

A REPORT TO
the HONORABLE MARK R. WARNER
GOVERNOR

and the

GENERAL ASSEMBLY OF VIRGINIA

AIR POLLUTION CONTROL POLICIES of the COMMONWEALTH

in response to
§ 10.1-1307 G of the Code of Virginia

prepared by the

DEPARTMENT OF ENVIRONMENTAL QUALITY
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INTRODUCTION

Section 10.1-1307 G of the Code of Virginia contains the following provision:

"The Board shall submit an annual report to the Governor and General Assembly on or before October 1 of each year on matters relating to the Commonwealth's air pollution control policies and on the status of the Commonwealth's air quality. . . ."

With few exceptions, air quality in Virginia continues to meet national air quality standards. This is good news for Virginians as Governor Warner, the State Air Pollution Control Board and the Department of Environmental Quality strive to continue these improvements while implementing positive changes in the air quality management policies of the Commonwealth. The following report details the status of Virginia's air quality and the policies and regulations that govern how Virginia manages its air quality program.

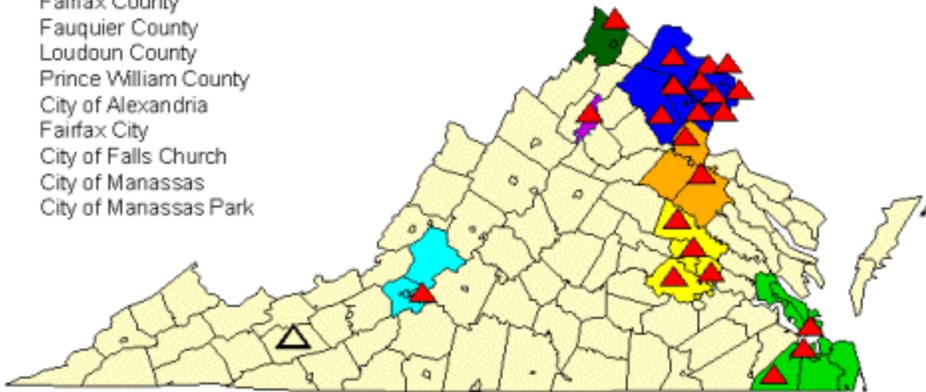
EXECUTIVE SUMMARY

- Status of Air Quality
 - Although overall air quality is gradually improving, certain areas do not comply with the new 8-hour ozone standard (see map on the following page).
 - Northern Virginia region is still in violation of the 1-hour standard.
 - Preliminary data shows that the Bristol and Roanoke/Salem are not meeting the new standard for PM_{2.5}.
- Ozone Planning for the 1-hour Standard
 - Litigation over EPA's extension of the attainment date for Northern Virginia will result in being "bumped up" from a serious classification to a severe classification.
 - Violations based on 1996-1998 data triggered contingency measures for the Richmond maintenance area. A new maintenance plan with revised contingency measures was submitted to EPA; proposed approval was issued on October 7, 2002.
 - Violations based on 1999-2001 data triggered contingency measures for the Hampton Roads maintenance area. A new maintenance plan with revised contingency measures is being developed.
 - A new maintenance plan is being developed for the White Top Mountain "clean data" area.
- Ozone Planning for the 8-hour Standard
 - EPA has yet to release planning requirements for new areas that will be nonattainment under the new 8-hour standard.
 - The designation of 8-hour nonattainment areas is expected in 2004.

Frederick County Nonattainment Area
Frederick County
City of Winchester

Fredericksburg Nonattainment Area
Caroline County
Spotsylvania County
Stafford County
City of Fredericksburg

Northern VA/MD Nonattainment Area
Arlington County
Fairfax County
Fauquier County
Loudoun County
Prince William County
City of Alexandria
Fairfax City
City of Falls Church
City of Manassas
City of Manassas Park



Shenandoah National Park Nonattainment Area
Shenandoah National Park
(the portions in Page and Madison Counties)

Roanoke Nonattainment Area
Botetourt County
Roanoke County
City of Roanoke
City of Salem
Town of Vinton

Hampton Roads Nonattainment Area
James City County
York County
City of Chesapeake
City of Hampton
City of Newport News
City of Norfolk
City of Poquoson
City of Portsmouth
City of Suffolk
City of Virginia Beach
City of Williamsburg

Richmond Nonattainment Area
Charles City County (partial)
Chesterfield County
Hanover County
Henrico County
City of Colonial Heights
City of Hopewell
City of Richmond

 Monitor Location

- NO_x SIP Call
 - The State Air Pollution Control Board adopted a NO_x SIP Call regulation on May 21, 2002.
 - The regulation was submitted to EPA on June 25, 2002.
 - On July 23, 2002, EPA declared the submittal complete.
 - A revision to the budget bill enables DEQ to establish auctioning of NO_x emission credits set-aside for new units.

I. STATUS OF AIR QUALITY

The Department of Environmental Quality maintains an extensive air quality monitoring network throughout the Commonwealth. Ambient air quality was measured by 117 instruments at 53 sites during 2001. These monitoring sites were established in accordance with EPA's siting criteria contained in Code of Federal Regulations, Title 40, Part 58, Appendices D and E, and monitoring network operations conform to EPA guidance documents and generally accepted air quality monitoring practices. All data reported for the Virginia air quality monitoring network were quality assured in accordance with requirements contained in 40 CFR Part 58, Appendix A. These data are published annually in the Virginia Ambient Air Monitoring Data Report (you can now get a copy of this report on the Department website at www.deq.state.va.us/airmon).

Ambient concentrations of carbon monoxide, nitrogen dioxide, sulfur dioxide, and particulate matter (PM₁₀) continued to be well within the EPA's national air quality standards in 2001. However, elevated ozone concentrations were observed, particularly in the Northern Virginia, Richmond, and Tidewater areas. There were twenty-two days when one or more ozone monitoring sites in the state recorded 8-hour ozone averages above .08 ppm, and a total of three 1-hour concentrations greater than the 1-hour standard (0.12 ppm) were recorded at three sites.

In 2001, the Department completed its third year of PM_{2.5} monitoring. These monitors measure particulate matter (PM) that is less than or equal to 2.5 microns in aerodynamic diameter. Three types of monitors make up the PM_{2.5} network. Continuous PM_{2.5} monitors operate at three sites in Virginia: Math and Science Center in Henrico County, the VA School in Hampton, and at Annandale in Fairfax County. With these monitors, a steady stream of ambient air passes through a filter. Data is constantly fed into a microprocessor where it is averaged hourly. Another type of PM_{2.5} monitor is the Federal Reference Method (FRM) 24-hour mass sampler. With this monitor, ambient air passes through a stretched 47 mm Teflon filter over a twenty-four hour period. The filter is weighed to determine the concentration of particulate. Twenty-three of these FRM monitors are located at twenty monitoring sites around the state (three of the sites have collocated monitors for data precision). Data recorded at these sites show that two areas of Virginia are not meeting the annual standard of a three-year cumulative average of 15 ug/m³: Bristol and Roanoke/Salem. Because of high annual averages in these two cities, a third

type of PM_{2.5} monitor, the PM_{2.5} speciation sampler, was installed in both cities in November 2001. In the PM_{2.5} speciation sampler, ambient air is drawn through three separate filters (one quartz, one teflon, and one nylon) for 24 hours. Each filter is analyzed for a specific group of compounds. The data from speciation samplers will give a “chemical fingerprint” of air masses moving through the respective areas, and will contribute to a more comprehensive understanding of this regional problem. A third speciation sampler has been operating in Richmond since March 2001.

II. AIR POLLUTION CONTROL POLICIES

CLEAN AIR PROGRESS AND AIR QUALITY MANAGEMENT

The State Air Pollution Control Board and the Department of Environmental Quality have worked diligently to promote environmental stewardship and enhance the Commonwealth's natural beauty. Today, Virginia's air is getting cleaner thanks to a working partnership between agencies of the Commonwealth, the business community and the public. To continue this progress and to avoid the health effects and the costly economic consequences of increased federal regulations that poor air quality can bring, Virginians have cooperated in several air quality initiatives.

In addition to meeting most national standards and requirements for clean air, Virginia also has numerous voluntary programs designed to promote environmental stewardship. Large companies, small businesses, institutions, and private citizens are all encouraged to participate in keeping the air clean. Such voluntary measures can help Virginia avoid activities mandated by the federal government. For example, Virginians have adjusted their routines on the hot summer days that help raise ozone levels. Citizens have reduced unnecessary driving, lawn mowing, and other activities on extremely hot, still, sunny, summer days when weather conditions make unhealthy ozone levels possible.

MAJOR PROGRAM ACTIVITIES

Ozone Attainment Planning for 1-Hour Standard

A SIP is revised, as needed, based upon changes in air quality or statutory requirements. For the most part Virginia's SIP has worked, and the standards have been attained for most pollutants in most areas. However, attainment of NAAQS for one pollutant--ozone--has proven problematic. While ozone is needed at the earth's outer atmospheric layer to shield out harmful rays from the sun, excess concentrations at the surface have an adverse effect on human health and welfare. Ozone is formed by a chemical reaction between volatile organic compounds (VOCs), nitrogen oxides (NO_x), and sunlight. When VOC and NO_x emissions from mobile sources (such as cars) and stationary sources (such as industrial processes, combustion of fuels, gasoline storage and transfer, printing, and dry cleaning) are reduced, ozone is reduced.

Congress enacted the 1977 Amendments to the original 1970 Clean Air Act in order to address unsuccessful SIPs and areas that had not attained the NAAQS (that is,

nonattainment areas). Although SIP revisions submitted pursuant to the requirements of the 1977 amendments did achieve some progress in eliminating nonattainment areas, some areas remained.

In 1990 Congress once again enacted comprehensive Amendments to the Clean Air Act to address SIP requirements for nonattainment areas. The new Act established a process for evaluating the air quality in each region and identifying and classifying each nonattainment area according to the severity of its air pollution problem. As a result of this process, Virginia had three ozone nonattainment areas located in the metropolitan areas of Hampton Roads, Richmond, and Northern Virginia. There was one rural ozone nonattainment area on White Top Mountain in Smyth County. There were also two localities in the Northern Virginia area designated nonattainment for carbon monoxide. All of these areas, with the exception of Northern Virginia ozone area and White Top Mountain ozone rural transport area, have been redesignated attainment by EPA in response to a request from the Commonwealth.

In view of its promulgation of a new 8-hour ozone standard (see below), EPA revoked applicability of the 1-hour standard from all areas, with the exception of those areas that did not meet it. In Virginia, this left the Northern Virginia area as the only area to which the 1-hour standard applies.

Subsequently, EPA moved to reinstate its older, 1-hour ozone standard in nearly 3000 counties across the United States where it had been revoked, but gave a number of areas where the data shows compliance with the standard ("clean data areas") additional time to show that they are in attainment with the standard. EPA was forced to make this move in the aftermath of a May 1999 federal court ruling (see below) that had essentially stopped implementation of a more stringent 8-hour standard. As a result of the ruling, EPA had to either reinstate the 1-hour standard, or leave much of the country without enforceable ozone standards.

On July 20, 2000 (65 FR 45182), EPA officially reinstated the older, 1-hour standard, requiring the affected counties to take some additional action to protect their air quality or to avoid future increases in air pollution. Generally, this restores areas to the air quality designation they had when EPA moved to revoke the standard. In most areas, the action will have little practical effect, but will trigger air quality maintenance plans in areas that have had air quality problems since the standard was revoked.

At the same time, EPA also delayed the effective date for the reinstatement for at least 90 days, and gave areas with clean air quality data the full 180 days before the standard took effect. Many of the "clean data areas" had postponed obtaining formal redesignation to attainment status because EPA had revoked the 1-hour standard. But reinstatement threatened to trigger immediate imposition of additional air quality controls in these "clean data" areas, including more stringent permitting requirements for new and modified stationary sources.

Giving the clean data areas a full 180 days before the reinstatement takes place allowed them more time to prepare requests to EPA asking for redesignation to attainment. The White Top Mountain area meets the criteria for a clean data area and preparation of a

redesignation request and maintenance plan is underway.

The reinstatement triggered pre-existing air quality contingency measures in the Richmond Ozone Nonattainment Area, which is legally in attainment with the older ozone standard, but violated it based on 1996-1998 data. Because the contingency measures in the current maintenance plan for the Richmond area are not consistent with the policies of the Commonwealth, the plan was revised. The most significant change to the plan is the removal of a motor vehicle inspection and maintenance program as a contingency measure. The final revised plan was submitted to EPA on November 20, 2001.

On August 15, 2002, the Sierra Club notified the state and EPA of its intent to commence a civil action against Virginia for failure to implement the original maintenance plan for the Richmond area approved by EPA in a SIP revision on November 17, 1997. They state that the maintenance plan--in particular, the contingency measures (including I/M) found in the maintenance plan to be implemented in the event of ozone violations in the area-- was not carried out according to schedule. States are allowed by the Clean Air Act to revise their SIPs and maintenance plans in order to more expeditiously attain the ozone standard. As discussed in the previous paragraph, the plan was revised to replace the I/M program with more effective measures because it would have imposed considerable expense with negligible air quality improvement. On October 7, 2002 (67 FR 62427), EPA issued a notice of its proposed approval of the maintenance plan.

The pre-existing air quality contingency measures were also triggered for the Hampton Roads Ozone Nonattainment Area, which is legally in attainment with the older ozone standard, but has violated it based on 1999-2001 data. By letter of October 29, 2001, EPA officially notified the Commonwealth of the violation and the need to implement the contingency measures. However, as was the case with the Richmond area, changes will be needed before this is done.

Meanwhile, EPA had approved plans and control strategies to achieve the 1-hour standard in the Northern Virginia area. However, on July 2, 2002, the U.S. Court of Appeals for the DC circuit overturned EPA's approval of the SIP revisions (Virginia, along with Maryland and the District) submitted for the Washington DC metropolitan area, which extended the area's attainment deadline for ozone from 1999 to 2005. The court found that EPA lacked the authority to grant an extension of the attainment deadline from 1999 to 2005 without reclassifying the area as a severe nonattainment area. Although EPA had argued that it could extend the attainment deadline because of the impact of upwind emissions impeding the area's ability to attain the standard, the court responded that the Clean Air Act details the conditions under which EPA may extend an attainment deadline due to transport, and none of these conditions applied in this case. The court also directed EPA to determine which measures, if any, are reasonably available control measures (RACM) to be implemented by the states, as EPA's failure to analyze whether particular measures constituted RACM was arbitrary and capricious. Additionally, the court held the EPA had no authority to approve the SIPs when they failed to include a rate of progress plan for the years after 1999, as the Clean Air Act makes inclusion of such a plan a requirement for approving a revised SIP. Finally, the court held that since the SIPs did not meet the Clean Air Act requirement to include contingency measures, then EPA did not have the authority to approve the SIPs. The court thus vacated EPA's approval of the SIPs, and remanded

the matter to EPA for further consideration.

Ozone Attainment Planning for New 8-Hour Standard

On July 17, 1997, EPA announced revisions to the National Ambient Air Quality Standards (NAAQS) for ozone and particulate matter. These changes were made following a lengthy review process, and were deemed necessary to protect public health and the environment.

For ozone, EPA initially phased out the 1-hour average concentration standard and replaced it with an 8-hour average concentration standard. All areas currently meeting the 1-hour ozone standard must demonstrate attainment with the 8-hour standard, and attainment status will be determined initially from data collected in the years 1997 through 1999. Those areas currently in nonattainment with the 1-hour standard must demonstrate attainment with that standard before complying with the 8-hour standard. Only the Northern Virginia area remains in nonattainment with the 1-hour standard.

In May 1999, the D.C. Circuit Court remanded the new 8-hour ozone standard on constitutional grounds and rules that EPA may not enforce the new 8-hour standard. As a result, EPA has reinstated the previously revoked 1-hour standard (see discussion above).

The Clean Air Act and various other federal laws require that Governors make recommendations to EPA concerning the geographic boundaries with respect to attainment or nonattainment after promulgation of new or revised air quality standards. For the revised ozone standard, the recommendation was due by July 1, 1999. However, Governor Gilmore did not make any recommendations as to the geographic boundaries but instead expressed the view that it was premature to do so in light of the uncertainty associated with the revised air quality standard due to the court rulings. The standard is currently unenforceable and, ultimately, EPA might have to revise the level in the revised ozone standard. In spite of this uncertainty, EPA indicated that it is duty bound by law to make its decision and put forth a new deadline of July 1, 2000 for the Governors to make their submittals. On June 29, 2000, Governor Gilmore submitted the Commonwealth's recommendations as to the geographic areas to be designated nonattainment. A copy of the submittal letter and list of the recommended nonattainment areas are attached. The final decision on the designations lies with EPA and may occur as early as December 2000.

Meanwhile, EPA continues its efforts to develop an implementation strategy that meets the Supreme Court's mandate to develop a legal mechanism for implementing the new 8-hour standard. EPA hopes to have a set of alternatives that it can submit for comment soon and finalize a set of requirements by 2003. EPA will have new ozone data by 2003 and will be able to provide the necessary information by 2003 or 2004 so that states can begin to develop their implementation plans utilizing the updated data.

EPA should also be able to establish the geographic boundaries of the nonattainment areas by 2004. Then, states would have to specify how they plan to gain attainment status, including developing strategies. This should take place by 2006. EPA projects the following schedule:

- ◆ 2003 - Final implementation of the 8-hour ozone NAAQS.
- ◆ 2004 - Designation of the 8-hour nonattainment areas, and reinstatement of the NO_x SIP Call for 8-hour standard.
- ◆ 2005 - Complete modeling for additional states and additional SIP calls.
- ◆ 2007 - Assess reductions from NO_x SIP call.
- ◆ 2007/2008 - SIP attainment submission date.
- ◆ 2007/2008 - Projected SIP call compliance date.

On July 26, 2002 (67 FR 48896), EPA published a notice of a proposed settlement agreement between the Department of Justice and environmental groups affecting how EPA will implement the transition from the 1-hour ozone standard to the 8-hour ozone standard. The settlement would require EPA to issue a notice of proposed rulemaking stating that it will stay its authority to determine that an area has met the 1-hour ozone standard, which under 40 CFR 50.9(b) would mean the 1-hour ozone standard would no longer apply to that area (assuming the 8-hour standard has become fully enforceable and is not subject to any further legal challenge). Instead, the settlement provides that EPA will propose that the stay be effective until EPA takes final agency action on a subsequent rulemaking addressing whether EPA should modify this provision (on the applicability of the 1-hour standard after the 8-hour standard has become fully enforceable), given the Supreme Court's decision of February 27, 2001 regarding implementation of the 8-hour standard. Furthermore, EPA agrees in the settlement that in this subsequent rulemaking, EPA will state that it will consider and address any comments concerning (a) which, if any, implementation activities for an 8-hour standard would need to occur before EPA determines that the 1-hour standard no longer applies to an area, and (b) the effect of revising the ozone NAAQS on existing ozone designations. The environmental groups agree to dismiss their lawsuit if EPA meets the terms of the settlement agreement. Comments on the proposed settlement were due August 26, 2002.

Because the Court removed EPA's power to enforce the new 8-hour standard, assessment of the control options to address these potential new nonattainment areas is in the very preliminary stages. For the most part, details of the plans required for each area have not been determined at this time.

EPA NO_x SIP Call

In September 1998, EPA announced the final version of its NO_x SIP call. The SIP call requires Virginia, along with 21 other states, to implement a program to reduce NO_x emissions with the objective being the attainment of the ozone air quality standard. Background on activities related to the development of the original EPA proposal and associated litigation may be found below.

In March 1995, EPA agreed to work with the Environmental Commissioners of 37 states to deal with the issue of ozone nonattainment in areas designated "Serious" and above as established by the 1990 Clean Air Act Amendments. The 37 states included the OTC states, southern states, midwestern states, and other states bordering the Mississippi River on the west plus Texas, Oklahoma, Kansas, Nebraska and the Dakotas. This group

of states was called the Ozone Transport Assessment Group (OTAG). The Serious and above areas included the Northeast corridor from northern Virginia through New England or the OTC (Ozone Transport Commission) states; Atlanta, Georgia and the greater Chicago area. The study was to include extensive air quality modeling to determine whether transport of ozone precursor pollutants (nitrogen oxides or NO_x and volatile organic compounds or VOCs) was affecting the ability of these nonattainment areas to attain the health based one-hour ozone air quality standard. Five states did not support the OTAG recommendations because they felt that more detailed technical analysis should be performed before recommendations were made or a SIP call issued. Many also questioned the legality of a SIP call at this time. These five states were Alabama, Kentucky, Michigan, Virginia, and West Virginia. Some of the dissenting states, including Virginia, did not simply take issue with the EPA proposal but developed an alternative proposal under the auspices of the Southeast and Midwest Governor's Ozone Coalition. This alternative proposal was developed because the EPA SIP call requires infeasible and unnecessary emission reductions that will adversely affect the economy of the Commonwealth of Virginia without a commensurate improvement in air quality.

In November 1997 EPA proposed a NO_x SIP call based upon selected OTAG recommendations. During the public comment period on the proposed SIP Call Rule, thirteen states, including Virginia, submitted an alternative proposal to EPA. EPA rejected that proposal, however, and on September 30, 1998, the EPA Administrator signed the final version of the SIP call requiring submission of revised SIPs by September 30, 1999. The final version of the SIP call appeared in the federal register on October 27, 1998 (63 FR 57356).

In late November 1998, the Commonwealth of Virginia and other states, together with utility industry representatives, filed a petition to review with the DC Circuit Court to overturn the NO_x SIP call because it violates the Clean Air Act. The Court was also asked to delay the September 30, 1999 deadline for SIP submittals until April 2000 in order to provide adequate time to prepare the SIP revisions.

In May 1999, the District of Columbia Circuit Court granted a stay for six months or until a decision might be rendered on the merits of the petition. On March 3, 2000, the court decided in EPA's favor. On April 20, however, Virginia and other states petitioned the court for an en banc hearing. The petition for rehearing would further stay the deadline for SIP submittals.

On June 22, 2000, the U.S. Circuit Court of Appeals for the District of Columbia rejected requests for the en banc hearing on the original NO_x SIP call decision. Only one judge dissented. The Court also lifted the stay on submittal of NO_x SIP call SIP revisions, and set a date of October 30, 2000 for submittal by the affected 19 states.

On August 4, 2000, six states, including Virginia, asked a federal appeals court to stay the deadline for states to submit NO_x SIP call SIP revisions, in order to gain more time to take the case to the Supreme Court. Virginia and the other appeal participants have stated in their motion that the SIP submission deadline should be delayed at least until the high court decides whether to accept the case, or at the latest until the high court makes a final determination on the merits of the rule. The parties in the appeal have until September 20

to request Supreme Court review.

Meanwhile, electric utilities and labor groups have filed briefs asking the D.C. Circuit Court to change the NO_x SIP call rule's compliance deadlines for air pollution sources to a later date. The underlying EPA rule had a SIP submittal deadline of September 30, 1999, and a source compliance deadline of May 1, 2003. On August 30, 2000, the U.S. Circuit Court of Appeals for the District of Columbia issued an order changing the NO_x SIP call rule's compliance deadlines for air pollution sources to May 31, 2004.

In the Fall of 2000, several industry groups and seven States, including Virginia, asked the U.S. Supreme Court to overturn the 2-1 decision of the D.C. Circuit Court of Appeals upholding the NO_x SIP call rule. The petitioners argued that EPA had exceeded its authority in setting the rule and that EPA had improperly considered the cost of air pollution controls in determining the degree to which each affected state must reduce emissions.

On March 5, 2001, without comment, the U.S. Supreme Court denied the petitions for certiorari challenging EPA's NO_x SIP call rule. Thus, the core elements of the NO_x SIP call remain in place. However, there are still two suits pending in the D.C. Circuit challenging EPA's emission budgets, one alleging faulty growth projections and the other alleging faulty public participation procedures in developing revised budgets. Brought by Industry groups, their position is that EPA cannot implement the NO_x SIP call until these issues are resolved.

On June 8, 2001, the U.S. Circuit Court of Appeals for the District of Columbia remanded to EPA the growth factors for EGUs, as well as the agency's source definitions. Most other pertinent claims were rejected.

Another factor affecting the issue of implementation of the NO_x SIP call rule is the litigation challenging EPA's rule under § 126 of the Clean Air Act. Plaintiffs charged that EPA's rule requiring many power plants and other NO_x sources in several midwestern and southeastern states to comply with emission limits established by EPA and to participate in an emissions trading program was inconsistent with the Clean Air Act, arbitrary, capricious and technically deficient. The NO_x SIP call and § 126 rules are not "in sync" because they apply to somewhat different sources and have different compliance dates.

On May 15, 2001, the U.S. Circuit Court of Appeals for the District of Columbia remanded the rule to EPA in order for the agency to "(1) properly justify either the current or a new set of [electric generating unit] utilization growth factors to be used in estimating utilization in 2007, and (2) either alter or properly justify its categorization of cogenerators that sell electricity to the electric grid as [electric generating units]." Aside from the remand of these two issues, the court otherwise found that "[w]ith respect to all other issues, including those not discussed expressly herein, the petitions are denied," thus upholding EPA's authority to impose emission limits on affected sources by 2003.

On August 3, 2001 (66 FR 40609), EPA made available data on the growth rates for heat input by electric generating units for both the NO_x SIP Call and the rule responding to state petitions under Section 126 of the Clean Air Act. With this notice, EPA has maintained that, based on the existing record, its preliminary view is that the growth calculations and

methodology used were reasonable and that they can be supported with a more detailed explanation that takes into account the concerns of the D.C. Circuit Court. EPA is also considering new data that has recently been placed in the dockets for EPA's ozone transport rules and is seeking public comment.

On April 30, 2002 (67 FR 21522), EPA promulgated a final regulation to address the June 8, 2001 and May 15, 2001 court decisions mentioned above, along with an August 24, 2001 court decision relating to the 126 rules. In this action EPA revised the compliance date and other related dates for facilities subject to EPA's ozone transport rule, known as the Section 126 Rule. In an effort to harmonize compliance dates, EPA has established May 31, 2004 as the compliance date for all affected sources under both the NO_x SIP Call and the Section 126 Rule. In a previous action, EPA had already extended the compliance date for electric generating units (EGUs) until May 31, 2004, matching the deadline established by the D.C. Circuit for the NO_x SIP Call.

On May 1, 2002 (67 FR 21868), EPA announced its decision to retain the original growth projections used in setting limits on nitrogen oxides (NO_x) emissions as part of the NO_x SIP Call and the Section 126 Rule, designed to reduce interstate transport of ozone. In making this decision, EPA was responding to the D.C. Circuit Court decision that remanded the heat-input growth rates to EPA for the agency to either justify or replace with new growth rates (with justification). After a thorough review, during which EPA reexamined the growth rates and the methodology used to develop them and analyzed more recent information on actual heat input, EPA has confirmed the reasonableness of its methodology and the resulting growth rates.

Virginia's Response to NO_x SIP Call

Many areas within the eastern half of the United States petitioned EPA regarding their inability to achieve the ozone standard due to significant amounts of ozone and oxides of nitrogen (NO_x), a precursor to ozone, being transported across state boundaries. EPA made a determination (Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone; 63 FR 57491, October 27, 1998, as amended at 63 FR 71225, December 24, 1998; 64 FR 26305, May 14, 1999; and 65 FR 11230, March 2, 2000) that sources in 22 states and the District of Columbia emitted NO_x in amounts that significantly contribute to nonattainment of the ozone NAAQS in one or more downwind states. EPA also required that each of the affected upwind jurisdictions (sometimes referred to as upwind states) submit SIP revisions prohibiting those amounts of NO_x emissions that significantly contribute to downwind air quality problems. Virginia was included as one of the upwind states.

The rulemaking, known as the NO_x SIP Call Rule (40 CFR 51.121), also includes statewide NO_x emissions budget levels that each state must achieve by the year 2007. Furthermore, the NO_x SIP Call Rule identifies specific source categories that are covered by the budget; these include electric generating units (EGUs) with a nameplate capacity greater than 25 MWe and non-electric generating units (non-EGUs) above 250 mmBtu. Failure to achieve the budget will result in a Federal Implementation Plan (FIP) which EPA has promulgated

as 40 CFR Part 97 (65 FR 2727, January 18, 2000).

The NOx SIP Call Rule identifies Virginia, along with other states and the District of Columbia, as having substantially inadequate SIPs to comply with requirements of the Clean Air Act that address interstate transport of nitrogen oxides in amounts that will contribute significantly to nonattainment in one or more other States with respect to the ozone national ambient air quality standard. It mandates that, for each jurisdiction identified, a SIP revision must be submitted to EPA that imposes enforceable mechanisms to assure that, collectively, all sources identified in the budget will not exceed the NOx emissions projected for the year 2007 ozone season. The SIP revisions must include control measures to limit the amount of NOx so that the jurisdiction's budget is not exceeded. The control measures must be implemented no later than May 1, 2003 (later adjusted by the United States Court of Appeals for the District of Columbia Circuit to May 31, 2004). Emission reductions used to demonstrate compliance with the revision must occur during the ozone season. The revision must include a description of enforcement methods including monitoring compliance with each selected control measure and procedures for handling violations. For large electric generators and industrial boilers, the control measures must include a NOx mass emissions cap on each source, and impose a NOx emission rate so that the State can comply with the 2007 ozone NOx budget.

The NOx SIP Call Rule permits the states to include a budget trading program as an option in their SIP revisions. The use of this type of program is allowed under 40 CFR 51.121(p), and EPA provides a model NOx budget trading rule (hereafter called the EPA Model Rule) in 40 CFR Part 96 (63 FR 57514, October 27, 1998) of the NOx SIP Call Rule. In fact, EPA encourages states to use the EPA Model Rule and if the state chooses this approach the state's SIP revision will be automatically approved according to 40 CFR 51.121(p).

The original NOx SIP Call rule had a SIP submittal deadline of September 30, 1999, but this was later changed to October 30, 2000 to accommodate the delay caused by the litigation.

On October 27, 2000, the Commonwealth submitted a NOx Budget Trading Program draft regulation based on 40 CFR Part 96; however the draft regulation was not fully adopted and the submittal did not meet EPA's criteria for being administratively complete. On November 8, 2000, the State Air Pollution Control Board approved 9 VAC 5 Chapter 140 (hereafter called the proposed regulation) and authorized it for release to seek public comment. The Board-approved proposed regulation had only minor variations from the draft regulation submitted on October 27, 2000.

By letter of December 18, 2000, the EPA Regional Administrator notified Governor Gilmore that the Commonwealth's submittal contained significant problems that would affect its approvability. On December 26, 2000 (65 FR 81366), EPA issued a finding that Virginia did not submit a complete, fully adopted SIP in response to the NOx SIP Call. The notice is effective January 25, 2001. If the Commonwealth does not make the required submittal, or the submittal is not found by EPA to be administratively complete, within 18 months of the effective date (July 25, 2002), EPA will impose certain sanctions.

On December 12, 2000, the Department submitted the proposed regulation to the

Regional Office of EPA for preliminary review. By letter of March 9, 2001, EPA, Region III, provided its comments on the proposed regulation. EPA provided both (i) comments that identified certain changes that must be made to gain approval of the proposed regulation by EPA and (ii) comments suggesting changes to improve the quality of the proposed regulation. The mandatory changes addressed the value of the emissions trading budget for EGUs and the compliance supplement pool, both of which are larger in the proposed regulation than in the EPA NOx SIP Call Rule. The other comments suggested changes to make the proposed regulation consistent with the version of the federal regulation (40 CFR Part 97) that is to be used if EPA should impose a federal implementation plan on the Commonwealth.

On July 16, 2001, the Department issued a notice seeking comment on the proposed regulation. A public hearing was held August 22, 2001 and the comment period closed September 14, 2001. Action by the Board on the final regulation was expected at the January 2002 meeting but was delayed until the February 27, 2002 meeting at the request of the Governor's Office. Final action was taken on the regulation at the February 27 meeting but publication of the final regulation in the Virginia Register on March 25, 2002 was accompanied by a notice of suspension and reopening for public comment. This action was taken due to the substantive differences between the proposed regulation and the final. The second comment period closed on April 24, 2002 and the Board approved the final regulation at its May 21, 2002 meeting.

The purpose of the final regulation is to establish general provisions addressing applicability, permitting, allowance allocation, excess emissions, monitoring, and opt-in provisions to create a Virginia NOx Budget Trading Program as a means of mitigating the interstate transport of ozone and nitrogen oxides in order to protect public health and welfare. The regulation creates an enforceable mechanism to assure that collectively, all affected sources will not exceed the total NOx emissions budget established by regulation for the year 2007 ozone season and to provide the regulatory basis for a program under which the creation, trading (buying and selling) and registering of emission credits can occur. Furthermore, the regulation identifies specific source categories that are covered by the budget; these include electric generating units (EGUs) with a nameplate capacity greater than 25 MWe and non-electric generating units (non-EGUs) above 250 mmBtu.

On June 25, 2002, the regulation was submitted to EPA as Virginia's response to the NOx SIP Call, along with the initial allocations for the affected units. On July 23, 2002 (67 FR 48032), EPA issued a notice determining the submittal to be administratively complete. EPA has yet to issue the notice of approval.

Subsection D of Item 383 of the 2002 Appropriations Act was revised to enable DEQ to allocate NOx emission credits through an auction process. This authority is limited to the NOx emission credits set aside for new sources. The Department has prepared a Notice of Intended Regulatory Action to solicit input on whether the agency should proceed with such auctions.

Motor Vehicle Emissions Inspection and Maintenance Program

Since passage of the 1990 Clean Air Act Amendments, Virginia has put forth considerable effort to design a workable emissions inspection program that would improve upon the previous program. These program improvements are mandated by Congress but the initial EPA regulation required a centralized inspection system which was not the best type of program for Virginia. In 1995, the General Assembly passed legislation that specified both the type of inspection system (decentralized) and inspection equipment that would be used in the Northern Virginia program. In 1996, Congress and the EPA changed their requirements to allow a decentralized program as adopted by the General Assembly. The Department has worked hard to create a program that retains the convenience of having emissions inspections and emissions repairs performed in the same stations, while upgrading the equipment to more accurately identify those vehicles which emit excessive pollutants while operating under roadway conditions. With the help of service stations, repair garages and auto dealerships a program has been designed that is a model for other states to follow. Acceptance by and support from the repair industry has been very good. The program operation commenced in April of 1998. The program provides an enhanced automation inspection process and improved testing of vehicle emissions under conditions simulating driving at 15 and 25 miles per hour. The new program is several times more effective in reducing vehicle emissions than the previous program. This enhanced emissions inspection program is one of the largest air pollution reduction measures in the Northern Virginia Air Quality Attainment Plan.

In 2003, the Department plans to add testing of the on-board diagnostics or OBD system on model year 1996 and newer vehicles. All light duty vehicles 1996 and newer must be equipped with OBD according to federal law. The OBD system monitors key components of the vehicle's emission control system, records any "diagnostic trouble codes" and warns the driver if there is a condition that could cause excess emissions. The information from the diagnostic trouble codes can be used by the repair technician to facilitate effective and efficient repairs. It is a requirement of the Clean Air Act that each vehicle emissions inspection program monitor the OBD system and fail the vehicle if the OBD warning light is illuminated and if other malfunctions are detected. The OBD test will take the place of a tailpipe test and will thus greatly reduce the amount of time for an emissions test. The Department will substitute the OBD test for the tailpipe test after an OBD advisory period during which OBD results will be recorded, but will not result in an emissions test failure.

As required by the Clean Air Act, each vehicle emissions inspection program must conduct remote sensing of vehicle emissions in the program area. In response to this requirement, the General Assembly passed legislation in 1996 to authorize the Department of Environmental Quality to perform remote sensing of vehicle emissions throughout the Northern Virginia area. Additional legislation was adopted in 2002 to promote the remote sensing program and to authorize the Department to establish a repair subsidy program for low-income vehicle owners that fail the remote sensing test. A pilot study was conducted in 1996 and 1997 to obtain information regarding the feasibility of such a program.

The study indicated that vehicles subject to emission inspections are about 7% to 10% cleaner than those that are not. The study found that out-of state vehicles comprise about 15% of the fleet in Northern Virginia and another 13% of the automobiles in the program area are registered in other areas of Virginia. Most of the out-state vehicles are subject to

emission inspection programs in other states; the other Virginia vehicles (13%) could be subject to emission inspections in the new program if identified by remote sensing as regular commuters and gross polluters.

The study indicated that remote sensing has the potential to identify gross polluting vehicles and supports a program that will require that those vehicles be repaired. The cost of operating a remote sensing program could be a major factor in the establishment of a comprehensive program. Remote sensing technology continues to improve. The Department is reassessing implementing, on a limited scale, an ongoing remote sensing program. A second remote sensing pilot study is underway to assess the efficiency of identifying gross polluting vehicles and requiring out-of-cycle retesting.

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APPENDIX A DESCRIPTION OF AIR QUALITY PLANS AND PROGRAMS

STATE IMPLEMENTATION PLAN

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

The NAAQS, developed and promulgated by the U.S. Environmental Protection Agency (EPA), establish the maximum limits of pollutants that are permitted in the outside ambient air. The Clean Air Act requires that each state submit a plan (called a State Implementation Plan or SIP), including any laws and regulations necessary to enforce the plan, showing how the air pollution concentrations will be reduced to levels at or below these standards (i.e. attainment). Once the pollution levels are within the standards, the plan must also demonstrate how the state will maintain the air pollution concentrations at the reduced levels (i.e., maintenance). The Virginia State Implementation Plan was submitted to EPA in early 1972. More than 100 revisions (mostly regulation revisions) to the plan have been made since the original submittal in 1972. Generally, the plan is revised, as needed, based upon changes to the Clean Air Act and its requirements.

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

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

The heart of the SIP is the control strategy. The control strategy describes the emission reduction measures to be used by the State to attain and maintain the air quality standards. There are three basic types of measures: stationary source control measures, mobile source control measures, and transportation source control measures. Stationary source control measures are directed at limiting emissions primarily from commercial/industrial facilities and operations. Mobile source control measures are directed at limiting tail pipe and other emissions primarily from motor vehicles and include the following: Federal Motor Vehicle Emission Standards, fuel volatility limits, reformulated gasoline, emissions control

system anti-tampering program, and inspection and maintenance program. Transportation source control measures are directed at limiting the location and use of motor vehicles and include the following: carpools, special bus lanes, rapid transit systems, commuter park and ride lots, bicycle lanes, signal system improvements, and many others.

Most of the agency's regulations are designed to provide the means for implementing and enforcing SIP control measures (primarily stationary source and some mobile source) necessary to obtain emissions reductions. About 95 percent of the agency's regulations fall into this category and are, therefore, subject to EPA approval.

In addition, development and enforcement of regulations under the Virginia State Implementation Plan must be continually pursued, as well as development of new plan revisions as federal laws and regulations change.

REGULATORY PROGRAMS

The state's air quality programs are developed in order to implement the provisions of the Virginia Air Pollution Control Law and to fulfill the Commonwealth's mandates under the Federal Clean Air Act (originally enacted in 1970) to implement air quality programs required by the Act. The regulations are adopted in order to provide a legally enforceable means to implement air quality programs required by the Act.

The basic approach and content of these two laws greatly influence agency program development. The state law is very broad, giving the agency much latitude and addressing the general development and processing of regulations with little guidance on their content or other aspects of the programs. The federal law, however, differs sharply by laying out, often in explicit detail, the exact requirements for an air quality program. In cases where the law is not explicit, the accompanying federal regulations fill in the gap in even greater detail, in some cases, going as far as actually requiring states to adopt certain federal regulations verbatim. The chief influences on the Commonwealth's air quality programs are the federal law and the regulations drawn pursuant to it. For any air quality program to become acceptable under the Clean Air Act, it must be submitted to and approved by the U.S. Environmental Protection Agency (EPA). Although the programs of the State Air Pollution Control Board are heavily influenced by federal legislation, it is state law that provides the legal basis for programs developed by the Board and the Department. Below is a summary of the basic programs established by the laws, both federal and state.

State Implementation Plan Regulatory Programs. The SIP is designed to attain and maintain the ambient air quality standards throughout the state. The standards prescribe limits for six "criteria pollutants": carbon monoxide, lead, nitrogen oxides, ozone, particulate matter, and sulfur oxides. Regulations are one element of the plan and are included to provide a legal basis to restrict the emission of air pollution from individual sources. The Board's SIP regulations may be divided into four general categories as follows:

Stationary Source Regulatory Program. Covers existing sources and requires compliance with emission standards based on emission limits achievable through the use of reasonably available control technology.

New and Modified Source Permit Program. Covers new facilities and expansions to existing ones and requires a permit be obtained prior to beginning construction of the new facility or the expansion to the existing one. There are three permit programs and applicability depends on the type, size and location of the source. The first, prevention of significant deterioration, applies to major sources and major modifications locating in areas in which the air quality meets or is better than the air quality standards. The second, nonattainment, applies to major sources and major modifications locating in areas in which the air quality does not meet the air quality standards. The third covers smaller sources not covered by the other two.

Motor Vehicle Emissions Control Programs. Emissions inspection program covers motor vehicles in the Northern Virginia area and requires compliance with tailpipe emission limits. Compliance is determined by a period inspection of the vehicle emissions. The National Low Emissions Vehicle (NLEV) program provides a legal mechanism to allow automobile manufacturers to have the option of agreeing to comply with tailpipe standards that are more stringent than EPA can mandate prior to model year 2004. Once the manufacturers commit to the program, the standards are enforceable in the same manner as other federal motor vehicle emissions control requirements. These manufacturers have agreed to volunteer these tighter emission standards because EPA and affected states agreed to certain conditions, including providing manufacturers with regulatory stability and reducing regulatory burdens by harmonizing federal and California motor vehicle emission standards.

Air Pollution Episode Prevention Program. Covers certain sources subject to the SIP regulatory program and requires the filing of plans to prescribe steps to be taken should air quality levels exceed the standards by a substantial amount.

Conformity Program. Establishes criteria and procedures for federal agencies to determine that federal non-transportation related actions or transportation plans and projects are in conformance with the SIP in the Northern Virginia, Richmond, and Hampton Roads areas.

Other Clean Air Act Regulatory Programs.

New Source Performance Standards (NSPS). Nationwide technology-based performance standards consisting of emission limits and other limitations to control certain pollutants from certain newly built plants and modifications to existing ones. Enforced by the state through delegation of authority from EPA and designed to provide a minimum level for consistency among the states in requirements for new industrial development.

National Emission Standards for Hazardous Air Pollutants (NESHAP). Nationwide health-based emission standards consisting of emission limits and other limitations to control certain pollutants from certain industry and other activities which emit hazardous air pollutants. Enforced by the state through delegation of authority from EPA and designed to provide a minimum level for consistency among the states.

Maximum Achievable Control Technology Standards (MACTs). Nationwide technology

based emission standards consisting of emission limits and other limitations to control certain pollutants from certain industry and other activities which emit hazardous air pollutants. Enforced by the state through delegation of authority from EPA and designed to provide a minimum level for consistency among the states.

Designated Pollutant Plan Regulatory Program. Similar to a SIP but applies only to designated pollutants. These are pollutants for which a NSPS has been promulgated but are not criteria pollutants or hazardous pollutants (NESHAP). Covers existing sources and requires compliance with emission standards based on emission limits achievable through the use of reasonably available control technology.

Operating Permit (Title V) Program. Covers major regulated industrial/commercial facilities and requires a renewable permit be obtained to operate the facility.

Acid Deposition Control Program. Designed to reduce sulfur dioxide and nitrogen oxide emissions from electric utilities by 10 million tons per year nationwide in two stages by the year 2000.

State-Only Regulatory Programs.

Toxic Pollutant Control Program. Provides for case-by-case source-specific assessment and establishment of control requirements after evaluation against threshold levels derives from occupational health and safety standards. Covers most regulated sources and several hundred substances.

Medical Waste Incinerator Emissions Control program. Designed to limit emissions of dioxins/furans, particulate matter, carbon monoxide, and hydrogen chloride from regulated medical waste incinerators.

Odor Emissions Control Program. Provides a general standard for odor and a general approach to use in determining whether an odor is objectionable. The purpose is to require the source to take action to eliminate or reduce the odorous emissions if deemed to be objectionable to individuals of ordinary sensibility. However, unlike most other emission standards, there are no definitive requirements in the standard itself; the standard merely provides a mechanism for the Department, on a case-by-case basis, to require the owner to reduce emissions after investigation by the Department.

Open Burning Emissions Control Program. Limits or prohibits, in some instances, open burning and restricts emissions of particulates and volatile organic compounds during the peak ozone season to the level necessary for the protection of public health and welfare and provides guidance to local governments on the adoption of ordinances to regulate open burning. Efforts are being made to encourage local adoption of open burning control programs in response to a recommendation by the 1990 Governor's Commission on Efficiency in Government that open burning should be regulated by local governments rather than by the state.