

**COMMONWEALTH OF VIRGINIA
STATE AIR POLLUTION CONTROL BOARD
REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION
(9 VAC 5 CHAPTER 80)**

**REGULATORY ANALYSIS DOCUMENT FOR
PROPOSED REGULATION REVISION YY
CONCERNING**

NEW AND MODIFIED SOURCE REVIEW

SECTIONS AFFECTED

Permits for New and Modified Stationary Sources (9 VAC 5-80-1100 et seq.)
Standards of Performance for Stationary Sources (9 VAC 5-50-250, 9 VAC 5-50-260 and 9 VAC 5-50-395)
General Provisions (9 VAC 5-20-220 and 9 VAC 5-20-230)
Permits - New and Modified Stationary Sources (9 VAC 5-80-10 to be repealed)

STATEMENT OF PURPOSE

The purpose of the regulation is to protect public health, safety and welfare by establishing the procedural and legal basis for the issuance of a new source permit for proposed new or expanded facilities that will (i) enable the agency to conduct a preconstruction review in order to determine compliance with applicable control technology and other standards, (ii) to assess the impact of the emissions from the facility on air quality, and (iii) provide a state and federally enforceable mechanism to enforce permit program requirements. The regulation also provides the basis for the agency's final action (approval or disapproval) on the permit depending upon the results of the preconstruction review.

STATEMENT OF LEGAL AUTHORITY

Section 10.1-1308 of the Virginia Air Pollution Control Law (Title 10.1, Chapter 13 of the Code of Virginia) authorizes the State Air Pollution Control Board to promulgate regulations abating, controlling and prohibiting air pollution in order to protect public health and welfare. Written assurance from the Office of the Attorney General that the State Air Pollution Control Board possesses, and has not exceeded, its statutory authority to promulgate the proposed regulation is attached.

STATEMENT OF STATUTORY MANDATES

The proposed regulation are mandated by federal law or regulation. A succinct statement of the source (including legal citation) and scope of the mandate may be found below. A copy of all cited legal provisions is attached.

Section 110(a) of the Clean Air Act (CAA) mandates that each state adopt and submit to EPA a plan which provides for the implementation, maintenance, and enforcement of each primary and secondary air quality standard within each air quality control region in the state. The state implementation plan shall be adopted only after reasonable public notice is given and public hearings are held. The plan shall include provisions to accomplish, among other tasks, the following:

(1) establish enforceable emission limitations and other control measures as necessary to comply with the provisions of the CAA, including economic incentives such as fees, marketable permits, and auctions of emissions rights;

(2) establish a program for the enforcement of the emission limitations and schedules for compliance; and

(3) establish programs for the regulation and permitting of the modification and construction of any stationary source within the areas covered by the plan to assure the achievement of the ambient air quality standards.

40 CFR Part 51 sets out requirements for the preparation, adoption, and submittal of state implementation plans. These requirements mandate that any such plan shall include several provisions, as summarized below.

Subpart F (Procedural Requirements) specifies definitions of key terms, stipulations and format for plan submission, requirements for public hearings, and conditions for plan revisions and federal approval.

Subpart G (Control Strategy) specifies the description of emissions reductions estimates sufficient to attain and maintain the standards, the description of control measures and schedules for implementation, time periods for demonstrations of the control strategy's adequacy, an emissions inventory, an air quality data summary, data availability, special requirements for lead emissions, stack height provisions, and intermittent control systems.

Subpart I (Review of New Sources and Modifications) specifies legally enforceable procedures, public availability of information on sources, identification of responsible agency, and administrative procedures.

Section 51.160 of Subpart I specifies that the plan must stipulate legally enforceable procedures that enable the permitting agency to determine whether the construction or modification of a facility, building, structure or installation, or combination of these will result in either a violation of any part of a control strategy or interference with attainment or maintenance of a national standard and, if such violation or interference would occur, the means by which the construction or modification can be prevented. The procedures must identify types and sizes of facilities, buildings, structures or installations which will be subject to review and discuss the basis for determining which facilities will be subject to review. The procedures must provide that owners of facilities, buildings, structures or installations must submit information on the nature and amounts of emissions and on the location, construction and operation of the facility. The procedures must ensure that owners comply with applicable control strategies after permit approval. The procedures must discuss air quality data and modeling requirements on which applications must be based.

Section 51.161 of Subpart I specifies that the permitting agency must provide opportunity for public comment on information submitted by owners and on the agency's analysis of the effect of construction or modification on ambient air quality, including the agency's proposed approval or disapproval. Section 51.161 also specifies the

minimum requirements for public notice and comment on this information.

Section 51.162 of Subpart I specifies that the responsible agency must be identified in the plan.

Section 51.163 of Subpart I specifies that the plan must include administrative procedures to be followed in determining whether the construction or modification of a facility, building, structure or installation will violate applicable control strategies or interfere with the attainment or maintenance of a national standard.

Subpart L (Legal Authority) specifies identification of legal authority to implement plans and assignment of legal authority to local agencies.

Section 51.230 of Subpart L specifies that each state implementation plan must show that the state has the legal authority to carry out the plan, including the authority to perform the following actions:

(1) adopt emission standards and limitations and any other measures necessary for the attainment and maintenance of the national ambient air quality standards;

(2) enforce applicable laws, regulations, and standards, and seek injunctive relief;

(3) obtain information necessary to determine whether air pollution sources are in compliance with applicable laws, regulations, and standards, including authority to require recordkeeping and to make inspections and conduct tests of air pollution sources; and

(4) prevent construction, modification, or operation of a facility, building, structure, or installation, or combination thereof, which directly or indirectly results or may result in emissions of any air pollutant at any location which will prevent the attainment or maintenance of a national standard.

Section 51.231 of Subpart L requires the identification of legal authority as follows:

(1) the provisions of law or regulation which the state determines provide the authorities required under § 51.231 must be specifically identified, and copies of such laws or regulations must be submitted with the plan; and

(2) the plan must show that the legal authorities specified in Subpart L are available to the state at the time of submission of the plan.

COMPARISON WITH STATUTORY MANDATES

The proposed regulation does not exceed the specific minimum requirements of any legally binding state or federal mandate.

STATEMENT OF CONCLUSIONS AND NEED

The proposed regulation is essential (i) to protect the health, safety or welfare of citizens or (ii) for the efficient and

economical performance of an important governmental function. The reasoning for this conclusion is set forth below.

Among the primary goals of the Clean Air Act are the attainment and maintenance of the National Ambient Air Quality Standards (NAAQS) and the prevention of significant deterioration (PSD) of air quality in areas cleaner than the NAAQS.

The NAAQS, developed and promulgated by the U.S. Environmental Protection Agency (EPA), establish the maximum limits of pollutants that are permitted in the outside ambient air. EPA requires that each state submit a plan (called a State Implementation Plan or SIP), including any laws and regulations necessary to enforce the plan, showing how the air pollution concentrations will be reduced to levels at or below these standards (i.e., attainment). Once the pollution levels are within the standards, the plan must also demonstrate how the state will maintain the air pollution concentrations at the reduced levels (i.e., maintenance).

A state implementation plan is the key to the air quality programs. The Clean Air Act is specific concerning the elements required for an acceptable SIP. If a state does not prepare such a plan, or EPA does not approve a submitted plan, then EPA itself is empowered to take the necessary actions to attain and maintain the air quality standards - that is, it would have to promulgate and implement an air quality plan for that state. EPA is also, by law, required to impose sanctions in cases where there is no approved plan or the plan is not being implemented, the sanctions consisting of loss of federal funds for highways and other projects and/or more restrictive requirements for new industry. Generally, the plan is revised, as needed, based upon changes in the Federal Clean Air Act and its requirements.

The basic approach to developing a SIP is to examine air quality across the state, delineate areas where air quality needs improvement, determine the degree of improvement necessary, inventory the sources contributing to the problem, develop a control strategy to reduce emissions from contributing sources enough to bring about attainment of the air quality standards, implement the strategy, and take the steps necessary to ensure that the air quality standards are not violated in the future.

The heart of the SIP is the control strategy. The control strategy describes the emission reduction measures to be used by the State to attain the air quality standards. Once the air quality standard is attained, the agency must have a program to continuously monitor air quality to ensure that it meets the standards. The agency must also have a means to monitor compliance by sources, to prevent the construction of a new or modified source if it will cause a violation of the air quality standards, and to take action as necessary to prevent air pollution levels in the air from creating an emergency condition. In addition, development and enforcement of regulations under the SIP must be continually pursued, as well as development of new plan revisions as federal laws and regulations change.

Most of the agency's regulations are designed to provide the means for implementing and enforcing control measures (primarily stationary source and some mobile source) necessary to carry out the SIP. The chief stationary source control measures are to establish emission standards for existing sources and to require a permit for new or modified sources. The new source review permit is the agency's means to limit the amount of pollutant from the source by means of new source performance standards, and in some cases, to determine its siting.

A key strategy for managing the growth of new emissions is the permit program for new and modified stationary

sources. The basic program requires that owners obtain a permit from the agency prior to the construction of a new industrial or commercial facility or the expansion of an existing one. Through preconstruction technology reviews and the issuance of permits, the agency ensures that new or modified facilities progressively minimize their adverse impact upon the air quality. Therefore, the implementation of new and modified source permit program, emission increases from new and expanding stationary sources can be managed so that affected areas can attain and maintain the air quality standards and accommodate growth.

The basic program (in existence since 1972) was later supplemented by mandate of the CAA with requirements that differ according to the facility's potential to emit a specified amount of a specific pollutant and the air quality status of the various areas within the state where the facility is or will be located. Requirements for facilities considered to be major due to their potential to emit a specified pollutant are more stringent than for less polluting facilities. Requirements for major facilities located or locating in those areas which have ambient air quality concentrations that have not been maintained at or below the health-based standard for a pollutant (nonattainment areas) are considerably more stringent than for those areas which have concentrations maintained at or below the standard (prevention of significant deterioration (PSD) areas). Permits issued in nonattainment areas require the facility owner to apply control technology that meets the lowest achievable emission rate and to obtain emission reductions from existing sources in the area such that the reductions offset the increases from the proposed facility by a ratio greater than one for the emissions contributing to the nonattainment situation. Permits issued in PSD areas require the facility owner to employ control technology that is the best available and, in some cases, to monitor ambient air quality at the site where the facility will be located to determine ambient air background levels of the pollutants to be emitted.

The minor new source review (MNSR) program requires permits for new and modified stationary sources that do not qualify either as PSD or nonattainment area major sources. The MNSR program also includes exemption levels for exempting smaller sources from permit requirements even though the exempted sources, in some cases, must still meet any applicable emission standards.

9 VAC 5-80-10 provides a procedural and legal basis for the issuance of MNSR permits for proposed new or expanded facilities that will (i) enable the agency to conduct a preconstruction review in order to determine compliance with applicable control technology and other standards, (ii) to assess the impact of the emissions from the facility on air quality, and (iii) provide a state and federally enforceable mechanism to enforce permit program requirements. The regulation also provides the basis for the agency's final action (approval or disapproval) on the permit depending upon the results of the preconstruction review.

The purpose of the proposal is to change the program from one that focuses on a technology based BACT determination for each emissions unit at a stationary source to one that focuses on the overall air quality impacts of the new source or modification. It allows an owner to submit a permit application for a modification to a stationary source which combines requirements for multiple emissions units into one permit and voluntarily establish a plantwide applicability limit (PAL). It provides a means to make control measures federally and state enforceable without federal review through the use of MNSR permits. It will facilitate emissions trading requirements and will allow an owner of a stationary source or emissions unit to obtain a general permit which establishes source-specific requirements without the need for burdensome case-by-case EPA review. The regulation also allows concurrent construction.

The MNSR program is changed fundamentally in its approach by shifting the focus from control technology requirements for new and modified emissions units to one that focuses on the air quality impacts of new and

modified stationary sources. This shift will bring the MNSR regulation into line with the proposed federal and Virginia major NSR regulations. In these programs overall air quality impacts of the new or modified source, rather than changes to individual emissions units within the source determine the permitting requirements.

A plantwide applicability limit (PAL) is a new concept that is included in this regulation. PAL permitting represents an approach for vastly simplifying Virginia's minor NSR program. A PAL permit would contain one or more emission caps for some or all of the pollutants emitted by the source. As long as the source's emissions remain below the emissions cap(s), the owner can make any changes at the source without having to obtain a minor NSR permit. However, the source remains obligated to meet any applicable NSPS, NESHAP, or MACT requirements. This approach significantly reduces permitting burdens on sources and on the DEQ while assuring that source changes that increase emissions trigger a permit review.

Any application requesting a PAL is subject to specific criteria to meet public participation requirements. The increase flexibility that comes with a PAL will result in quicker and more cost effective reductions that would otherwise not be achieved under the old "command and control" method of environmental compliance.

General permits are technology based permits that establish, for a particular source category, best available control technology (BACT) limits. By issuing a general BACT determination for a specific category of sources through the general permitting process the permitting process is simplified at the regional level and consistency is insured from one region of the state to another. Much of the time delays in back and forth negotiations between staff and the source will be eliminated. If BACT for a particular source category changes, then the limits for the general permit will change as well.

Concurrent construction is allowed, however, the source owned must assume all risk, including financial consequences should he begin construction without a permit.

STATEMENT OF ESTIMATED IMPACT

1. Entities Affected

Any owner who wishes to construct or modify a stationary source. Certain exemptions are provided for the smaller sources covered by the program. Historical data suggests that, statewide, hundreds of minor new source permits are issued annually. Approximately 475 permits were issued in 1994, approximately 347 in 1995, and from January through the end of June, 1996, 153 thus far. Due to all the variables that may impact economic growth in the Commonwealth in the future it is difficult at best to estimate the number of permits that may be issued; however, the number will be less due to the changes being made in the MNSR program. In any case, if historical trends continue, hundreds of sources, annually, will continue to be impacted by the program.

2. Fiscal Impact

a. Costs to Affected Entities

The costs of this regulation for affected entities will depend entirely on the specific

situation for each source. Costs will vary from source to source due to the size and complexity of each source. Costs will also vary from source to source depending on the type of modification(s) or installation of new equipment. Since the permit will contain no expiration date, (except for applications for phased construction) no renewal costs will be involved unless the owner wishes to renegotiate the terms and conditions of the permit.

It is anticipated that the use of both the plantwide applicability limit (PAL) concept and the general permit will reduce the burden and cost for drafting permits. It is also anticipated that the implementation of the PAL will afford more flexibility to the source owner which will result in more cost effective compliance and a quicker reduction in air emissions. As a result of establishing the PAL, incentives now exist for more voluntary reductions in emissions.

For many sources, costs will increase over the years for reasons apart from the minor new source review (MNSR) program. Sources located in areas of high growth will incur costs as a result of changing air quality requirements and the air quality evaluations that result as a part of new source permitting process. These costs will be incurred whether or not the state MNSR program exists.

Due to the variability among the entities affected by this proposed regulation, an estimation of costs is given by a range from small to large or more complex sources or facilities. To estimate the costs to affected entities, the MNSR regulation requirements that will increase costs are listed by category. Each category is then described along with the costs that can be estimated.

- (1) Costs of preparing a permit application and providing data to the agency so that the application can be evaluated.
- (2) Costs of negotiating BACT for new and modified sources.
- (3) Costs of fulfilling any additional requirements:
 - (a) testing
 - (b) monitoring
 - (c) reporting

Category 1. The department's state MNSR permit application parallels the federal requirements for new source review under PSD, which looks at the changes from a source wide perspective to determine applicability. However, unlike PSD the determination of applicability does not look back at historical emissions changes but looks only at the emissions changes directly resultant from the physical or operational change. Filling out the MNSR permit application initially will take considerable time for those existing sources without permits. However, each existing source now reports certain emissions and operational data to the department at specific intervals depending on the size of the source. This data is required to maintain the state's

emissions inventory and to verify compliance with the regulations. For sources with fully permitted facilities, the operating permit application will mean organizing and verifying information already set out in the permits in effect for the source. While this effort may be time-consuming, it probably will not take as much effort as initially developing the data.

The cost to prepare the state operating permit application ranges from \$800 for a small source to \$80,000 for a large source. The cost for an amendment ranges from \$160 for a small source to \$4,200 for a large source. A small source is assumed here to mean one site where one stack from a simple process emits either one or a few pollutants. A large source is assumed here to mean one site where hundreds of stacks emit a multiplicity of pollutants and where the processes creating these emissions are complex.

Category 2. Currently, BACT evaluation must be conducted for an application for an MNSR permit. This requirement can be very time consuming for both the source and the department staff due to the inherent nature of BACT evaluation. The cost of this negotiation varies and is determined by the circumstances of the individual source.

The proposed regulation provides for flexibility for the source to achieve compliance. The owner may opt to have a BACT evaluation, he can request a PAL or a general permit may be appropriate. Requiring controls or practices to reduce emissions as part of the permit for the construction of a new source or modification of an existing source is prudent. Balancing this need with considerations of costs to the regulated community is also a consideration and this added flexibility should assist in reducing the time for issuing a much needed permit.

Category 3. The proposed regulation provides that the department may require as part of a source's MNSR permit conditions that testing, monitoring or reporting be required. These conditions will not be a part of all MNSR permits but most likely will be included when there is no other way to get emissions data or when the source must provide needed data over the operating life of the source. The costs for testing, monitoring, and reporting vary considerably from one source to another and from one pollutant to another. These requirements are not new but are a reaffirmation of authority that exists elsewhere in the regulations. A single stack test for pollutants such as particulate matter, sulfur oxides, or nitrogen dioxide may cost anywhere from \$2,000 to \$10,000 per pollutant depending on the pollutant emitted, stack size, and complexity of the test required. Installing continuous emission monitors for a single point in a facility may cost anywhere from \$25,000 to \$150,000 per pollutant, without a data acquisition system. The cost of additional reporting requirements depends entirely on the specific requirement for the source.

b. Costs to Agency

It is not expected that the regulation will result in any cost to the Department of Environmental Quality beyond that currently in the budget. It is possible, however, that

a work load shift may occur from the permit writers to the inspectors responsible for determining compliance.

c. Source of Agency Funds

The sources of Department funds to carry out this regulation are the general fund and the grant money provided by the U.S. Environmental Protection Agency under Section 105 of the federal Clean Air Act.

d. Benefits

The primary benefits as a result of the changes to this program are: (i) allow stationary sources more flexibility in how they achieve air quality requirements and (ii) permit them to achieve them in the manner most cost-effective to the facility. This will also result in faster compliance with air quality requirements.

e. Small Business Impact

The impact upon facilities that meet the definition of small business provided in § 9-199 of the Code of Virginia is addressed in paragraph 2a above.

STATEMENT OF PROCESS FOR CONSIDERING ALTERNATIVES

As provided in the public participation procedures of the State Air Pollution Control Board, the Department included, in the Notice of Intended Regulatory Action, a description of the Department's alternatives and a request for comments on other alternatives and the costs and benefits of the Department's alternatives or any other alternatives that the commenters provided.

Following the above, alternatives to the proposed regulation were considered by the Department. The Department determined that the first alternative is appropriate, as it is the least burdensome and least intrusive alternative that fully meets the purpose of the regulation. The alternatives considered by the Department are discussed below.

1. Replace the regulation to (i) allow stationary sources more flexibility in how they achieve air quality requirements and (ii) permit them to achieve them in the manner most cost-effective to the facility. This option was selected because it meets the stated purpose of the regulation: to make the provisions of the regulation consistent with current federal requirements and the state objectives for the permit program.
2. Make alternative regulatory changes to those required by the provisions of the law and associated regulations and policies. This option was not selected because the regulation needs to be made consistent with current federal requirements and the state objectives for the permit program.
3. Take no action to replace the regulation and continue to use the regulation in its current state.

This option was not selected because, without change, the regulation would not be consistent with current federal requirements and the state objectives for the permit program.

EVALUATION SCHEDULE AND GOALS

The department will evaluate the regulation for effectiveness and continued need within three years after its effective date.

The specific and measurable goals the proposed regulation is intended to achieve are as follows:

1. To reduce the regulatory burden imposed by the existing requirements for minor new source review on both staff and the regulated community while still providing air quality improvements.
2. To allow the regulated community more flexibility in applying for minor NSR permits.

**COMMONWEALTH OF VIRGINIA
STATE AIR POLLUTION CONTROL BOARD**

**SUMMARY OF
PROPOSED REGULATION REVISION YY
CONCERNING**

**NEW AND MODIFIED SOURCE REVIEW
(9 VAC 5 CHAPTER 80)**

The regulation applies to the construction or reconstruction of new stationary sources or expansions (modifications) to existing ones. Exemptions are provided for smaller facilities. With some exceptions, the owner must obtain a permit from the agency prior to the construction or modification of the source. The owner of the proposed new or modified source must provide information as may be needed to enable the agency to conduct a preconstruction review in order to determine compliance with applicable control technology and other standards and to assess the impact of the emissions from the facility on air quality. The regulation also provides the basis for the agency's final action (approval or disapproval) on the permit depending upon the results of the preconstruction review. The regulation provides a source wide perspective to determine applicability based solely upon the emissions changes directly resultant from the physical or operational change. The regulation provides for the use of a plantwide applicability limit (PAL). Under this concept, a source owner could make physical or operational changes to emission units covered by the PAL without being subject to the major new source permit program as long as the overall emissions did not exceed the PAL. Concurrent construction, that is construction while waiting for the permit to be issued, is allowed in some cases. Under this arrangement the source owner would assume full liability should the permit not be issued. Provisions covering general permits are included. Procedures for making changes to permits are included. The regulation also allows consideration of additional factors for making Best Available Control Technology (BACT) determinations for sources subject to minor new source review.

**COMMONWEALTH OF VIRGINIA
STATE AIR POLLUTION CONTROL BOARD**

**STATEMENT OF LEGAL AUTHORITY FOR
PROPOSED REGULATION REVISION YY
CONCERNING**

**NEW AND MODIFIED SOURCE REVIEW
(9 VAC 5 CHAPTER 80)**

STATEMENT OF LEGAL AUTHORITY

Section 10.1-1308 of the Virginia Air Pollution Control Law (Title 10.1, Chapter 13 of the Code of Virginia) authorizes the State Air Pollution Control Board to promulgate regulations abating, controlling and prohibiting air pollution in order to protect public health and welfare. Written assurance from the Office of the Attorney General that the State Air Pollution Control Board possesses the statutory authority to promulgate the proposed regulation amendments is attached.