



## Proposed Regulation Agency Background Document

<b>Approving authority name</b>	State Air Pollution Control Board
<b>Primary action</b>	9 VAC 5-140
<b>Secondary action(s)</b>	None
<b>Regulation title</b>	Regulation for Emissions Trading
<b>Action title</b>	Clean Air Interstate Rule (Revision E05)
<b>Document preparation date</b>	January 26, 2006

This information is required for executive review and the Virginia Registrar of Regulations, pursuant to the Virginia Administrative Process Act, Executive Orders 21 (2002) and 58 (1999), and the *Virginia Register Form, Style, and Procedure Manual*.

### Brief summary

*Please provide a brief summary of the proposed new regulation, proposed substantive amendments to the existing regulation, or the regulation proposed to be repealed. If applicable, generally describe the existing regulation.*

This regulatory action encompasses the establishment of three new parts to 9 VAC 5-140; each of which is addressed below:

#### **NOx Annual Trading Program (Part II)**

This part establishes a NOx Annual Trading Program which addresses the following substantive provisions: permitting, allowance methodology, monitoring, banking, compliance supplement pool, compliance determination, and opt-in provisions for sources not covered by the regulation. Virginia's NOx annual budgets are 36,074 tons in 2009 through 2014 and 30,062 tons in 2015 and thereafter.

Beginning January 1, 2009, electric generating units with a nameplate capacity greater than 25 MWe will be subject to the provisions of this part. To accommodate the NOx emissions from the affected units, the units are allocated from the budget a specific limited number of allowances (measured in tons per year) during the months of January 1 through December 31, otherwise known as the control period. The NOx allocations are determined through a methodology based upon heat input for existing units and electrical output for new units. January 1, 2006 is the cutoff for determining whether a unit is new or existing. If a unit does not use all of its allowances for a specific control period, those extra tons may be banked for future use or sold. If a unit exceeds the allocated allowances, additional allowances may be purchased or the source may use banked allowances to offset the amount of NOx generated above the allocated allowances. Smaller sources within the affected source categories are allowed to opt-in to the program.

Sources found to be out of compliance will be forced to surrender allowances for the next year on a ratio of 3:1, i.e. for every ton over its allocations, three tons will be forfeited from the next year's allocation.

Emissions will need to be monitored according to 40 CFR Part 75 of the Code of Federal Regulations for all sources subject to the regulation and for any sources wishing to opt-in to the program.

A compliance supplement pool (5,134 tons) is provided for sources that generate early reduction credits or to avoid an "undue risk to the reliability of electricity." The allowances from the pool are valid for only one year (2009) and cannot be banked after that one-year period.

### **NOx Ozone Season Trading Program (Part III)**

This part establishes a NOx Ozone Season Trading Program which addresses the following substantive provisions: permitting, allowance methodology, monitoring, banking, compliance determination, and opt-in provisions for sources not covered by the regulation. Virginia's NOx ozone season budgets for electric generating units are 15,994 tons in 2009 through 2014 and 13,328 tons in 2015 and thereafter. Virginia's NOx ozone season budget for non-electric generating units is 3,840 tons in 2009 and thereafter.

Beginning May 1, 2009, electric generating units with a nameplate capacity greater than 25 MWe and non-electric generating units above 250 mmBtu will be subject to the provisions of this part. To accommodate the NOx emissions from the affected units, the units are allocated from the budget a specific limited number of allowances (measured in tons per season) during the summer months of May 1 through September 30, otherwise known as the control period. The NOx allocations are determined through a methodology based upon heat input for existing units and electrical output for new units. January 1, 2006 is the cutoff for determining whether a unit is new or existing. If a unit does not use all of its allowances for a specific control period, those extra tons may be banked for future use or sold. If a unit exceeds the allocated allowances, additional allowances may be purchased or the source may use banked allowances to offset the amount of NOx generated above the allocated allowances. Smaller sources within the affected source categories are allowed to opt-in to the program.

Sources found to be out of compliance will be forced to surrender allowances for the next year on a ratio of 3:1, i.e. for every ton over its allocations, three tons will be forfeited from the next year's allocation.

Emissions will need to be monitored according to 40 CFR Part 75 of the Code of Federal Regulations for all sources subject to the regulation and for any sources wishing to opt-in to the program.

### **SO<sub>2</sub> Annual Trading Program (Part IV)**

This part establishes a SO<sub>2</sub> Annual Trading Program which addresses the following substantive provisions: permitting, monitoring, banking, compliance determination, and opt-in provisions for sources not covered by the regulation. Virginia's SO<sub>2</sub> annual budgets are 63,478 tons in 2010 through 2014 and 44,435 tons in 2015 and thereafter.

Beginning January 1, 2010, electric generating units with a nameplate capacity greater than 25 MWe will be subject to the provisions of this part. To accommodate the SO<sub>2</sub> emissions from the affected units, the units have been allocated from the budget a specific limited number of allowances (measured in tons per year) during the months of January 1 through December 31, otherwise known as the control period. The SO<sub>2</sub> allocations are carried over from the Acid Rain Program and are valid indefinitely, except the value of the allowances is reduced over time. If a unit does not use all of its allowances for a specific control period, those extra tons may be banked for future use or sold. If a unit exceeds the allocated allowances, additional allowances may be purchased or the source may use banked allowances to offset the amount of SO<sub>2</sub> generated above the allocated allowances. Smaller sources within the affected source categories are allowed to opt-in to the program.

Sources found to be out of compliance will be forced to surrender allowances for the next year on a ratio of 3:1, i.e. for every ton over its allocations, three tons will be forfeited from the next year's allocation.

Emissions will need to be monitored according to 40 CFR Part 75 of the Code of Federal Regulations for all sources subject to the regulation and for any sources wishing to opt-in to the program.

## Legal basis

*Please identify the section number and provide a brief statement relating the content of the statutory authority to the specific regulation proposed. Please state that the Office of the Attorney General has certified that the agency has the statutory authority to promulgate the proposed regulation.*

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. Section 10.1-1322.3 indicates that the Board may promulgate regulations to provide an emissions trading and banking program that results in net air emission reductions, creates an economic incentive for reducing air emissions, and allows for economic growth. However, no regulation shall prohibit the direct trading of credits or allowances between private industries provided such trades do not have an adverse impact on air quality in Virginia.

## Purpose

*Please provide a statement explaining the rationale or justification of the proposal as it relates to the health, safety or welfare of citizens.*

The purpose of the regulation is to establish general provisions addressing applicability, permitting, allowance allocation, excess emissions, monitoring, and opt-in provisions to reduce SO<sub>2</sub> and NO<sub>x</sub> emissions (which are important precursors of PM<sub>10</sub> and ozone) in order to eliminate their significant contribution to nonattainment or interference with maintenance of the National Ambient Air Quality Standards (NAAQS) in downwind states, and to protect Virginia's air quality, its natural resources and public health and welfare. The regulation is being proposed to create an enforceable mechanism to assure that collectively, all affected sources will not exceed the total SO<sub>2</sub> and NO<sub>x</sub> emissions budgets established by regulation for the years 2009 and thereafter and to provide the regulatory basis for a program under which the creation, trading (buying and selling) and registering of emission credits can occur.

## Substance

*Please briefly identify and explain the new substantive provisions, the substantive changes to existing sections, or both where appropriate. (Provide more detail about these changes in the "Detail of changes" section.)*

This regulatory action encompasses the establishment of three new parts to 9 VAC 5-140; each of which is addressed below:

### **NO<sub>x</sub> Annual Trading Program (Part II)**

1. The regulation applies to electric generating units (EGUs) with a nameplate capacity greater than 25 MWe. An EGU is a fossil fuel-fired stationary boiler or combustion turbine serving at any time a generator with nameplate capacity of more than 25 MWe producing electricity for sale.

2. The control period is January 1 through December 31 of each year.

3. The NO<sub>x</sub> annual trading budgets for EGUs are (i) 36,074 tons for each control period in 2009 through 2014, and (ii) 30,062 tons for each control period in 2015 and thereafter.
4. A new unit set-aside budget is included consisting of 5.0% of the EGU budget for each control period in 2009 through 2013 or 2.0% for each control period in 2014 and thereafter.
5. Provision for a voluntary public health set-aside to retire allowances is included.
6. Existing units are those commencing operation prior to January 1, 2006.
7. New units are those commencing operation on or after January 1, 2006.
8. Initial allocations (2009 – 2013) for existing EGUs are issued on October 31, 2006 and based on heat input (2001 – 2005) normalized over the state budget.
9. Subsequent allocations (2014 and thereafter) for existing EGUs are issued annually beginning October 31, 2009, five years in advance; and based on the preceding five years of heat input.
10. Allocations for existing EGUs are calculated using the baseline heat input, determined by averaging the three highest years of the preceding five years.
11. Initial allocations (2009 – 2013) for new EGUs are issued on October 31, 2009 and based on electrical output (2004 – 2008) normalized over the new unit set-aside budget.
12. Subsequent allocations (2014 and thereafter) for new EGUs are issued annually beginning October 31, 2014 and based on the preceding five years of electrical output.
13. Allocations for new EGUs are calculated using the converted heat input (electrical output), determined by averaging the three highest years of the preceding five years.
14. A compliance pool (5,134 tons) is established which allows for allocations from the pool for early reductions and to avoid an “undue risk to the reliability of electricity.” Allocations from the pool will be distributed to the sources prior to November 30, 2009. Allocations from the pool are valid for the 2009 control period only.
15. Compliance is determined by comparing the amount of allowances in the owner's account with the total amount of emissions from all of the affected units.
16. Use of allowances other than those allocated to the source by the board may not be used to comply in nonattainment areas. Compliance must be demonstrated on an annual basis, based on a comparison of (i) the total NO<sub>x</sub> emissions (expressed in tons) from each EGU during the preceding control period and (ii) the number of NO<sub>x</sub> allowances (expressed in tons) allocated for the EGU for the preceding control period.
17. Sources may bank any allowances not used during a specific control period.
18. Major sources subject to the regulation must obtain a budget permit reflecting the requirements of the budget trading program.
19. Smaller sources within the core source categories are not mandated to be included in the program; however, smaller sources within the core source categories are allowed to opt-in to the program.
20. Sources that opt-in the program have a separate budget. Baseline determined for opt-ins is based upon the previous year's emissions.

21. The program is administered almost in its entirety by EPA, except for the allocations of allowances, issuance of the budget permits and the administration of the opt-in provisions.

22. All sources participating in the program, including those that chose to opt-in, must meet the monitoring requirements of 40 CFR Part 75 of the Code of Federal Regulations.

### **NOx Ozone Season Trading Program (Part III)**

1. The regulation applies to electric generating units (EGUs) with a nameplate capacity greater than 25 MWe. An EGU is a fossil fuel-fired stationary boiler or combustion turbine serving at any time a generator with nameplate capacity of more than 25 MWe producing electricity for sale.

2. The regulation also applies to non-electric generating units (non-EGUs) above 250 mmBtu. A non-EGU is a fossil fuel-fired stationary boiler or combustion turbine that (i) at no time serves a generator producing electricity for sale under firm contract to the grid or (ii) at any time serves a generator producing electricity for sale under firm contract to the grid, if any such generator has a nameplate capacity of 25 MWe or less and has the potential to use no more than 50% of the potential electrical output capacity of the unit.

3. The control period is May 1 through September 30 of each year.

4. The NOx ozone season trading budgets for EGUs are (i) 15,994 tons for each control period in 2009 through 2014, and (ii) 13,328 tons for each control period in 2015 and thereafter.

5. The NOx ozone season trading budget for non-EGUs is 3,840 tons for each control period in 2009 and thereafter (reduced from the NOx SIP Call budget of 4104 tons).

6. A new unit set-aside budget is included consisting of 5.0% of the EGU budget for each control period in 2009 through 2013 or 2.0% for each control period in 2014 and thereafter and 700 tons from the non-EGU budget.

7. A set-aside for efficient energy/renewable energy sources is included consisting of 36 tons for each control period in 2009 and thereafter, which expire after three years.

8. Provision for a voluntary public health set-aside to retire allowances is included.

9. Existing units are those commencing operation prior to January 1, 2006.

10. New units are those commencing operation on or after January 1, 2006.

11. Initial allocations (2009 – 2013) for existing EGUs are issued on October 31, 2006 and based on heat input (2001 – 2005) normalized over the state budget.

12. Subsequent allocations (2014 and thereafter) for existing EGUs are issued annually beginning October 31, 2009, five years in advance; and based on the preceding five years of heat input.

13. Allocations for existing EGUs are calculated using the baseline heat input, determined by averaging the three highest years of the preceding five years.

14. The allocations (2009 and thereafter) for existing non-EGUs are carried over from the NOx SIP call program, are set forth in the regulation, and are permanent.

15. Initial allocations (2009 – 2013) for new EGUs are issued on July 31, 2009 and based on electrical output (2004 – 2008) normalized over the new unit set-aside budget.

16. Subsequent allocations (2014 and thereafter) for new EGUs are issued annually beginning July 31, 2014 and based on the preceding five years of electrical output.

17. Allocations for new EGUs are calculated using the converted heat input (electrical output), determined by averaging the three highest years of the preceding five years.

18. Initial allocations (2009 – 2013) for new non-EGUs are issued on July 31, 2009 and based on heat input (2004 – 2008) normalized over the state budget.

19. Subsequent allocations (2014 and thereafter) for new non-EGUs are issued annually beginning July 31, 2014 and based on the preceding five years of heat input.

20. Allocations for new non-EGUs are calculated using the baseline heat input, determined by averaging the three highest years of the preceding five years.

21. Compliance is determined by comparing the amount of allowances in the owner's account with the total amount of emissions from all of the affected units.

22. Use of allowances other than those allocated to the source by the board may not be used to comply in nonattainment areas. Compliance must be demonstrated on an annual basis, based on a comparison of (i) the total NO<sub>x</sub> emissions (expressed in tons) from each EGU during the preceding control period and (ii) the number of NO<sub>x</sub> allowances (expressed in tons) allocated for the EGU for the preceding control period.

23. Sources may bank any allowances not used during a specific control period.

24. Major sources subject to the regulation must obtain a budget permit reflecting the requirements of the budget trading program.

24. Smaller sources within the core source categories are not mandated to be included in the program; however, smaller sources within the core source categories are allowed to opt-in to the program.

25. Sources that opt-in the program have a separate budget. Baseline determined for opt-ins is based upon the previous year's emissions.

26. The program is administered almost in its entirety by EPA, except for the allocations of allowances, issuance of the budget permits and the administration of the opt-in provisions.

27. All sources participating in the program, including those that chose to opt-in, must meet the monitoring requirements of 40 CFR Part 75 of the Code of Federal Regulations.

#### **SO<sub>2</sub> Annual Trading Program (Part IV)**

1. The regulation applies to electric generating units (EGUs) with a nameplate capacity greater than 25 MWe. An EGU is a fossil fuel-fired stationary boiler or combustion turbine serving at any time a generator with nameplate capacity of more than 25 MWe producing electricity for sale.

2. The control period is January 1 through December 31 of each year.

3. The SO<sub>2</sub> annual trading budgets for EGUs are (i) 63,478 tons for each control period in 2010 through 2014, and (ii) 44,435 tons for each control period in 2015 and thereafter.

4. Major sources subject to the regulation must obtain a budget permit reflecting the requirements of the budget trading program.



5. The program is administered almost in its entirety by EPA, including the allocations of allowances.
6. EPA has already allocated the allowances which are valid indefinitely, except the value of the allowances is reduced over time.
7. The only role for the state is to issue the budget permits.
8. Compliance is determined by comparing the amount of allowances in the owner's account with the total amount of emissions from all of the affected units.
9. Sources may bank any allowances not used during a specific control period.
10. Smaller sources within the core source categories are not mandated to be included in the program; however, smaller sources within the core source categories are allowed to opt-in to the program.
11. Sources that opt-in the program have a separate budget. Baseline determined for opt-ins is based upon the previous year's emissions.
12. All sources participating in the program, including those that chose to opt-in, must meet the monitoring requirements of 40 CFR Part 75 of the Code of Federal Regulations.

## Issues

*Please identify the issues associated with the proposed regulatory action, including: (1) the primary advantages and disadvantages to the public, such as individual private citizens or businesses, of implementing the new or amended provisions; (2) the primary advantages and disadvantages to the agency or the Commonwealth; and (3) other pertinent matters of interest to the regulated community, government officials, and the public. If there are no disadvantages to the public or the Commonwealth, please indicate.*

1. Public: The primary advantage to the general public is that air quality will improve through a program designed to maximize market forces to reduce pollution in the most cost-effective manner. The cost of compliance is a key issue for the citizens of the Commonwealth since the utility industry is affected by this regulation. If the cost of control is excessive, the additional costs may be passed on to the consumer in the form of rate hikes.

This regulation provides for the trading of SO<sub>2</sub> and NO<sub>x</sub> allowances to offset the cost of compliance. This approach provides more flexibility for compliance options for the sources affected while still protecting air quality. A compliance demonstration is required at the end of the ozone season and under the annual programs for both SO<sub>2</sub> and NO<sub>x</sub>. Sources must demonstrate that they have operated equipment such that the emissions are either equal to or below the specified limit. Tons of NO<sub>x</sub> and SO<sub>2</sub> may be purchased or sold according to the need of the source owner; credits can also be generated as early reduction credits. Source may choose to bank credits to be used for compliance demonstrations in future years. Sources not subject to the regulation may participate in the program as opt-in sources provided specific conditions are met. Inclusion of the non-electric generating units covered by the NO<sub>x</sub> SIP Call program in the CAIR ozone season trading program will provide benefits by improving the flexibility of owners and operators to meet the budget requirements through trading.

Disadvantages to the regulated sources are in the areas of costs for control and monitoring. The total state budget for NO<sub>x</sub> allowances may not be sufficient to meet the needs if all sources were operating at maximum capacity. The NO<sub>x</sub> seasonal budget for 2009 is 1097 tons less than the current NO<sub>x</sub> SIP Call



budget and state law requires that five percent of the budget be reserved for new sources. Some sources may need to install additional control equipment, particularly those in nonattainment areas as they will be unable to use purchased credits for compliance with the state program.

Sources will need to monitor emissions with continuous emission monitors (CEMs). These monitors were required under the NOx SIP Call and, therefore, are already in place. However, there are costs associated with the operation of the monitors. Sources that choose to opt-in to the program will need to install the monitoring equipment to participate in the program.

2. Department: The advantages for the Department are in the areas of effective compliance and reduced inspections. The regulation provides procedures for continuous or process parameter monitoring of emissions for determining compliance. This will result in very accurate data to be used for compliance demonstrations or enforcement actions when necessary. EPA will administer the trading and banking aspects of the regulation thereby avoiding any additional costs that would be associated with that activity.

Disadvantages include the need for the Department to review the compliance demonstrations. More time may be involved to ensure compliance with the program for sources located in nonattainment areas as they may only use Board allocated credits for compliance. New allocations will need to be computed every year after the initial five year initial allocation. The new allocations will need to be incorporated into the source's budget permit.

### Localities particularly affected

*Please identify any locality particularly affected by the proposal. Locality particularly affected means any locality which bears any identified disproportionate material impact which would not be experienced by other localities.*

There is no locality which will bear any identified disproportionate material air quality impact due to the proposed regulation which would not be experienced by other localities.

### Public participation

*Please include a statement that in addition to any other comments on the proposal, the agency is seeking comments on (i) the costs and benefits of the proposal, (ii) effects of the proposal on farm and forest land preservation, and (iii) impacts of the proposal on small businesses. Also indicate whether a public hearing is to be held to receive comments on the proposal. If a public hearing is to be held, indicate that the date, time and place of the hearing may be found in the calendar of events section of the Virginia Register of Regulations.*

In addition to any other comments, the Department is seeking comments on (i) the costs and benefits of the proposal, (ii) effects of the proposal on farm and forest land preservation, and (iii) impacts of the proposal on small businesses as defined in § 2.2-4007.1 of the Code of Virginia. Information may include (1) projected reporting, recordkeeping and other administrative costs, (2) probable effect of the proposal on affected small businesses, and (3) description of less intrusive or costly alternative methods of achieving the purpose of the proposal.

The Department accepts written comments by e-mail, facsimile transmission and postal mail. In order to be considered, written comments must include the full name, address and telephone number of the person commenting and be received by the Department by 5:00 p.m. on the last day of the comment

period. Due to problems with the quality of facsimile transmissions, commenters are encouraged to provide the signed original by postal mail within one week. Both oral and written comments are accepted at the public hearing. The Department prefers that comments be provided in writing, along with any supporting documents or exhibits. All testimony, exhibits and documents received are part of the public record.

All comments requested by this document must be submitted to the agency contact: Mary E. Major, Environmental Program Manager, Office of Air Regulatory Development, Department of Environmental Quality, P.O. Box 10009, Richmond, Virginia, 23240 (e-mail: memajor@deq.virginia.gov) (fax number: 804-698-4510). Requests for documents and additional information may also be submitted to the agency contact.

A public hearing will be held and the notice of the public hearing, along with the comment period closing date, can be found in the Calendar of Events section of the Virginia Register of Regulations. Both oral and written comments may be submitted at that time.

**Economic impact**

*Please identify the anticipated economic impact of the proposal and at a minimum provide the information specified below. Also include a description of the beneficial impact the proposal is designed to produce.*

<p><b>A. Description of the individuals, businesses or other entities likely to be affected by the regulation.</b></p>	<p>Both electric generating units (EGUs) and non-electric generating units (non-EGUs) will be affected by the proposal.</p>
<p><b>B. Agency’s best estimate of the number of such entities that will be affected. Please include an estimate of the number of small businesses affected.</b> Small business means a business entity, including its affiliates, that (i) is independently owned and operated and (ii) employs fewer than 500 full-time employees or has gross annual sales of less than \$6 million.</p>	<p>Approximately 80 large NOx emissions units, both electric generating units and non-electric generating units, will be affected by the proposal. In addition, one owner may control several NOx/SO<sub>2</sub> emissions units; therefore, even though approximately 80 units are affected, the number of affected sources (owners) is significantly less.</p>
<p><b>C. Projected cost of the regulation for affected individuals, businesses, or other entities. Please be specific. Be sure to include the projected reporting, recordkeeping, and other administrative costs required for compliance by small businesses.</b></p>	<p>The EPA has estimated that the total NOx reductions achieved by CAIR (which includes the 28 state region east of the Mississippi and D.C.) to be approximately 12 million tons in 2009 and 1.5 million tons in 2015. EPA has stated that NOx emission reductions costing as much as \$1,800 per ton should be considered cost-effective: for SO<sub>2</sub>, the estimate is \$900 per ton.</p> <p>For Virginia, the NOx emissions from EGUs for 2004 were 63,205 tons. By 2009, the budget is 36,074 tons. That is a difference of 27,131 tons of NOx that will need to be reduced under the first phase of the program at an estimated cost of \$47,035,800. The second phase requires an additional reduction of 6,012 tons at a cost of \$10,821,600. Total cost estimate for the NOx annual program is \$57,857,400.</p> <p>The NOx seasonal program will require a reduction</p>

	<p>of the EGU NOx SIP Call 2007 budget of 17,091 tons to 15,994 in the first phase. That represents a reduction of 1,097 tons at a cost of \$1,985,400. The second phase requires an additional reduction of 2,666 tons at a cost of \$4,798,800. The total cost for the NOx Seasonal program is \$6,784,200.</p> <p>The non-EGU sector is comprised of seven sources with a total of 18 units. No NOx reductions will be required beyond what the sources are doing under the NOx SIP Call; therefore, no cost analysis is necessary.</p> <p>The SO<sub>2</sub> emissions in 2003 were 216,000 tons. The first phase budget is 63,478 tons for 2010; however, the actual emissions are projected to be 136,000 tons, providing a reduction of 80,000 tons at a cost of \$72,000,000. By 2015 the budget drops to 44,435 tons; however, the actual emissions are projected to be 116,000 tons, providing an additional reduction of 20,000 tons at a cost of \$18,000,000. The total cost for the SO<sub>2</sub> is \$90,000,000.</p> <p>Source specific situations, i.e. age of equipment, type and availability of control equipment, available space to install equipment, etc. will vary from source to source. Therefore, the estimate of cost per ton may vary wildly from source to source and some sources may choose to take advantage of the option to purchase allowances except sources located in nonattainment areas. For most sources the trading mechanism incorporated in both the NOx and SO<sub>2</sub> regulations allow sources to purchase allowances until such time as they choose to retrofit or replace or shut down older equipment that may not operate as efficiently as new equipment.</p> <p>The widespread success of emission trading has been demonstrated with the implementation of Title IV of the Clean Air Act, commonly referred to as the acid rain program as well as the NOx SIP Call program. These two programs have been very successful in reducing NOx and SO<sub>2</sub> pollution from utility plants and the CAIR is modeled after those programs.</p>
<p><b>D. Projected cost to the state to implement and enforce the proposed regulation, including (a) fund source / fund detail, and (b) a delineation of one-time versus on-going expenditures.</b></p>	<p>The Department will need to compute new allocations every year, conduct inspections of the sources affected by the regulation and incorporate this information into budget permits. This is an ongoing activity; however, more specific and accurate information will be obtained during the inspections due to the fact that the equipment will be outfitted with CEMs. The Department will need</p>

	<p>to review compliance demonstrations from affected sources and “opt-ins”, however it should be noted that no sources elected to opt into the NOx SIP Call program, therefore, no additional workload was experienced.</p> <p>EPA will administer the trading and banking elements of the regulation, therefore, there will be no additional costs affiliated with that aspect of the regulation.</p> <p>It is not expected that the regulation will result in any cost to the Department beyond that currently in the budget. The sources of Department funds to carry out this regulation are the general fund and the federal trust (grant money provided by the U.S. Environmental Protection Agency under Section 105 of the federal Clean Air Act or permit fees charged to affected entities under the permit program). The activities are budgeted under the following program (code)/subprogram (code): (i) Environmental and Resource Management (5120000)/Air Quality Stationary Source Permitting (5122000) and Air Quality Stationary Source Compliance Inspection (5122100) and (ii) Environmental Research and Planning (5130000)/Air Quality Research and Planning (5130700). The costs are expected to be ongoing.</p>
<p><b>E. Projected cost of the regulation on localities.</b></p>	<p>The projected cost of the regulation on localities is not expected to be beyond that of other affected entities and are addressed in item C above.</p>
<p><b>F. Beneficial impact the regulation is designed to produce.</b></p>	<p>By achieving the projected NOx and SO<sub>2</sub> reductions, the Commonwealth will meet its obligation to reduce SO<sub>2</sub> and NOx emissions (which are important precursors of PM<sub>10</sub> and ozone) in order to eliminate their significant contribution to nonattainment or interference with maintenance of the National Ambient Air Quality Standards (NAAQS) in downwind states, and to protect Virginia’s air quality, its natural resources and public health and welfare. These emissions reductions will also enable the Commonwealth to meet the requirements under the contingency measures of the maintenance plan for the Richmond area; thus ensuring the maintenance of air quality in central Virginia and throughout the state. The projected emissions reductions from sources in Virginia are 33,143 tons of NOx and 100,000 tons of SO<sub>2</sub>.</p>

**Legal requirements**

*Please identify the state and/or federal source of the legal requirements that necessitate promulgation of the proposal, including (1) the most relevant law and/or regulation, including Code of Virginia citation and General Assembly bill and chapter numbers, if applicable, and (2) promulgating entity, i.e., the agency, board, or person. Describe the legal requirements and the extent to which the requirements are mandatory or discretionary.*

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#### Promulgating Entity

The promulgating entity for this regulation is the State Air Pollution Control Board.

#### Federal Requirements

On March 10, 2005 the Environmental Protection Agency (EPA) officially notified states that they had failed to submit plans, known as State Implementation Plans (SIPs), addressing the contribution to interstate transport of pollutants that form ozone and particle pollution in downwind states. The Clean Air Act (sections 110(a)(1) and (2)), requires states to submit SIPs that implement, maintain, and enforce a new or revised National Ambient Air Quality Standard (NAAQS) within 3 years of promulgation of the standard. Among other things, these SIP revisions must address a state's significant contribution of pollution in other states. In July 1997, EPA issued the 8-hour ozone and PM<sub>2.5</sub> NAAQS. States were required to submit SIPs that satisfied certain initial Clean Air Act requirements for implementing these standards by July 2000. This submittal initiates requirements to address interstate transport of air pollutants under section 110(a)(2)(D). Section 110(a)(2)(D) of the Clean Air Act provides an important tool for addressing the problem of interstate transport of air pollutants. This provision applies to each pollutant covered by a NAAQS and to all areas of the country regardless of their attainment designation. This section of the Act specifically provides that a SIP must prohibit statewide air pollutant emissions that significantly contribute to a nonattainment or maintenance problem in another state. EPA has made a finding that Virginia has failed to make the required submission addressing interstate transport. The finding starts a 2 year clock for EPA to issue a final Federal Implementation Plan (FIP) that will address the requirements of section 110(a)(2)(D) if Virginia fail to make the required submission. This action is also the first action required under a consent decree between EPA and Earth-Justice. In March 2004, Earth-Justice filed a notice of intent to sue EPA over EPA's failure to find that states had not submitted section 110(a)(1) SIPs for PM<sub>2.5</sub> and ozone. The March 10 promulgation satisfies EPA's obligation under the consent decree concerning the section 110(a)(2)(D) requirements related interstate transport.

On July 17, 1997, following a lengthy scientific review process, EPA revised the NAAQS for ground-level ozone and particle pollution or particulate matter. Specifically, EPA replaced the 1-hour ozone standard by promulgating a new 8-hour ozone standard to protect against longer exposure periods. EPA also promulgated new particulate matter standards and established both an annual and a 24-hour standard for fine particles - those 2.5 micrometers in diameter or smaller. Fine particles are about 1/30th the diameter of a human hair. Ozone is rarely emitted directly into the air. Ozone is generally formed when oxides of nitrogen (NO<sub>x</sub>) and volatile organic compounds (VOCs) react in the presence of intense sunlight. NO<sub>x</sub> and VOCs are emitted by sources of combustion including motor vehicles, and industrial facilities, also, gasoline vapors, chemical solvents and natural sources. Fine particle pollution, or PM<sub>2.5</sub>, is a mixture of microscopic solids and liquid droplets suspended in the air. Fine particles may be emitted directly or formed when other air pollutants – including sulfur dioxide (SO<sub>2</sub>) and NO<sub>x</sub> emitted by cars, power plants and other industrial sources react in the atmosphere. In a separate, but related regulatory action, on March 10, 2005 EPA promulgated the Clean Air Interstate Rule (CAIR). Based on the Clean Air Act requirements for states to address the interstate transport of air pollutants, this rule finds that 28 states, including the District of Columbia, contribute significantly to nonattainment, or interfere with maintenance, of the NAAQS for 8-hour ozone and PM<sub>2.5</sub> pollution in downwind states. The 28 states identified in the CAIR must submit SIPs that will achieve the emission reduction requirements in the CAIR by September 11, 2006. States that submit an approvable SIP to satisfy the requirements of the CAIR will satisfy the requirements in the EPA's findings notice (70 FR 25162, May 12, 2005) related to section 110(a)(2)(D).

#### State Requirements

Section 10.1-1322.3 of the Code of Virginia indicates that the board may promulgate regulations to provide for an emissions trading program to achieve and maintain the NAAQS. The banking and trading program shall result in net air emission reductions, create economic incentive for reducing air emissions and allow for economic growth. In developing the regulations, the board shall consider (i) the definition and use of emissions reduction credits from mobile and stationary sources, (ii) offsets, (iii) interstate or regional trading, (iv) mechanisms needed to facilitate trading and banking, and (v) emissions allocations. However, no regulation shall prohibit the direct trading of credits or allowances between private industries provided such trades do not adversely impact air quality in Virginia. The regulations applicable to the electric power industry shall foster competition in the electric power industry, encourage construction of clean, new generating facilities, provide without charge new source set-asides of five percent for the first five plan years and two percent per year thereafter, and provide an initial allocation period of five years.

### Comparison with federal requirements

*Please identify and describe any requirement of the proposal which are more restrictive than applicable federal requirements. Include a rationale for the need for the more restrictive requirements. If there are no applicable federal requirements or no requirements that exceed applicable federal requirements, include a statement to that effect.*

The proposed Virginia regulation (9 VAC 5 Chapter 140) is derived from the EPA model emissions budget trading rules (subparts AA through IIII of 40 CFR Part 96) but is substantively different in some respects as noted below. Some of these substantive changes make the Virginia regulation more restrictive (†), while others simply make it different.

This regulatory action encompasses the establishment of three new parts to 9 VAC 5-140; each of which is addressed below:

#### **NOx Annual Trading Program (Part II)**

##### Definition of New Units

The EPA rule provides for a date of January 1, 2001 to define the existing/new unit cutoff.

The Virginia regulation provides for a date of January 1, 2006 to define the existing/new unit cutoff. The date is extended because the necessity required by state law to provide a five year lead time for issuing initial allocations put the new units at a burdensome disadvantage.

##### NOx Allowance Allocation Methodology for Electrical Generating Units (EGUs)

In the EPA rule, the initial allocations of allowances to existing units are issued for the first six years; subsequent allocations are issued annually for a single year, six years in advance. All allocations are based on the average of the three highest heat inputs (in mmBtu) for years 2000 through 2004. The baseline heat input is based on fuel weighting. The baseline heat input for combined heat power (CHP) facilities is determined using a different methodology dependent on technology or fuel use and applied only to post 2001 units.

In the Virginia regulation, the initial allocations of allowances to existing units are issued for the first five years; subsequent allocations are issued annually for a single year, five years in advance. All allocations are based on the average of the three highest heat inputs (in mmBtu) during most recent five years. The baseline heat input is based on one heat rate for all units. The baseline heat input for combined heat power (CHP) facilities is determined using the same methodology for all technologies, fuels and units (both existing and new), consistent with the non-CHP methodology for existing units. These differences



are included to (i) comply with the Code of Virginia, (ii) ensure that allowances are allocated based on recent levels of plant operation in order to not penalize existing units, (iii) ensure that allowances are allocated based on a level playing field rather than allocating more allowances to units with historically high emissions, and (iv) simplify the implementation of the regulation.

In the EPA rule, the allocations of allowances to new units are issued annually for a single year.

In the Virginia regulation, the initial allocations of allowances to new units are issued for the first five years; subsequent allocations are issued annually for a single year. The time frame for initial allocations is increased in order to comply with the Code of Virginia.

#### NOx Allowance New Unit Set-Asides

The EPA rule provides for an initial set-aside of five percent of the NOx trading budget to be set-aside for use by new units in the first five years, dropping to three percent in subsequent years.

The Virginia regulation provides for an initial set-aside of five percent of the NOx trading budget to be set-aside for use by new units in the first five years, dropping to two percent in subsequent years. The percentage for subsequent years is reduced in order to comply with the Code of Virginia.

#### Additional Set-asides †

The EPA rule does not provide for any additional set-asides.

The Virginia regulation provides for a voluntary public health set-aside to retire allowances. This set-aside is for optional use by the affected sources. This set-aside is included to encourage affected sources to retire allowances in the interest of public health.

#### Compliance in Nonattainment Areas †

The EPA rule does not address the issue of trading within nonattainment areas to address local nonattainment problems.

The Virginia regulation provides that NOx allowance allocations other than those allocated to the unit by the board are not to be used to comply in nonattainment areas. This provision is included in order to ensure that Virginia is able to meet its obligation to restrict emissions that contribute to nonattainment or interfere with maintenance of the NAAQS within the Commonwealth, while still providing the ability of the affected sources to participate in the EPA administered emissions trading program.

### **NOx Ozone Season Trading Program (Part III)**

#### Inclusion of Non-EGUs in the CAIR Trading Program

The EPA rule does not require, nor include provisions for, non-EGUs in the CAIR NOx Ozone Season Trading Program. EPA will discontinue the NOx SIP Call trading program after 2008.

The Virginia regulation does include provisions to include the non-EGUs as shown below. These units are being included in order for Virginia to be able allow the affected sources to continue to participate in the EPA emissions trading program while still meeting the EPA budget requirements for non-EGUs.

- Non-EGU NOx SIP Call units are included in the CAIR NOx Ozone Season Trading Program.
- The NOx ozone season trading budget for non-EGUs is 3,840 tons for the control period in 2009 and each control period thereafter (reduced from the NOx SIP Call budget of 4104 tons).



However, the affected units get the same allowances (3,104 tons) as they did under the NOx SIP Call and the remainder (736 tons) is distributed as indicated under "Additional Set-asides" below.

#### Definition of New Units

The EPA rule provides for a date of January 1, 2001 to define the existing/new unit cutoff.

The Virginia regulation provides for a date of January 1, 2006 to define the existing/new unit cutoff. The date is extended because the necessity required by state law to provide a five year lead time for issuing initial allocations put the new units at a burdensome disadvantage.

#### NOx Allowance Allocation Methodology for Electrical Generating Units (EGUs)

In the EPA rule, the initial allocations of allowances to existing units are issued for the first six years; subsequent allocations are issued annually for a single year, six years in advance. All allocations are based on the average of the three highest heat inputs (in mmBtu) for years 2000 through 2004. The baseline heat input is based on fuel weighting. The baseline heat input for combined heat power (CHP) facilities is determined using a different methodology dependent on technology or fuel use and applied only to post 2001 units.

In the Virginia regulation, the initial allocations of allowances to existing units are issued for the first five years; subsequent allocations are issued annually for a single year, five years in advance. All allocations are based on the average of the three highest heat inputs (in mmBtu) during most recent five years. The baseline heat input is based on one heat rate for all units. The baseline heat input for combined heat power (CHP) facilities is determined using the same methodology for all technologies, fuels and units (both existing and new), consistent with the non-CHP methodology for existing units. These differences are included to (i) comply with the Code of Virginia, (ii) ensure that allowances are allocated based on recent levels of plant operation in order to not penalize existing units, (iii) ensure that allowances are allocated based on a level playing field rather than allocating more allowances to units with historically high emissions, and (iv) simplify the implementation of the regulation.

In the EPA rule, the allocations of allowances to new units are issued annually for a single year.

In the Virginia regulation, the initial allocations of allowances to new units are issued for the first five years; subsequent allocations are issued annually for a single year. The time frame for initial allocations is increased in order to comply with the Code of Virginia.

#### NOx Allowance Allocation Methodology for Non-Electric Generating Units (Non-EGUs)

The EPA rule does not require, nor include provisions for, non-EGUs in the NOx Ozone Season Trading Program.

The Virginia regulation does include provisions to include the non-EGUs, carry over a portion of the NOx SIP call core budget and new unit set-aside budget, and provide for an allocation methodology as follows: (i) the initial allocations of allowances to existing units are the same allowances as under the NOx SIP Call and are permanent; and (ii) subsequent allocations are issued using the same methodology as those for the EGUs. This methodology is used in order to ensure fair treatment of the existing units while providing adequate allowances to accommodate any new units.

#### NOx Allowance New Unit Set-Asides

The EPA rule provides for an initial set-aside of five percent of the NOx trading budget to be set-aside for use by new units in the first five years, dropping to three percent in subsequent years.

The Virginia regulation provides for an initial set-aside of five percent of the NO<sub>x</sub> trading budget to be set-aside for use by new units in the first five years, dropping to two percent in subsequent years. The percentage for subsequent years is reduced in order to comply with the Code of Virginia.

#### Additional Set-asides †

The EPA rule does not provide for any additional set-asides.

The Virginia regulation provides for the additional set-asides shown below. These set-asides are included to (i) ensure adequate allowances for new units, (ii) encourage the use of efficient energy/renewable energy, and (iii) encourage affected sources to retire allowances in the interest of public health.

- Additional allowances for the new unit set-aside budget are included consisting of 700 tons per control period (from the non-EGU budget).
- Allowances for a set-aside for efficient energy/renewable energy sources are included consisting of 36 tons per control period (from the non-EGU budget), which expire after three years.
- A voluntary public health set-aside to retire allowances is included. This set-aside is for optional use by the affected sources.

#### Compliance in Nonattainment Areas †

The EPA rule does not address the issue of trading within nonattainment areas to address local nonattainment problems.

The Virginia regulation provides that NO<sub>x</sub> allowance allocations other than those allocated to the unit by the board are not to be used to comply in nonattainment areas. This provision is included in order to ensure that Virginia is able to meet its obligation to restrict emissions that contribute to nonattainment or interfere with maintenance of the NAAQS within the Commonwealth, while still providing the ability of the affected sources to participate in the EPA administered emissions trading program.

#### **SO<sub>2</sub> Annual Trading Program (Part IV)**

There are no substantive differences between the EPA rule and the Virginia regulation.

### Need

*Please explain the need for the new or amended regulation and the potential consequences that may result in the absence of the regulation. Detail the specific reasons the regulation is essential to protect the health, safety or welfare of citizens. Discuss the goals of the proposal, the environmental benefits of the proposal, and the problems the proposal is intended to solve.*

The ozone present at ground level as a principal component of photochemical smog is formed in sunlit conditions through atmospheric reactions of two main classes of precursor compound: VOCs and NO<sub>x</sub> (mainly NO and NO<sub>2</sub>). The term "VOC" includes many classes of compounds that possess a wide range of chemical properties and atmospheric lifetimes, which helps determine their relative importance in forming ozone. Sources of VOCs include man-made sources such as motor vehicles, chemical plants, refineries, and many consumer products, but also natural emissions from vegetation. Nitrogen oxides are emitted by motor vehicles, power plants, and other combustion sources, with lesser amounts from natural processes including lightning and soils.

In addition to ensuring that areas of the state that meet the NAAQS continue to do so, the Commonwealth is also obligated to actively improve air quality. Currently, approximately one half of the Commonwealth's citizens live in areas that do not attain the NAAQS. Virginia's nonattainment problems extend beyond its borders as well: a neighboring state has submitted a § 126 petition to EPA claiming that Virginia's air pollution is having a negative impact on its air quality. Visibility problems have been identified in Virginia's national park areas. Additionally, nitrogen deposition from airborne emissions is contributing to serious water quality problems in Chesapeake Bay. In this larger context, it is clear that the state needs to take additional steps beyond the immediate legal requirements for nonattainment and other areas if larger, statewide issues of air quality are to be addressed.

The relative importance of NO<sub>x</sub> and VOC in ozone formation and control varies with local- and time-specific factors, including the relative amounts of VOC and NO<sub>x</sub> present. In rural areas with high concentrations of VOC from biogenic sources, ozone formation and control is governed by NO<sub>x</sub>. In some urban core situations, NO<sub>x</sub> concentrations can be high enough relative to VOC to suppress ozone formation locally, but still contribute to increased ozone downwind from the city. In such situations, VOC reductions are most effective at reducing ozone within the urban environment and immediately downwind.

The formation of ozone increases with temperature and sunlight, which is one reason ozone levels are higher during the summer. Increased temperature increases emissions of volatile manmade and biogenic organics and can indirectly increase NO<sub>x</sub> as well (e.g., increased electricity generation for air conditioning). Summertime conditions also bring increased episodes of large scale stagnation, which promote the build-up of direct emissions and pollutants formed through atmospheric reactions over large regions.

The most recent authoritative assessments of ozone control approaches have concluded that, for reducing regional scale ozone transport, a NO<sub>x</sub> control strategy would be most effective, whereas VOC reductions are most effective in more dense urbanized areas.

Studies conducted in the 1970s established that ozone occurs on a regional scale (*i.e.*, 1000s of kilometers) over much of the Eastern U.S., with elevated concentrations occurring in rural as well as metropolitan areas. While progress has been made in reducing ozone in many urban areas, the Eastern U.S. continues to experience elevated regional scale ozone episodes in the extended summer ozone season. Regional 8-hour ozone levels are highest in the Northeast and Mid-Atlantic areas with peak 2002 (3-year average of the 4th highest value for all sites in the region) ranging from 0.097 to 0.099 parts per million (ppm).

The OTAG Regional and Urban Scale Modeling and Air Quality Analysis Work Groups concluded that regional NO<sub>x</sub> emissions reductions are effective in producing ozone benefits; the more NO<sub>x</sub> reduced, the greater the benefit; and that controls for VOC are effective in reducing ozone locally and are most advantageous to urban nonattainment areas (62 FR 60320, November 7, 1997).

The EPA continues to believe based on the OTAG and NARSTO reports cited earlier, and the modeling completed as part of the analysis for the CAIR rule, that NO<sub>x</sub> emissions are chiefly responsible for regional ozone transport, and that NO<sub>x</sub> reductions will be most effective in reducing regional ozone transport. This understanding was considered an adequate basis for controlling NO<sub>x</sub> emissions for ozone transport in the NO<sub>x</sub> SIP call, and was upheld by the courts. As a result, EPA is requiring NO<sub>x</sub> reductions and not VOC reductions in the CAIR rule. However, EPA agrees, that VOCs from some upwind States do indeed have an impact in nearby downwind States, particularly over short transport distances.

The EPA expects that States will need to examine the extent to which VOC emissions affect ozone pollution levels across State lines, and identify areas where multi-state VOC strategies might assist in meeting the 8-hour standard, in planning for attainment. This does not alter the basis for the CAIR ozone requirements in this rule; EPA's modeling supports the conclusion that NO<sub>x</sub> emissions from upwind states will significantly contribute to downwind nonattainment and interfere with maintenance of the 8-hour ozone standard. The NO<sub>x</sub> SIP Call was promulgated 1998 to address interstate ozone transport

problems in the Eastern U.S. EPA noted that it made sense to reevaluate whether the NO<sub>x</sub> SIP call was adequate at the same time that EPA was assessing the need for emissions reductions to address interstate PM<sub>2.5</sub> problems because of overlap in the pollutants and relevant sources, and the timetables for States to submit local attainment plans. EPA presented a new analysis of the extent of residual 8-hour ozone attainment projected to remain in 2010, and the extent and severity of interstate pollution transport contributing to downwind nonattainment in that year. The proposal notice said that based on a multi-part assessment, EPA had concluded that: "Without adoption of additional emissions controls, a substantial number of urban areas in the central and eastern regions of the U.S. will continue to have levels of 8-hour ozone that do not meet the national air quality standards."

EPA has concluded that small contributions of pollution transport to downwind nonattainment areas should be considered significant from an air quality standpoint, because these contributions could prevent or delay downwind areas from achieving the standards. EPA has concluded that interstate transport is a major contributor to the projected (8-hour ozone) nonattainment problem in the eastern U.S. in 2010. The nonattainment areas analyzed receive a transport contribution of more than 20 percent of the ambient ozone concentrations, and had a transport contribution of more than 50 percent. Typically, two or more States contribute transported pollution to a single downwind area, so that the "collective contribution" is much larger than the contribution of any single State. Also, EPA concluded that highly cost effective reductions in NO<sub>x</sub> emissions were available within the eastern region where it determined interstate transport was occurring, and that requiring those highly cost effective reductions would reduce ozone in downwind nonattainment areas. In addition, the proposal examined the effect of hypothetical across-the-board emissions reductions in nonattainment areas. The notice stated that EPA had conducted a preliminary scoping analysis in which hypothetical total NO<sub>x</sub> and VOC emissions reductions of 25 percent were applied in all projected nonattainment areas east of the continental divide in 2010, yet approximately 8 areas were projected to have ozone levels exceeding the 8-hour standard. Based on experience with state plans for meeting the one-hour ozone standard, EPA said this scenario was an indication that attaining the 8-hour standard will entail substantial cost in a number of nonattainment areas, and that further regional reductions are warranted.

Virginia must submit a SIP that will achieve the SO<sub>2</sub> and NO<sub>x</sub> emission reductions required in the CAIR by September 11, 2006. States that submit an approvable SIP to satisfy the requirements of the CAIR within the required time period will satisfy the requirements in section 110(a)(2)(D).

## Alternatives

*Please describe any viable alternatives to the proposal considered and the rationale used by the agency to select the least burdensome or intrusive alternative that meets the essential purpose of the action. Also, include discussion of less intrusive or less costly alternatives for small businesses, as defined in §2.2-4007.1 of the Code of Virginia, of achieving the purpose of the proposal.*

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, the alternatives to the proposal listed below were considered by the Department. The Department determined that the fifth alternative is appropriate, as it is the least burdensome and least intrusive alternative that fully meets the purpose of the proposal. The fifth alternative was selected because it will reduce the regulatory burden associated with meeting the federal requirement to not exceed the total SO<sub>2</sub> and NO<sub>x</sub> emissions budgets established by regulation for the years 2009 and thereafter for all sources, including all small businesses, by improving the flexibility of owners and operators to meet the budget requirements. It does this by requiring the reduction of SO<sub>2</sub> and NO<sub>x</sub> emissions (which are important precursors of PM<sub>10</sub> and ozone) in order to eliminate their significant

contribution to nonattainment or interference with maintenance of the NAAQS in downwind states, and by including additional requirements in order to protect Virginia's air quality, its natural resources and public health and welfare.

As discussed below under the "Regulatory Flexibility Analysis" shown below, the use of regulatory alternatives for small business would likely jeopardize the ability of the affected sources to participate in the EPA administered emissions trading program.

1. Develop a regulatory program that would meet the requirements of the EPA CAIR and would regulate EGUs and include all elements of the EPA model trading rule.
2. Develop a regulatory program that would meet the requirements of the EPA CAIR and would regulate EGUs and include all elements of the EPA model trading rule. In addition, develop a regulatory mechanism (source-specific permits with emission caps or emission rate limits) that would regulate EGUs to the extent necessary to keep associated emissions within Virginia's budget.
3. Develop a regulatory program that would regulate EGUs to the extent necessary to keep associated emissions within Virginia's budget and would not include any elements of the EPA model trading rule.
4. Develop a regulatory program that would regulate non-EGUs (any source that is not an EGU) to the extent necessary to achieve the necessary reductions as would be required from EGUs to keep associated emissions within Virginia's budget and would not include any elements of the EPA model trading rule.
5. Develop a regulatory program that would meet the requirements of the EPA CAIR and would regulate EGUs and non-EGUs covered by the NOx SIP Call, and include all elements of the EPA model trading rule, except include provisions to allow the Commonwealth to retire or hold allowances for environmental benefit or use by renewable energy sources. In addition, include a regulatory mechanism that would regulate the affected units to the extent necessary to keep associated emissions at a level necessary to meet Virginia's environmental needs.
6. Develop a regulatory program that would meet the requirements of the EPA CAIR and would regulate EGUs and non-EGUs covered by the NOx SIP Call, and include all elements of the EPA model trading rule.
7. Develop a regulatory program that would meet the requirements of the EPA CAIR and would regulate EGUs and include all elements of the EPA model trading rule, except that the Commonwealth would withhold the allowances for the compliance supplement pool.
8. Develop a regulatory program that would meet the requirements of the EPA CAIR and would regulate EGUs and include all elements of the EPA model trading rule, except include provisions to allow the Commonwealth to retire or hold allowances for environmental benefit or use by renewable energy sources.
9. Develop a regulatory program that would meet the requirements of the EPA CAIR and would regulate EGUs and include all elements of the EPA model trading rule, except include provisions to allow the Commonwealth to auction the allowances.
10. Develop a regulatory program that would meet the requirements of the EPA CAIR and would regulate EGUs and include all elements of the EPA model trading rule, except that the compliance dates would be more restrictive.
11. Develop a regulatory program that would meet the requirements of the EPA CAIR and would regulate EGUs and include all elements of the EPA model trading rule. In addition, develop a regulatory



mechanism that would regulate non-EGUs to the extent necessary to keep associated emissions at a level necessary to meet Virginia's environmental needs.

12. Take no action to develop a plan that would meet the requirements of the EPA CAIR.

## Regulatory Flexibility Analysis

*Please describe the agency's analysis of alternative regulatory methods, consistent with health, safety, environmental, and economic welfare, that will accomplish the objectives of applicable law while minimizing the adverse impact on small business. Alternative regulatory methods include, at a minimum: (1) the establishment of less stringent compliance or reporting requirements; (2) the establishment of less stringent schedules or deadlines for compliance or reporting requirements; (3) the consolidation or simplification of compliance or reporting requirements; (4) the establishment of performance standards for small businesses to replace design or operational standards required in the proposal; and (5) the exemption of small businesses from all or any part of the requirements contained in the proposal.*

The primary purpose of the regulatory flexibility analysis is to identify and address regulatory alternatives which minimize any significant impact of the regulation on small businesses. These regulations were developed to provide opportunity for the affected sources to participate in the EPA administered emissions trading program by following a specific program structure set forth by EPA. However, major industries in Virginia subject to these federal requirements also constitute, by state law, a significant number of small businesses. The structure of the regulations follows specific requirements set forth by federal regulations; therefore, it is difficult to promulgate requirements unique to small businesses.

To address any of the alternative regulatory methods [(1) establishment of less stringent compliance or reporting standards; (2) establishment of less stringent schedules or deadlines for compliance or reporting requirements; (3) consolidation or simplification of compliance or reporting requirements; (4) establishment of performance standards for small businesses to replace design or operational standards required in the proposed regulation; or (5) exemption of small businesses from all or any part of the requirements contained in the proposed regulation for all businesses] would directly, significantly and adversely affect the benefits that would be achieved through the implementation of the regulations and likely jeopardize the ability of the affected sources to participate in the EPA administered emissions trading program.

This regulation will reduce the regulatory burden associated with meeting the federal requirement to not exceed the total SO<sub>2</sub> and NO<sub>x</sub> emissions budgets established for the year 2009 and thereafter for all sources, including all small businesses, by improving the flexibility of owners and operators to meet the budget requirements.

## Public comment

*Please summarize all public comment received during the comment period following the publication of the NOIRA, and provide the agency response. If no public comment was received, please so indicate.*

A summary and analysis of the public input, along with the basis for the decision of the Board, is attached.

**Family impact**

*Please provide an assessment of the impact of the proposed regulatory action on the institution of the family and family stability including to what extent the regulatory action will: (1) strengthen or erode the authority and rights of parents in the education, nurturing, and supervision of their children; (2) encourage or discourage economic self-sufficiency, self-pride, and the assumption of responsibility for oneself, one's spouse, and one's children and/or elderly parents; (3) strengthen or erode the marital commitment; and (4) increase or decrease disposable family income.*

It is not anticipated that the proposal will have a direct impact on families. However, there will be positive indirect impacts in that the proposal will ensure that the Commonwealth's air pollution control regulations will function as effectively as possible, thus contributing to reductions in related health and welfare problems.

**Detail of changes**

*Please detail all changes that are being proposed and the consequences of the proposed changes. Detail all new provisions and/or all changes to existing sections.*

*If the proposed regulation is intended to replace an emergency regulation, please list separately (1) all changes between the pre-emergency regulation and the proposed regulation, and (2) only changes made since the publication of the emergency regulation.*

This regulatory action encompasses the establishment of three new parts to 9 VAC 5-140; each of which is addressed below:

**NOx Annual Trading Program (Part II)**

New section number	New requirement	Rationale for new requirement
<b>Article 11</b>		
1010	Establishes the purpose.	Necessary to allow Virginia sources to participate in the EPA administered regional trading program. It identifies general provisions and the designated representative, permitting, allowance, monitoring and opt-in provisions for the regulation. It also authorizes the administrator of EPA to assist the Board in the implementation of the regulation by carrying out specific functions identified in the rule.
1020	Establishes the definitions.	Necessary to meet federal requirements and to allow Virginia sources to participate in the EPA administered regional trading program. It identifies specific terms and definitions of words used in the regulation. It also indicates that any words not identified shall have the definitions given them in 9 VAC 5-10-10 et seq. unless otherwise required by context.
1030	Establishes the measurements, abbreviations, and acronyms.	Necessary to meet federal requirements. Identifies specific measurements, abbreviations, and acronyms



		used in the regulation and their meanings.
1040	Establishes requirements covering the applicability.	Necessary to meet federal requirements. Identifies which units and sources are subject to the regulation.
1050	Establishes requirements covering the retired unit exemptions.	Necessary to meet federal requirements. Identifies which units and sources are exempt from the regulation due to being permanently retired and the requirements to ensure that classification. Also identifies circumstances under which units and sources would lose the exemptions.
1060	Establishes requirements covering the standard requirements.	Necessary to meet federal requirements. Identifies permit, monitoring, reporting and recordkeeping requirements. Identifies specific emissions requirements, the use of allowances, and consequences of violating those requirements including liability.
1070	Establishes requirements covering the computation of time.	Necessary to meet federal requirements. Identifies how timeframes will be determined for implementation of deadlines for the regulations including how holidays will be handled.
1080	Establishes requirements covering the appeal procedures.	Necessary to allow Virginia sources to participate in the EPA administered regional emissions trading program. Identifies the appeal procedures to be used to settle any disagreements as those in 40 CFR Part 78.
<b>Article 12</b>		
1100 through 1140	Establishes requirements covering CAIR designated representatives for CAIR NOx annual trading program sources, specifically: authorization and responsibilities of the designated representatives; alternate designated representatives; changing the designated representative and the alternate designated representative; changes in the owners and operators; certificate of representation; and objections concerning the designated representative.	Necessary to allow Virginia sources to participate in the EPA administered regional emissions trading program. Identifies the responsibilities of the sources' authorized representatives with regard to all matters under this regulation including provisions necessary for an alternate representative. Also includes specific language that must be included with each submission of information from the representative that includes statements about the accuracy and truthfulness of material and the certification of such accuracy under penalty of law.
<b>Article 13</b>		
1200 through 1240	Establishes requirements covering NOx annual trading program permits, specifically: general permit requirements; submission of permit applications; information requirements for the permit applications; permit contents and term; and permit revisions.	Necessary to allow Virginia sources to participate in the EPA administered regional emissions trading program. Provides specific information on the following: permit requirements including those for a Title V or state operating permit; date for submission of permit applications; information requirements for permit applications including identification of source or unit; permit contents including allowance information; and permit revisions.
<b>Article 14</b>		
Reserved		
<b>Article 15</b>		
1400	Establishes the state annual trading program budgets.	Necessary to meet federal requirements. Identifies the EGU state ozone season budget for 2009 to 2014 as 15,994 tons of NOx; for 2015 and thereafter,

		13,328 tons of NOx.
1410	Establishes requirements covering the timing requirements for allowance allocations.	Necessary to meet federal requirements. Identifies the timeframes by which the permitting authority will submit allowance allocations to the administrator of EPA and how allowance allocations will be handled if the permitting authority fails to submit necessary information.
1420	Establishes requirements covering the allowance allocations.	Necessary to meet federal requirements. Defines allowance allocation methodology for existing units, new units and energy efficiency and renewable energy units.
1430	Establishes the compliance supplement pool budget and requirements covering the compliance supplement pool.	Necessary to allow Virginia sources to participate in the EPA administered regional emissions trading program. Establishes a compliance supplement pool (CSP) of 5,134 tons to be used if sources need allowances in 2009 and how the CPS will work. Also identifies how early reduction credits can be created in 2007 and 2008.
<b>Article 16</b>		
1500 through 1570	Establishes requirements covering the NOx annual trading program allowance tracking system, specifically: establishment of accounts; responsibilities of authorized account representatives; recordation of allowance allocations; compliance; banking; account error; and closing of general accounts.	Necessary to allow Virginia sources to participate in the EPA administered regional emissions trading program. Provides information on establishing either compliance or general allowance accounts with the administrator. Provides information on the actions of the authorized account representative, the permitting authority and the administrator of EPA with regard to the compliance account and the recordation of the allowance allocations to and the deductions of allocations from each account. Also addresses the banking of allowances and the corrections of any errors to the account as well as information on closing an existing general account.
<b>Article 17</b>		
1600 through 1620	Establishes requirements covering NOx annual trading program allowance transfers, specifically: submission of allowance transfers; EPA recordation; and notification.	Necessary to allow Virginia sources to participate in the EPA administered regional emissions trading program. Provides information on allowance transfers and how they shall be submitted to the administrator. Provides timeframes for EPA to record an allowance transfer (5 business days) and timeframe for EPA to notify the account representative of the execution of the transfer (5 business days).
<b>Article 18</b>		
1700 through 1760	Establishes requirements covering monitoring and reporting, specifically: general requirements; initial certification and recertification procedures; out of control periods; notifications; recordkeeping and reporting; petitions; and additional requirements to provide heat input data for allocations purposes.	Necessary to meet federal requirements. Provides detailed information and timeframes for how a source shall monitor and report all necessary data and submit recordkeeping information in compliance with subpart H of 40 CFR Part 75. Also provides information pertaining to certification and recertification of monitoring equipment.
<b>Article 19</b>		
1800 through	Establishes requirements covering individual NOx annual trading	Necessary to allow Virginia sources to participate in the EPA administered regional emissions trading

1880	program unit opt-ins, specifically: applicability; general; designated representative; applying for opt-in permit; opt-in process; opt-in permit contents; withdrawal from NOx annual trading program; change in regulatory status; and allowance allocations to opt-in units.	program. Provides detailed information for sources that want to opt into the program. These sources are not retired units, are required to have either a Title V or state operating permit, vent all emissions into a stack, and can meet the monitoring requirements of 40 CFR Part 75. The opt-in units shall have a designated representative, submit a complete permit application, and comply with all monitoring, data collection, reporting and recordkeeping requirements of these provisions.
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**NOx Ozone Season Trading Program (Part III)**

New section number	New requirement	Rationale for new requirement
<b>Article 21</b>		
2010	Establishes the purpose.	Necessary to allow Virginia sources to participate in the EPA administered regional trading program. It identifies general provisions and the designated representative, permitting, allowance, monitoring and opt-in provisions for the regulation. It also authorizes the administrator of EPA to assist the Board in the implementation of the regulation by carrying out specific functions identified in the rule.
2020	Establishes the definitions.	Necessary to meet federal requirements and to allow Virginia sources to participate in the EPA administered regional trading program. It identifies specific terms and definitions of words used in the regulation. It also indicates that any words not identified shall have the definitions given them in 9 VAC 5-10-10 et seq. unless otherwise required by context.
2030	Establishes the measurements, abbreviations, and acronyms.	Necessary to meet federal requirements. Identifies specific measurements, abbreviations, and acronyms used in the regulation and their meanings.
2040	Establishes requirements covering the applicability.	Necessary to meet federal requirements. Identifies which units and sources are subject to the regulation.
2050	Establishes requirements covering the retired unit exemptions.	Necessary to meet federal requirements. Identifies which units and sources are exempt from the regulation due to being permanently retired and the requirements to ensure that classification. Also identifies circumstances under which units and sources would lose the exemptions.
2060	Establishes requirements covering the standard requirements.	Necessary to meet federal requirements. Identifies permit, monitoring, reporting and recordkeeping requirements. Identifies specific emissions requirements, the use of allowances, and consequences of violating those requirements including liability.
2070	Establishes requirements covering the computation of time.	Necessary to meet federal requirements. Identifies how timeframes will be determined for implementation of deadlines for the regulations including how holidays will be handled.
2080	Establishes requirements covering	Necessary to allow Virginia sources to participate in

	the appeal procedures.	the EPA administered regional emissions trading program. Identifies the appeal procedures to be used to settle any disagreements as those in 40 CFR Part 78.
<b>Article 22</b>		
2100 through 2140	Establishes requirements covering CAIR designated representatives for CAIR NOx ozone season sources, specifically: authorization and responsibilities of the designated representatives; alternate designated representatives; changing the designated representative and the alternate designated representative; changes in the owners and operators; certificate of representation; and objections concerning the designated representative.	Necessary to allow Virginia sources to participate in the EPA administered regional emissions trading program. Identifies the responsibilities of the sources' authorized representatives with regard to all matters under this regulation including provisions necessary for an alternate representative. Also includes specific language that must be included with each submission of information from the representative that includes statements about the accuracy and truthfulness of material and the certification of such accuracy under penalty of law.
<b>Article 23</b>		
2200 through 2240	Establishes requirements covering NOx ozone season permits, specifically: general permit requirements; submission of permit applications; information requirements for the permit applications; permit contents and term; and permit revisions.	Necessary to allow Virginia sources to participate in the EPA administered regional emissions trading program. Provides specific information on the following: permit requirements including those for a Title V or state operating permit; date for submission of permit applications; information requirements for permit applications including identification of source or unit; permit contents including allowance information; and permit revisions.
<b>Article 24</b>		
Reserved		
<b>Article 25</b>		
2400	Establishes the state trading program budgets.	Necessary to meet federal requirements. Identifies the EGU state ozone season budget for 2009 to 2014 as 15,994 tons of NOx; for 2015 and thereafter, 13,328 tons of NOx.
2405	Establishes the total non-electric generating unit budget and allocations.	Necessary to allow Virginia sources to participate in the EPA administered regional emissions trading program. Creates a non-EGU budget of 3,840 tons of NOx for 2009 and thereafter.
2410	Establishes requirements covering the timing requirements for allowance allocations.	Necessary to meet federal requirements. Identifies the timeframes by which the permitting authority will submit allowance allocations to the administrator of EPA and how allowance allocations will be handled if the permitting authority fails to submit necessary information.
2420	Establishes requirements covering the allowance allocations.	Necessary to meet federal requirements. Defines allowance allocation methodology for existing units, new units and energy efficiency and renewable energy units.
2430	Establishes the individual non-electric generating unit allocations.	Necessary to allow Virginia sources to participate in the EPA administered regional emissions trading program. Identifies the NOx allocation for each non-EGU unit subject to the program.
<b>Article 26</b>		

2500 through 2570	Establishes requirements covering the NOx ozone season allowance tracking system, specifically: establishment of accounts; responsibilities of authorized account representatives; recordation of allowance allocations; compliance; banking; account error; and closing of general accounts.	Necessary to allow Virginia sources to participate in the EPA administered regional emissions trading program. Provides information on establishing either compliance or general allowance accounts with the administrator. Provides information on the actions of the authorized account representative, the permitting authority and the administrator of EPA with regard to the compliance account and the recordation of the allowance allocations to and the deductions of allocations from each account. Also addresses the banking of allowances and the corrections of any errors to the account as well as information on closing an existing general account.
<b>Article 27</b>		
2600 through 2620	Establishes requirements covering NOx ozone season allowance transfers, specifically: submission of allowance transfers; EPA recordation; and notification.	Necessary to allow Virginia sources to participate in the EPA administered regional emissions trading program. Provides information on allowance transfers and how they shall be submitted to the administrator. Provides timeframes for EPA to record an allowance transfer (5 business days) and timeframe for EPA to notify the account representative of the execution of the transfer (5 business days).
<b>Article 28</b>		
2700 through 2760	Establishes requirements covering monitoring and reporting, specifically: general requirements; initial certification and recertification procedures; out of control periods; notifications; recordkeeping and reporting; petitions; and additional requirements to provide heat input data for allocations purposes.	Necessary to meet federal requirements. Provides detailed information and timeframes for how a source shall monitor and report all necessary data and submit recordkeeping information in compliance with subpart H of 40 CFR Part 75. Also provides information pertaining to certification and recertification of monitoring equipment.
<b>Article 29</b>		
2800 through 2880	Establishes requirements covering individual NOx ozone season unit opt-ins, specifically: applicability; general; designated representative; applying for opt-in permit; opt-in process; opt-in permit contents; withdrawal from NOx ozone season trading program; change in regulatory status; and allowance allocations to opt-in units.	Necessary to allow Virginia sources to participate in the EPA administered regional emissions trading program. Provides detailed information for sources that want to opt into the program. These sources are not retired units, are required to have either a Title V or state operating permit, vent all emissions into a stack, and can meet the monitoring requirements of 40 CFR Part 75. The opt-in units shall have a designated representative, submit a complete permit application, and comply with all monitoring, data collection, reporting and recordkeeping requirements of these provisions.

**SO<sub>2</sub> Annual Trading Program (Part IV)**

New section number	New requirement	Rationale for new requirement
<b>Article 31</b>		
3010	Establishes the purpose.	Necessary to allow Virginia sources to participate in the EPA administered regional trading program. It

		identifies general provisions and the designated representative, permitting, allowance, monitoring and opt-in provisions for the regulation. It also authorizes the administrator of EPA to assist the Board in the implementation of the regulation by carrying out specific functions identified in the rule.
3020	Establishes the definitions.	Necessary to meet federal requirements and to allow Virginia sources to participate in the EPA administered regional trading program. It identifies specific terms and definitions of words used in the regulation. It also indicates that any words not identified shall have the definitions given them in 9 VAC 5-10-10 et seq. unless otherwise required by context.
3030	Establishes the measurements, abbreviations, and acronyms.	Necessary to meet federal requirements. Identifies specific measurements, abbreviations, and acronyms used in the regulation and their meanings.
3040	Establishes requirements covering the applicability.	Necessary to meet federal requirements. Identifies which units and sources are subject to the regulation.
3050	Establishes requirements covering the retired unit exemptions.	Necessary to meet federal requirements. Identifies which units and sources are exempt from the regulation due to being permanently retired and the requirements to ensure that classification. Also identifies circumstances under which units and sources would lose the exemptions.
3060	Establishes requirements covering the standard requirements.	Necessary to meet federal requirements. Identifies permit, monitoring, reporting and recordkeeping requirements. Identifies specific emissions requirements, the use of allowances, and consequences of violating those requirements including liability.
3070	Establishes requirements covering the computation of time.	Necessary to meet federal requirements. Identifies how timeframes will be determined for implementation of deadlines for the regulations including how holidays will be handled.
3080	Establishes requirements covering the appeal procedures.	Necessary to allow Virginia sources to participate in the EPA administered regional emissions trading program. Identifies the appeal procedures to be used to settle any disagreements as those in 40 CFR Part 78.
<b>Article 32</b>		
3100 through 3140	Establishes requirements covering CAIR designated representatives for CAIR SO <sup>2</sup> sources, specifically: authorization and responsibilities of the designated representatives; alternate designated representatives; changing the designated representative and the alternate designated representative; changes in the owners and operators; certificate of representation; and objections concerning the designated representative.	Necessary to allow Virginia sources to participate in the EPA administered regional emissions trading program. Identifies the responsibilities of the sources' authorized representatives with regard to all matters under this regulation including provisions necessary for an alternate representative. Also includes specific language that must be included with each submission of information from the representative that includes statements about the accuracy and truthfulness of material and the certification of such accuracy under penalty of law.
<b>Article 33</b>		



3200 through 3240	Establishes requirements covering SO <sup>2</sup> permits, specifically: general permit requirements; submission of permit applications; information requirements for the permit applications; permit contents and term; and permit revisions.	Necessary to allow Virginia sources to participate in the EPA administered regional emissions trading program. Provides specific information on the following: permit requirements including those for a Title V or state operating permit; date for submission of permit applications; information requirements for permit applications including identification of source or unit; permit contents including allowance information; and permit revisions.
<b>Article 34</b>		
Reserved		
<b>Article 35</b>		
Reserved		
<b>Article 36</b>		
3500 through 3570	Establishes requirements covering the SO <sup>2</sup> allowance tracking system, specifically: establishment of accounts; responsibilities of authorized account representatives; recordation of allowance allocations; compliance; banking; account error; and closing of general accounts.	Necessary to allow Virginia sources to participate in the EPA administered regional emissions trading program. Provides information on establishing either compliance or general allowance accounts with the administrator. Provides information on the actions of the authorized account representative, the permitting authority and the administrator of EPA with regard to the compliance account and the recordation of the allowance allocations to and the deductions of allocations from each account. Also addresses the banking of allowances and the corrections of any errors to the account as well as information on closing an existing general account.
<b>Article 37</b>		
3600 through 3620	Establishes requirements covering SO <sup>2</sup> allowance transfers, specifically: submission of allowance transfers; EPA recordation; and notification.	Necessary to allow Virginia sources to participate in the EPA administered regional emissions trading program. Provides information on allowance transfers and how they shall be submitted to the administrator. Provides timeframes for EPA to record an allowance transfer (5 business days) and timeframe for EPA to notify the account representative of the execution of the transfer (5 business days).
<b>Article 38</b>		
3700 through 3760	Establishes requirements covering monitoring and reporting, specifically: general requirements; initial certification and recertification procedures; out of control periods; notifications; recordkeeping and reporting; petitions; and additional requirements to provide heat input data for allocations purposes.	Necessary to meet federal requirements. Provides detailed information and timeframes for how a source shall monitor and report all necessary data and submit recordkeeping information in compliance with subpart H of 40 CFR Part 75. Also provides information pertaining to certification and recertification of monitoring equipment.
<b>Article 39</b>		
3800 through 3880	Establishes requirements covering individual SO <sup>2</sup> opt-ins, specifically: applicability; general; designated representative; applying for opt-in permit; opt-in process; opt-in permit contents; withdrawal from SO <sup>2</sup> trading program; change in	Necessary to allow Virginia sources to participate in the EPA administered regional emissions trading program. Provides detailed information for sources that want to opt into the program. These sources are not retired units, are required to have either a Title V or state operating permit, vent all emissions into a stack, and can meet the monitoring requirements of



	regulatory status; and allowance allocations to opt-in units.	40 CFR Part 75. The opt-in units shall have a designated representative, submit a complete permit application, and comply with all monitoring, data collection, reporting and recordkeeping requirements of these provisions.
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**Periodic review**

*Please supply a schedule setting forth when the agency will initiate a review and re-evaluation to determine if the regulation should be continued, amended, or terminated. The specific and measurable regulatory goals should be outlined with this schedule. The review shall take place no later than four years after the proposed regulation is expected to be effective.*

The Department will initiate a review and re-evaluation of the regulation to determine if it should be continued, amended, or terminated within four years after its effective date.

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

1. To protect public health and welfare with the least possible cost and intrusiveness to the citizens and businesses of the Commonwealth.
2. To assure that all affected sources will not collectively exceed the total SO<sub>2</sub> and NO<sub>x</sub> emissions budgets established by regulation for the years 2009 and thereafter and to foster a program under which the creation, trading (buying and selling) and registering of emission credits can occur.
3. To prohibit emissions which would cause or contribute to nonattainment of the National Ambient Air Quality Standards (NAAQS) or interfere with maintenance of the standards.
4. To reduce SO<sub>2</sub> and NO<sub>x</sub> emissions (which are important precursors of PM<sub>10</sub> and ozone) in order to eliminate their significant contribution to nonattainment or interference with maintenance of the National Ambient Air Quality Standards (NAAQS) in downwind states.
5. To protect Virginia's air quality, its natural resources and public health and welfare.

**Clarity**

*Please provide a statement indicating that the agency, through examination of the regulation and relevant public comments, has determined that the regulation is clearly written and easily understandable by the individuals and entities affected.*

The Department, through examination of the regulation and relevant public comments, has determined that the regulation is clearly written and easily understandable by the individuals and entities affected.

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

**SUMMARY AND ANALYSIS OF PUBLIC INPUT FOR  
REGULATION REVISION E05  
CONCERNING**

**CLEAN AIR INTERSTATE RULE  
(9 VAC 5 CHAPTER 140)**

**INTRODUCTION**

Pursuant to the Board's regulatory public participation procedures (9 VAC 5 Chapter 170, Part IV), the Department of Environmental Quality published a notice of intended regulatory action concerning a Clean Air Interstate Rule.

A public meeting was advertised accordingly and held by the Department in Richmond on August 10, 2005. The purpose of the proposed action may be found below followed by a summary of the public participation process and an analysis of the public input, along with the basis for the decision of the Board.

**PURPOSE OF PROPOSED ACTION**

The purpose of the proposed action is to reduce SO<sub>2</sub> and NO<sub>x</sub> emissions (which are important precursors of PM<sub>10</sub> and ozone) in order to eliminate their significant contribution to nonattainment or interference with maintenance of the National Ambient Air Quality Standards in downwind states, and to protect Virginia's air quality and its natural resources.

**SUMMARY OF PUBLIC PARTICIPATION PROCESS**

A public meeting was held in Richmond on August 10, 2005. Twenty-one persons attended the meeting, with three of those offering comments; and six additional written comments were received during the comment period. As provided in the Board's public participation guidelines, notice of the meeting was given to the public on July 11, 2005 in the Virginia Register. In addition, personal notice of the meeting and the opportunity to comment was given by mail to those persons (about 400) on the Department's list to receive notices of intended regulatory actions. A list of meeting attendees and the complete text or an account of each person's input is included in the meeting report which is on file at the Department.

## **ANALYSIS OF TESTIMONY**

Below is a summary of each person's input and the accompanying analysis. Included is the subject of the comment, the identification of the commenter, the text of the comment and the Board's response (analysis and action taken). Each issue is discussed in light of all of the comments received that affect that issue. The Board has reviewed the comments and developed a specific response based on its evaluation of the issue raised. The Board's action is based on consideration of the overall goals and objectives of the air quality program and the intended purpose of the regulation.

### **Environmental Resources Trust, Inc.**

Alden M. Hathaway, Director of EcoPower<sup>®</sup> Programs

Debra Jacobson, George Washington University Law School

Comment: Virginia should include a NO<sub>x</sub> allocation for the development of wind power. The purchase of wind power has been used successfully by counties in other states as a mechanism for getting State Implementation Plan credit for lowering ground level ozone. Municipalities in Northern Virginia intend to purchase wind power through a Renewable Energy Certificate (REC). The REC allows an organization to purchase renewable energy even if their local supplier does not provide renewable energy. By not having a set aside for renewable energy, however, the localities cannot demonstrate a real reduction in NO<sub>x</sub> emissions because no allowances can be retired.

Localities will purchase wind power with or without Virginia's assistance. By providing the set aside Virginia will benefit in many ways: (1) job increases due to the development of wind power within the state, -estimated at 20,201 jobs impacted; 3,386 new jobs, (2) land lease payments to land owners, (3) tax revenue, (4) estimated 1.13 billion investment, (5) SIP credits for localities that utilize wind power and (6) lower costs for air pollution compliance.

Response: A set aside (36 tons per control period) for energy efficient/renewable energy units has been created in the proposal, as well as a voluntary public health set aside.

Comment: A set aside for renewable energy mercury would benefit public health, encourage pollution prevention, stimulate improvements in air pollution technologies and stimulate job creation. It should be no less than 5 percent.

Response: This proposal is intended to address SO<sub>2</sub> and NO<sub>x</sub> emissions; therefore it is not appropriate to regulate mercury as part of this regulatory action.

Comment: Previous experience of Virginia implementing an auction for NO<sub>x</sub> allowances demonstrated that this approach can be extremely valuable. If an auction is undertaken, allowances should be authorized at no cost for those undertaking

development of renewable/energy efficiency measures provided that the allowances be permanently retired. In addition, revenues raised by the auction should be used to support air pollution control and clean energy activities.

Response: There is no legal authority to conduct auctions; therefore, no provisions for an auction have been included in the proposal.

### **Fairfax County, Consumer Protection Division**

Steve Sinclair, Utility Analyst

Comment: Pursue the alternative that “allows the Commonwealth to retire or hold allowances for environmental benefit or use by renewable energy sources” and expand the alternative to include energy efficiency activities. Fairfax County along with other local government entities in Virginia has invested millions of dollars on energy efficiency and renewable energy. A recent action by the County includes the execution of a two year contract in April of 2005 to purchase five percent of the electricity needs of the County from renewable sources. The County has also invested over 5.5 million dollars in energy efficiency programs in more than 75 of the Counties largest buildings. These investments have been made even though there is no mechanism to receive valuable SIP credit for these actions. A renewable/energy efficiency set aside will correct that problem.

Response: A set aside (36 tons per control period) for energy efficient/renewable energy units has been created in the proposal, as well as a voluntary public health set aside.

### **Virginia Energy Purchasing Governmental Association**

Steve Sinclair, Vice Chairman

Comment: Membership in VEPGA includes virtually every major city, county and town in Dominion’s service territory. Each of these entities has either passed ordinances or resolutions authorizing VEPGA to be the sole purchasing agent of electricity for their political subdivision. The primary purpose of VEPGA is to continue negotiating rates and term and conditions for electricity service for local governments served by Dominion Virginia Power and for local governments to jointly purchase electricity in the competitive electricity markets. Fairfax and Arlington Counties have entered into a two year contract to purchase wind power knowing that no SIP credit will be available. We are hopeful that a set aside can be created for renewable and energy efficiency activities. It is expected that local governments will expand their purchase of renewable energy and engage in energy efficiency activities once allowances are provided for these activities.

Response: A set aside (36 tons per control period) for energy efficient/renewable energy units has been created in the proposal, as well as a voluntary public health set

aside.

### **Virginia Chamber of Commerce**

Keith Cheatham, Director of Government Affairs

Comment: The Chamber urges the DEQ to adopt the federal CAIR “model cap-and-trade rule”. Adoption will assure consistency for Virginia’s implementation with other states in the CAIR region, maximize compliance flexibility and minimize compliance costs.

Response: The EPA model rule has been utilized for the proposal with some modifications. Some changes were necessary to comply with administrative and legal requirements. Other changes were made as noted below:

- Non-EGUs from the NOx SIP Call Program have been included in the proposal in order to allow the affected sources to continue to participate in the EPA emissions trading program while still meeting the EPA budget requirements for non-EGUs.
- The cutoff date for defining new units has been extended because the necessity required by state law to provide a five year lead time for issuing initial allocations put the new units at a burdensome disadvantage.
- The NOx allowance allocation methodology for EGUs has been changed to simplify the proposal.
- The percentage in the new unit set a-side for subsequent years has been reduced in order to comply with the Code of Virginia.
- Additional set-asides have been included to (i) ensure adequate allowances for new units, (ii) encourage the use of efficient energy/renewable energy, and (iii) encourage affected units to retire allowances in the interest of public health.
- Restrictions have been added to prevent the use of NOx allowance allocations other than those allocated to the unit by the board for compliance in nonattainment areas in order to ensure that Virginia is able to meet its obligation to restrict emissions that contribute to nonattainment or interfere with maintenance of the National Ambient Air Quality Standards within the Commonwealth, while still providing the ability of the affected sources to participate in the EPA administered emissions trading program.

Comment: The Chamber does not support option that would deviate from or modify the “model rule” by restricting emissions trading, withholding or auctioning allowances and establishing additional set-asides.

Response: See response above. There is no legal authority to conduct auctions; therefore, no provisions for an auction have been included in the proposal.

Comment: The Chamber does support the inclusion of non-electric generating units (non-EGUs) that are currently subject to the NOx SIP Call program into the seasonal NOx program.

Response: The non-EGUs sources in the NOx SIP Call have been included in the seasonal NOx program of the proposal.

### **Old Dominion Electric Cooperative**

David N. Smith, Director of Environmental, Health & Safety Services

Comment: Old Dominion requests DEQ to adopt the federal CAIR “model cap-and-trade rule”. Market-based compliance programs have been shown to be very successful in reducing emissions in a faster and less costly manner.

Response: The EPA model rule has been utilized for the proposal with some modifications. Some changes were necessary to comply with administrative and legal requirements. Other changes were made as noted below:

- Non-EGUs from the NOx SIP Call Program have been included in the proposal in order to allow the affected sources to continue to participate in the EPA emissions trading program while still meeting the EPA budget requirements for non-EGUs.
- The cutoff date for defining new units has been extended because the necessity required by state law to provide a five year lead time for issuing initial allocations put the new units at a burdensome disadvantage.
- The NOx allowance allocation methodology for EGUs has been changed to simplify the proposal.
- The percentage in the new unit set a-side for subsequent years has been reduced in order to comply with the Code of Virginia.
- Additional set-asides have been included to (i) ensure adequate allowances for new units, (ii) encourage the use of efficient energy/renewable energy, and (iii) encourage affected units to retire allowances in the interest of public health.
- Restrictions have been added to prevent the use of NOx allowance allocations other than those allocated to the unit by the board for compliance in nonattainment areas in order to ensure that Virginia is able to meet its obligation to restrict emissions that contribute to nonattainment or interfere with maintenance of the National Ambient Air Quality Standards within the Commonwealth, while still providing the ability of the affected sources to participate in the EPA administered emissions trading program.

Comment: Old Dominion opposes any deviation from or modification of the “model rule” that would restrict emissions trading, withholding or auctioning allowances or establishes additional set-asides.

Response: See response above. There is no legal authority to conduct auctions; therefore, no provisions for an auction have been included in the proposal.

### **FPL Energy, LLC**

Anita L. Seigworth, Regional environmental Lead



Comment: DEQ should adopt a program that will allow units in Virginia to participate in the multi-state trading program administered by the EPA.

Response: The EPA model rule has been utilized for the proposal with some modifications. Some changes were necessary to comply with administrative and legal requirements. Other changes were made as noted below:

- Non-EGUs from the NOx SIP Call Program have been included in the proposal in order to allow the affected sources to continue to participate in the EPA emissions trading program while still meeting the EPA budget requirements for non-EGUs.
- The cutoff date for defining new units has been extended because the necessity required by state law to provide a five year lead time for issuing initial allocations put the new units at a burdensome disadvantage.
- The NOx allowance allocation methodology for EGUs has been changed to simplify the proposal.
- The percentage in the new unit set a-side for subsequent years has been reduced in order to comply with the Code of Virginia.
- Additional set-asides have been included to (i) ensure adequate allowances for new units, (ii) encourage the use of efficient energy/renewable energy, and (iii) encourage affected units to retire allowances in the interest of public health.
- Restrictions have been added to prevent the use of NOx allowance allocations other than those allocated to the unit by the board for compliance in nonattainment areas in order to ensure that Virginia is able to meet its obligation to restrict emissions that contribute to nonattainment or interfere with maintenance of the National Ambient Air Quality Standards within the Commonwealth, while still providing the ability of the affected sources to participate in the EPA administered emissions trading program.

Comment: Allowances in the program should be equitable across generation technologies and not include fuel adjustments factors.

Response: The proposal has been structured to be fuel neutral.

Comment: Non-EGU sources should be included in the seasonal NOx program.

Response: The non-EGUs sources in the NOx SIP Call have been included in the seasonal NOx program of the proposal.

### **Dominion**

Pamela F. Faggert, Chief Environmental Officer

Comment: Virginia should adopt the EPA model cap and trade rule. Dominion fully supports the goal of cleaner air as demonstrated by the agreement with EPA, Virginia and other states which commits the company to a major program of reducing emissions. Significant progress has already been achieved in reducing emissions by repowering the coal-fired units at the Possum Point Power Station in northern Virginia to cleaner-

burning natural gas. To date, the emissions from Dominion have reduced by 48% and 32% for SO<sub>2</sub> and NO<sub>x</sub> respectively, from 2000 levels. Compliance with the CAIR will require reductions beyond those to be achieved through our settlement agreement but will necessitate an accelerated schedule for implementing these reductions at an additional cost to Dominion of hundreds of millions of dollars.

Response: The EPA model rule has been utilized for the proposal with some modifications. Some changes were necessary to comply with administrative and legal requirements. Other changes were made as noted below:

- Non-EGUs from the NO<sub>x</sub> SIP Call Program have been included in the proposal in order to allow the affected sources to continue to participate in the EPA emissions trading program while still meeting the EPA budget requirements for non-EGUs.
- The cutoff date for defining new units has been extended because the necessity required by state law to provide a five year lead time for issuing initial allocations put the new units at a burdensome disadvantage.
- The NO<sub>x</sub> allowance allocation methodology for EGUs has been changed to simplify the proposal.
- The percentage in the new unit set a-side for subsequent years has been reduced in order to comply with the Code of Virginia.
- Additional set-asides have been included to (i) ensure adequate allowances for new units, (ii) encourage the use of efficient energy/renewable energy, and (iii) encourage affected units to retire allowances in the interest of public health.
- Restrictions have been added to prevent the use of NO<sub>x</sub> allowance allocations other than those allocated to the unit by the board for compliance in nonattainment areas in order to ensure that Virginia is able to meet its obligation to restrict emissions that contribute to nonattainment or interfere with maintenance of the National Ambient Air Quality Standards within the Commonwealth, while still providing the ability of the affected sources to participate in the EPA administered emissions trading program.

Comment: Implementation options that deviate from EPA's model rule will jeopardize EPA approval of Virginia's CAIR SIP and should not be considered.

Response: The proposal has been structured to meet the requirements of the EPA CAIR Program and is approvable. A review will be requested by EPA in order to confirm this.

Comment: Dominion supports the inclusion of non-EGU sources that are currently subject to the NO<sub>x</sub> SIP Call program.

Response: The non-EGUs sources in the NO<sub>x</sub> SIP Call have been included in the seasonal NO<sub>x</sub> program of the proposal.

Comment: EPA modeling indicates that implementation of CAIR will result in attainment of the air quality standards for ozone and fine particulate in Virginia. CAIR is designed "to balance the burden for achieving attainment between regional-scale and local-scale

control programs". If additional emissions reductions are required to achieve local attainment, it should not be done in the context of the CAIR rule.

Response: The proposal includes the requirement that sources in nonattainment areas may only use allowances allocated to the source from the board to demonstrate compliance. Large industrial sources in nonattainment areas need to be controlled as well as other sources, including mobile and area sources. The SIP plans for Virginia's nonattainment areas include requirements for all source categories.

### **Virginia Department of Transportation**

James Ponticello, Air Quality Manager

Comment: It is imperative that the VDEQ develop a regulatory program to meet the EPA CAIR Rule in order to further reduce transported air pollution within Virginia and the Eastern United States.

Response: The proposal has been structured to meet the requirements of the EPA CAIR Program.

### **Virginia Independent Power Producers, Inc (VIPP)**

August Wallmeyer

Comment: Virginia should develop a program that meets the requirements of approvability under CAIR so that affected facilities in Virginia are allowed to fully participate in the CAIR interstate trading programs administered by the EPA.

Response: The proposal has been structured to meet the requirements of the EPA CAIR Program and is approvable. A review will be requested by EPA in order to confirm this.

Comment: Regulations developed in response to CAIR should be no more stringent than required to comply with federal law.

Response: The EPA model rule has been utilized for the proposal with some modifications. Some changes were necessary to comply with administrative and legal requirements. Other changes were made as noted below:

- Non-EGUs from the NOx SIP Call Program have been included in the proposal in order to allow the affected sources to continue to participate in the EPA emissions trading program while still meeting the EPA budget requirements for non-EGUs.
- The cutoff date for defining new units has been extended because the necessity required by state law to provide a five year lead time for issuing initial allocations put the new units at a burdensome disadvantage.
- The NOx allowance allocation methodology for EGUs has been changed to simplify the proposal.

- The percentage in the new unit set a-side for subsequent years has been reduced in order to comply with the Code of Virginia.
- Additional set-asides have been included to (i) ensure adequate allowances for new units, (ii) encourage the use of efficient energy/renewable energy, and (iii) encourage affected units to retire allowances in the interest of public health.
- Restrictions have been added to prevent the use of NOx allowance allocations other than those allocated to the unit by the board for compliance in nonattainment areas in order to ensure that Virginia is able to meet its obligation to restrict emissions that contribute to nonattainment or interfere with maintenance of the National Ambient Air Quality Standards within the Commonwealth, while still providing the ability of the affected sources to participate in the EPA administered emissions trading program.

Comment: NOx trading programs should include all of the non-EGUs that are currently in the NOx SIP Call trading program.

Response: The non-EGUs sources in the NOx SIP Call have been included in the seasonal NOx program of the proposal.

Comment: Virginia's regulations must be consistent with existing provisions of the Code of Virginia.

Response: The proposal has been structured to meet the requirements of the Code of Virginia.

Comment: The regulations must be *market based*, allowing free and unrestricted emissions trading of emissions in the region.

Response: See response above.

Comment: Virginia regulations must be competitively neutral.

Response: The allocation methodology has been structured to be fuel neutral.

### **Virginia Energy Providers Association**

Ralph L. "Bill" Axselle, Jr., August Wallmeyer

Comment: Virginia should adopt the USEPA Model CAIR Rule.

Response: The EPA model rule has been utilized for the proposal with some modifications. Some changes were necessary to comply with administrative and legal requirements. Other changes were made as noted below:

- Non-EGUs from the NOx SIP Call Program have been included in the proposal in order to allow the affected sources to continue to participate in the EPA emissions trading program while still meeting the EPA budget requirements for non-EGUs.

- The cutoff date for defining new units has been extended because the necessity required by state law to provide a five year lead time for issuing initial allocations put the new units at a burdensome disadvantage.
- The NOx allowance allocation methodology for EGUs has been changed to simplify the proposal.
- The percentage in the new unit set a-side for subsequent years has been reduced in order to comply with the Code of Virginia.
- Additional set-asides have been included to (i) ensure adequate allowances for new units, (ii) encourage the use of efficient energy/renewable energy, and (iii) encourage affected units to retire allowances in the interest of public health.
- Restrictions have been added to prevent the use of NOx allowance allocations other than those allocated to the unit by the board for compliance in nonattainment areas in order to ensure that Virginia is able to meet its obligation to restrict emissions that contribute to nonattainment or interfere with maintenance of the National Ambient Air Quality Standards within the Commonwealth, while still providing the ability of the affected sources to participate in the EPA administered emissions trading program.

Comment: Virginia's CAIR regulations should be no more stringent than required to comply with federal law.

Response: See response above.

Comment: Virginia's regulations must be consistent with existing provisions of the Code of Virginia.

Response: The proposal has been structured to meet the requirements of the Code of Virginia.

Comment: The regulations must be *market based*, allowing free and unrestricted emissions trading of emissions in the region.

Response: See response above.

Comment: Virginia's regulations should permit multi-state "cap and trade" transactions.

Response: See response above.

Comment: Virginia's regulations should be exclusively directed toward obtaining environmental benefits and, as such, must be competitively neutral; the regulations must not provide advantages or disadvantages to any category of electricity generator.

Response: The allocation methodology has been structured to be fuel neutral.