for implementing the prevention of significant deterioration (PSD) of air quality program.

BACKGROUND

A. In order for the Commonwealth to obtain approval of a State Implementation Plan for the Prevention of Significant Deterioration of Air Quality, the State Air Pollution Control Board has determined that policies and procedures are needed for certain aspects of the PSD program not addressed by the Regulations for the Control and Abatement of Air Pollution (VR 120-01) [hereinafter the regulations].

B. The procedures outlined in this document are supplemented by the procedures specified in the following U.S. Environmental Protection Agency (EPA) guideline documents:

1. "New Source Review Workshop Manual: Prevention of Significant Deterioration and Nonattainment Area Permitting," Office of Air Quality Planning and Standards, most recent version.
2. Memorandum of September 10, 1991 from John Calagni, Director, Air Quality Management Division, Office of Air Quality Planning and Standards, to Thomas J. Maslany, Director, Air, Radiation and Toxics Division, EPA Region III, regarding Class I Area Significant Impact Levels.
3. Letter of September 12, 1991 from Thomas J. Maslany, Director, Air, Radiation and Toxics Division, EPA Region III, to Wallace N. Davis, Executive Director, Department of Air Pollution Control, regarding Class I Area Significant Impact Levels.
4. Memorandum of October 19, 1992 from John S. Seitz, Director,

Office of Air Quality Planning and Standards, to EPA Regional Offices, regarding Clarification of Prevention of Significant Deterioration Guidance for Modeling Class I Area Impacts.

In cases where the definitions, standards and other provisions of the above cited documents differ from this document or the regulations, this document and the regulations shall take precedence. Use of procedures not specified in this document is acceptable if approved by the department within the context of the provisions of subsection D below.

C. In order for the Commonwealth to fulfill its obligations under the federal Clean Air Act, some provisions of state regulations are required to be approved by the U. S. Environmental Protection Agency (EPA) and when approved those provisions become federally enforceable.

D. In cases where state regulations specify that procedures or methods shall be approved by, acceptable to or determined by the board or other similar phrasing or specifically provide for decisions to be made by the board or department, it may be necessary to have such actions (approvals, determinations, exemptions, exclusions, or decisions) reviewed and confirmed as acceptable or approved by EPA in order to make them federally enforceable.

E. It has been determined, in accordance with EPA regulations and policy, that this document is to be submitted to EPA and upon approval become part of the State Implementation Plan (SIP). Accordingly, any amendments to this document must be approved through the same administrative process.

GENERAL REFERENCES

- A. Regulations for the Control and Abatement of Air Pollution (VR 120-01, § 120-08-02).
- B. "New Source Review Workshop Manual: Prevention of Significant Deterioration and Nonattainment Area Permitting," Chapter C - The Air Quality Analysis, EPA Office of Air Quality Planning and Standards, October 1990 (draft)

LOCATION OF REFERENCED DOCUMENTS

The documents referenced above and any others that may be referenced throughout this document are available for viewing at the central office of the department and are otherwise available as indicated below:

- A. Regulations for the Control and Abatement of Air Pollution.

The regulations are available for viewing at any regional office of the department and copies are available on request from the central office of the department. A nominal fee may be required.

- B. EPA documents.

Copies of the documents may be obtained, for a nominal fee, from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161; (703) 487-4650.

RECISION

This document supersedes any previously issued documents, except for regulations, relative to this matter.

CONTACT

Chief, Modeling Section, Division of Technical Evaluation, 804-786-7764, may be contacted about any questions or decisions regarding this document.

DEFINITIONS

As used in this document, all terms not defined herein shall have the meaning given them in the regulations, unless otherwise required by context.

"Significant contribution" to a predicted Class I increment violation means a modeled concentration in excess of significant impact levels. If EPA promulgates or requires particular significance levels for Class I areas, those values shall be used to determine significant contributions.

INSTRUCTIONS

I. INCREMENT ALLOCATION.

Increment shall be allocated to permit applicants on a sequential ("first-come, first-served") basis. Increment shall be allocated to an applicant at the time when the board determines the permit application to be complete and shall continue to be allocated to a permit holder so long as the permit remains valid. Increment allocation amounts based on the analysis of the application and other information associated with a particular permit shall not be valid if any of the information that formed the basis for the original analysis is changed. The increment consumed by sources that have valid permits but are not yet operational shall be based upon maximum allowable emissions. After a source becomes operational, the increment consumed by the source shall be determined based on the most recently available actual emissions data. The board shall not recognize any agreement between outside parties to buy or sell increment allocations.

Short-term increment consumptions shall be calculated with the maximum hourly or daily emissions, and annual increment consumption shall be calculated with the average of the most recent two years. Also, the most recent meteorological data determined to be representative by the department shall be used.

Further, increment analysis performed at the time of permitting to ensure that the proposed source or modification would not cause or contribute to an increment violation does not entitle the source to the percentage of the increment resulting from those analyses.

II. INCREMENT CONSUMPTION AND TRACKING.

A. How to Determine Consumption.

1. Within 100 Kilometers of a Class I Area.

An inventory of emissions that have been determined by the board to consume Class I increment will be maintained for each Class I area. For

each Class I area, this inventory will consist, as a minimum, of emissions from facilities within 100 kilometers (or other distance required by EPA) of each Class I area and for which the department has determined the permit application to be complete, including emissions from such facilities within other states.

For areas in which the minor source baseline date has been triggered, the increment consuming inventory shall include actual emission increases from minor sources since the baseline date and actual emission increases resulting from SIP relaxations approved after the baseline date in addition to the emissions from major sources with PSD permits and applications.

Class II increment consumption shall be determined in accordance with reference B cited in the General References section above.

a. Preconstruction/modification.

Any PSD permit applicant proposing to construct or modify a facility in Virginia within 100 kilometers (or other distance required by EPA) of a Class I area shall be required to demonstrate, through air quality modeling, that the emissions increase from the proposed new or modified facility would not cause or make a significant contribution to any predicted violation of allowable increments within the Class I area. Air quality modeling used in such a demonstration or in any analysis designed to assess Class I increment consumption shall be performed according to applicable EPA and board guidance in existence at the time of the analysis. The analysis of increment consumption need not be conducted for pollutants for which PSD review is required but for which there are no increments.

b. Postconstruction/modification.

After a source becomes operational, the increment it consumes shall be determined based on the most recently available year's actual emissions data. The actual emissions data for short-term increment consumption shall be the maximum hourly or daily emissions and annual increment consumption shall be calculated with the annual actual emissions.

2. Beyond 100 Kilometers of a Class I Area.

The board retains the option of including emissions increases or decreases that occur at PSD sources beyond 100 kilometers from a Class I area in the inventory of increment-consuming sources for that Class I area. The board also retains the option of requiring permit applicants proposing to construct or modify sources beyond 100 kilometers of a Class I area to demonstrate that the proposed emissions increase would not cause or make a significant contribution to any predicted violation of allowable increments within the Class I area. These options may be exercised on a case-specific basis if:

a. the demonstration is required by EPA, or

b. the emissions changes in question may, in the judgment of the board, appreciably affect consumption of increment in the Class I area.

3. Increment Expansion.

In order to take credit for a future emissions decrease, any

level less than that described in Section I shall be:

- a. federally and state enforceable, and
- b. occur at either major sources within 100 kilometers (or other distance required by EPA) of a Class I area after the applicable major source baseline date or at minor sources within a jurisdiction that is adjacent to a Class I area after the applicable minor source baseline date for that jurisdiction consistent with § 120-08-02 B, and
- c. may, in the judgment of the board, appreciably affect consumption of increment in the Class I area.

B. How to Track Future Consumption.

An inventory of emissions that have been determined by the board to consume Class I increment shall be maintained for each Class I area in Virginia. For each Class I area, this inventory shall consist of emissions for which complete PSD permit applications exist for facilities within 100 kilometers (or other distance required by EPA) of each Class I area, including such emissions at facilities within other states.

This inventory shall be updated for a given Class I area when a PSD permit application for a source within 100 kilometers (or other distance required by EPA) of that Class I area is received. The inventory shall also be updated periodically on a case-specific basis to include minor source emission changes in jurisdictions adjacent to either Class I area that:

1. occur after the applicable minor source baseline date for the jurisdiction in which the emissions change occurs, and
2. may, in the judgment of the board, appreciably affect increment consumption in the Class I area.

The inventory of Class I increment-consuming sources will be periodically modeled by the Department of Air Pollution Control in order to evaluate the amount of Class I increment that has been consumed. This periodic analysis will be performed according to guidance issued by and using models recommended for this purpose by EPA and the department at the time of the analysis. Because it is the most technically defensible, the most recent meteorological data will be used.

III. INCREMENT PROTECTION.

A. How to Protect Against Possible Violations.

1. Within 100 Kilometers of a Class I Area.

An inventory of emissions that have been determined by the board to consume Class I increment will be maintained for each Class I area. For each Class I area, this inventory will consist, as a minimum, of emissions from facilities within 100 kilometers (or other distance required by EPA) of each Class I area and for which the department has determined the permit application to be complete, including emissions from such facilities within other states.

For areas in which the minor source baseline date has been triggered, the

increment consuming inventory shall include actual emission increases from minor sources since the baseline date and actual emission increases resulting from SIP relaxations approved after the baseline date in addition to the emissions from major sources with PSD permits and applications.

a. Preconstruction/modification.

Any PSD permit applicant proposing to construct or modify a facility in Virginia within 100 kilometers (or other distance required by EPA) of a Class I area shall be required to demonstrate, through air quality modeling, that the emissions increase from the proposed new or modified facility would not cause or make a significant contribution to any predicted violation of allowable increments within the Class I area. Air quality modeling used in such a demonstration or in any analysis designed to assess Class I increment consumption shall be performed according to applicable EPA and board guidance in existence at the time of the analysis. The analysis of increment consumption need not be conducted for pollutants for which PSD review is required but for which there are no increments.

b. Postconstruction/modification.

After a source becomes operational, the increment it consumes shall be determined based on the most recently available year's actual emissions data. The actual emissions data for short-term increment consumption shall be the maximum hourly or daily emissions and annual increment consumption shall be calculated with the annual actual emissions.

2. Beyond 100 Kilometers of a Class I Area.

The board retains the option of including emissions increases or decreases that occur at PSD sources beyond 100 kilometers from a Class I area in the inventory of increment-consuming sources for that Class I area. The board also retains the option of requiring permit applicants proposing to construct or modify sources beyond 100 kilometers of a Class I area to demonstrate that the proposed emissions increase would not cause or make a significant contribution to any predicted violation of allowable increments within the Class I area. These options may be exercised on a case-specific basis if:

a. the demonstration is required by EPA, or

b. the emissions changes in question may, in the judgment of the board, appreciably affect consumption of increment in the Class I area.

3. Additional Steps.

In addition to periodic consumption analysis as described above, the board may also consider taking other actions as deemed appropriate by the board in order to protect the increment against possible exceedances.

B. How to Prevent Increment Violations.

1. Before Issuing a Permit.

If a predicted violation of any Class I increment is predicted through a PSD air quality analysis, it must be determined whether the proposed

emissions increase would make a significant contribution to the violation. As described below, two scenarios are possible.

a. If it is determined, through modeling, that the proposed emissions increase would not cause or make a significant contribution to the predicted violation, the permit may be issued. In this case the board shall, prior to announcement of the public comment period, include with the supporting documentation for the permit analysis a plan to resolve the violation(s). Violations caused or contributed to by sources located outside Virginia will be referred to EPA for resolution; the state(s) in which the source(s) are located will be notified as well.

b. If, however, it is determined through modeling that the proposed emissions increase would make a significant contribution to a predicted violation, a permit shall not be issued until a plan for corrective action has been submitted to and approved by the board and it has been demonstrated to the board's satisfaction through air quality modeling that the action would in fact correct the violation. If the board approves the plan for corrective action, the permit may be issued; however, the proposed emissions increase may not actually occur (i.e., the proposed source may not start operation) until the corrective action has been physically implemented.

2. Other Potential Corrections.

If a violation of any Class I increment is predicted, the following corrective steps will be considered by the board.

a. One or more facilities' operating permits may be issued or revised to reduce the air quality impact. The revisions may include, but are not limited to, methods such as lower allowable emissions rates and raising stack heights (within GEP limits).

b. Offsets from other sources may be required. These offsets may be obtained from sources within in-state PSD or nonattainment areas, or from out of state. Offsets shall be permanent, surplus, quantifiable, and enforceable and shall have the same air quality benefit.

c. Regulatory emission limits may be revised.

d. General emissions caps may be imposed.

e. Out-of-state violations will be referred to EPA.

IV. AIR QUALITY RELATED VALUES

In situations where a Federal Land Manager has determined that a proposed emissions increase subject to PSD regulations would have an adverse impact upon the air quality-related values (AQRVs) of a Class I area, one or both of the following applies:

A. When it has been demonstrated that a proposed emissions increase would not cause or make a significant contribution to a predicted Class I increment violation, the burden of proof shall be on the Federal Land Manager to demonstrate to the permitting authority that the emissions from the source would have an adverse air quality impact on the AQRVs. If the Federal Land Manager can

demonstrate to the satisfaction of the board that the proposed emissions increase would cause an adverse impact upon the Class I area, the permit shall be denied.

B. When it has been demonstrated that a proposed emissions increase would cause or make a significant contribution to a predicted Class I increment violation, the burden of proof shall be on the permit applicant to demonstrate to the Federal Land Manager that the emissions would have no adverse air quality impact on the AQRVs. If the permit applicant can demonstrate to the satisfaction of the Federal Land Manager that the proposed emissions increase would not cause an adverse impact upon the Class I area, the permit may be issued.

V. NOTIFICATIONS

A. The department shall provide the following notifications regarding PSD permit applications:

1. notice by letter of the determination that a permit application is subject to PSD program to the following:

a. persons requesting to be on mailing list established by Department for purposes of notification of PSD permit applications and public comment periods.

b. chief executive of the locality in which source is proposed to be located and all adjacent localities.

c. Federal Land Manager.

d. chief executive of any Planning District Commission containing representatives of the localities cited in subsection A 1 b of this section.

2. notice within 30 days of the public hearing to the following:

a. by letter, any member of the General Assembly representing any of the localities cited in subsection A 1 b of this section.

b. the public at large via a newspaper of general circulation throughout the state.

B. Below is an outline of the procedures for notification to the Federal Land Manager (FLM) and response to adverse impact analysis as provided in § 120-08-02 Q of the regulations. This information is provided for information purposes only and not intended to impose any requirement upon the Board beyond that in the regulations.

1. Advance notification of permit application - to FLM within 30 days of receipt.

2. Permit application - to FLM within 30 days of receipt and 60 days before public hearing.

a. All information relevant to permit application.

b. Analysis of source's impact on visibility.

3. Preliminary determination - to FLM promptly.

Materials used to make determination.

4. Adverse impact analysis by FLM - to state within 30 days of notification.

5. If state agrees, no permit is issued.

6. If state disagrees, public hearing notice must include or give the location of the state's explanation of disagreement.

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