

A REPORT TO
The HONORABLE TIMOTHY M. KAINE
GOVERNOR

and the

GENERAL ASSEMBLY OF VIRGINIA

AIR POLLUTION CONTROL POLICIES of the COMMONWEALTH

October 2006

2006 LEGISLATIVE REPORT
in response to
§ 10.1-1307 G of the Code of Virginia

prepared by the

DEPARTMENT OF ENVIRONMENTAL QUALITY

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. . . ."

In most areas, air quality in Virginia meets national air quality standards. This is good news for Virginians as the Governor, the State Air Pollution Control Board and the Department of Environmental Quality (DEQ) strive to maintain and improve air quality. However, a number of regions do not meet the air quality standard for ozone. The following report details the status of Virginia's air quality and the policies and regulations that govern Virginia's air quality program.

EXECUTIVE SUMMARY

- Status of Air Quality
 - Overall, air quality continues to gradually improve. Originally, five areas throughout the state did not meet the 8-hour ozone standard. Of the five areas, four now meet the standard; two of these areas have recently had their redesignation requests approved by EPA, and two others have made similar applications.
 - The Northern Virginia region is still in violation of the 1-hour standard.
 - EPA has designated 9 localities in Northern Virginia area as nonattainment for the PM_{2.5} (fine particulate matter) standard, alleging that the emissions from these localities contribute to nonattainment in the Maryland and Washington, DC areas.
 - DEQ's forecast modeling indicates that the projected emission reductions will reduce pollution to meet federal air quality standards for ozone and fine particulate matter by year 2009.

- Planning for the 1-hour Ozone Standard

The 1-hour ozone standard has been replaced by the 8-hour standard, and, as of April 15, 2005, is no longer in effect. The department is working with EPA to resolve a number of remaining administrative and logistical issues, which primarily affect the status of maintenance plans.

- Planning for the 8-hour Ozone Standard
 - On June 2, 2003, EPA released its options for the planning requirements for areas that will be nonattainment under the 8-hour ozone standard.
 - The final decision by EPA regarding designation of the 8-hour nonattainment areas was promulgated on April 15, 2004. The affected localities are in the Northern Virginia area, Fredericksburg area, Richmond area, Hampton Roads area, and part of Shenandoah National Park. Many of the localities were at one time designated nonattainment for the 1-hour ozone standard but a few new localities were added.
 - Two areas (Frederick County and Roanoke areas) that have been identified as

potential nonattainment areas by both Virginia and EPA have agreed to abide by EPA's early action compact policy. Under this policy, the areas will have the nonattainment designation delayed in exchange for implementing emissions reduction controls earlier than otherwise required

- On July 12, 2004, the Commonwealth submitted a request to reclassify the Richmond Ozone Nonattainment Area downward from moderate to marginal. This request was approved by EPA, and removed the need for certain control measures.

- The department submitted requests to redesignate the Fredericksburg and the Shenandoah National Park ozone nonattainment areas to maintenance. These requests were approved by EPA on December 23, 2005 and January 3, 2006, and removed the need to implement certain control measures.

- Planning for the PM_{2.5} Standard

- On April 1, 2003, EPA issued guidance to states on the process for designating areas for the purpose of implementing the PM_{2.5} (fine particulate matter) national ambient air quality standard.

- The Commonwealth submitted its recommendations on the designations of areas under the PM_{2.5} standard on February 13, 2004, requesting that all areas be designated attainment.

- Although there were no violations of the PM_{2.5} standard in the Commonwealth, EPA has designated 9 localities in Northern Virginia area as nonattainment, based on the assumption that the emissions from these localities contribute to nonattainment in the Maryland and Washington, DC areas.

- Plans are due February 2008 that outline measures that will be taken to improve air quality to meet the PM_{2.5} standard.

- Clean Air Interstate Rule (CAIR)

- EPA's Clean Air Interstate Rule (CAIR), which EPA promulgated to address transport of NO_x and SO₂ emissions in 28 states in the East and Midwest and the District of Columbia, was published in the Federal Register on May 12, 2005. It became effective on July 11, 2005, except for provisions relating to the Acid Rain Program, which are effective July 1, 2006.

- In 2006, the Virginia General Assembly adopted legislation (HB1055/SB651) to set parameters for the Air Pollution Control Board's implementation of CAIR in Virginia. The legislation requires the board to provide allocations to renewable and energy efficiency projects. The legislation also provides the Air Pollution Control Board the authority to prevent electric generating facilities located within nonattainment areas in Virginia from meeting their NO_x and SO₂ compliance obligations through the purchase of allowances. Additional reductions of NO_x (approximately 5000 tons) are also to be achieved in 2007 or 2008 from an electric generating utility whose combined emissions of NO_x exceeded 40,000 tons in 2004.

- The department is currently engaged in developing a proposed regulation. The public comment period closed on September 8, 2006 and it is anticipated that the Board will adopt a final regulation in December of this year with a submittal to EPA in mid 2007.

- Clean Air Mercury Rule (CAMR)

- On May 18, 2005, EPA published in the Federal Register the Clean Air Mercury Rule (CAMR) to control emissions of mercury from electric utilities under § 111 of the Clean Air Act. States covered by CAIR must submit § 111(d) plans to implement CAMR by November 17, 2006.

- The department is currently engaged in developing a proposed regulation to meet the federal requirements.

- Clean Smokestacks Bill

- The 2006 General Assembly passed legislation, specifically Chapters 867 and 920, which requires electric generating units to reduce emissions of SO₂, NO_x, and mercury. The emission reductions required by this legislation require NO_x emissions to be reduced by approximately 5000 tons during the 2007 or 2008. The legislation also benefits Virginia's air quality by requiring mercury reductions to occur within Virginia and surrounding areas. The provisions of this legislation are being addressed in the CAIR and CAMR regulations described above.

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 103 instruments at 47 sites during 2005. 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 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, and are available from the department website at www.deq.virginia.gov/airmon.

Ambient concentrations of carbon monoxide, nitrogen dioxide, and sulfur dioxide were meeting all of EPA's national ambient air quality standards (NAAQS) in 2005. Virginia continued to experience problems in 2005 with summertime ozone pollution, particularly in Northern Virginia, Richmond, and Hampton Roads. These areas each had days when the 8-hour ozone standards were exceeded. It is noteworthy, though, that 2005 was the first period in 30 years where no exceedances of the 1-hour ozone standard were recorded.

EPA replaced the 1-hour standard on June 15, 2005, with the stricter 8-hour ozone standard. Effective June 15, 2004, EPA designated the following areas nonattainment for the 8-hour standard: Richmond, Hampton Roads, Northern Virginia, Fredericksburg, and the portions of Madison and Page Counties located in Shenandoah National Park. These designations were made based on data from 2000, 2001, and 2002. The Roanoke and Winchester areas also exceeded the 8-hour ozone standard, but at levels low enough to enable them to sign Early Action Compacts (EACs) in December 2002. EACs are plans

that are designed to reduce ozone precursor pollutants and improve air quality in an area prior to receiving an official nonattainment designation by EPA. In exchange, EPA has granted these areas a delay in the effective date of the nonattainment designation, and the requirements that accompany that designation.

In 2005, both the Fredericksburg and the Shenandoah National Park nonattainment areas were redesignated to attainment for the 8-hour ozone standard. The Commonwealth was able to demonstrate, using data from years 2002, 2003, and 2004, that air quality had improved such that each area is now attaining the 8-hour ozone standard.

Current data for the Hampton Roads and Richmond areas also show compliance with the 8-hour ozone standard. The requests for redesignation to attainment for these areas are being finalized for submittal to EPA.

Virginia is meeting the NAAQS for PM₁₀ (particulate matter with an aerodynamic diameter equal to or less than 10 microns). Also, the 24-hour standard for fine particulate matter (PM_{2.5}) as well as the annual standard for PM_{2.5} are being met everywhere in the state for the period from 2003-2005.

Although all PM_{2.5} monitors demonstrate attainment with the standard, in December 2005, EPA designated Northern Virginia nonattainment for the annual PM_{2.5} standard based on its findings that pollution is being transported to and contributing to nonattainment monitoring sites in the District of Columbia and Maryland. A regional air quality plan will be required in 2008 for the Northern Virginia-District-Maryland region.

EPA is currently reviewing the PM_{2.5} standard to determine if the ambient air quality standard needs to be tightened.

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, local governments, 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 the 1-Hour Standard

EPA replaced the 1-hour, 0.12 ppm ozone NAAQS with an 8-hour standard at a level of 0.08 ppm on July 18, 1997 (62 FR 38856). The new primary standard became effective on September 16, 1997. The transitional period between the old and new standards ended on April 15, 2005, when the 1-hour standard ceased to be in effect.

EPA issued a final rule on July 26, 2005 identifying areas for which the 1-hour ozone standard is no longer applicable. The rule codifies the revocation of the 1-hour standard for those areas with effective 8-hour ozone designations. EPA revised the 1-hour ozone tables in 40 CFR part 81 to indicate for which areas the 1-hour standard has been revoked, but EPA retained the 1-hour ozone designation and classification status as of the time of the effective date of designation for the 8-hour ozone standard for purposes of EPA's anti-backsliding regulations at 40 CFR 51.905, which apply after revocation of the 1-hour ozone standard. Since Early Action Compact (EAC) areas had their 8-hour ozone designations deferred, the 1-hour ozone standard still applies to the 14 EAC areas.

As of April 15, 2005, the 1-hour ozone standard is no longer in effect. The department is working with EPA to resolve a number of remaining administrative and logistical 1-hour issues. The primary issue affecting Virginia is the future status, if any, of 1-hour maintenance plans. A revised maintenance plan for the Richmond 1-hour maintenance area was submitted to EPA, and proposed approval was issued on October 7, 2002. A revised maintenance plan for the 1-hour Hampton Roads maintenance area was also in progress at the time of the standard change. Finally, Virginia and EPA are exploring ways to redesignate the White Top Mountain 1-hour area to attainment in the absence of appropriate data.

Ozone Attainment Designations for the 8-Hour Standard

As discussed above, EPA 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 for the 1-hour standard.

The Clean Air Act (CAA) and various other federal laws require that states make recommendations to EPA concerning the geographic boundaries with respect to attainment or nonattainment after promulgation of new or revised air quality standards. On June 29, 2000, the Commonwealth submitted recommendations as to the geographic areas to be designated nonattainment for the 8-hour ozone air quality standard.

Two areas in Virginia (Roanoke and Winchester) submitted voluntary 8-hour ozone ("early action") compacts to EPA by December 31, 2002. The purpose of an early action

compact is to provide a local area with flexibility to control air emissions from its sources and offer a means to achieve cleaner air faster than would otherwise be required under the CAA. Areas that approach or monitor exceedances of the 8-hour ozone standard but are designated attainment for the 1-hour ozone standard were eligible to submit compacts, which must contain enforceable measures and milestones and schedules established by EPA. In exchange, EPA agreed to defer the effective date of a nonattainment designation as long as all the terms and the milestones in the compacts are met.

On February 27, 2003, EPA agreed to give states a 3-month extension, until July 15, 2003, to submit their updated, revised or new recommendations for 8-hour ozone designations. Initially, EPA required that states submit this information by April 15, 2003. The states requested that the deadline be extended because EPA's proposed implementation rule for the 8-hour ozone standard was not scheduled for release until March 15, 2003, and states needed time to review the rule and explain its implications to stakeholders in nonattainment areas.

On May 14, 2003, EPA released its proposed implementation rule for the 8-hour ozone standard, which would establish guidelines for state and tribal authorities to implement the 8-hour National Ambient Air Quality Standard for ozone enacted by EPA in 1997. The proposal seeks public comment on options for planning and control requirements for states and tribes, as well as for making the transition from the 1-hour ozone standard to the 8-hour standard. In particular, EPA proposes two options for classifying nonattainment areas. One option would place all nonattainment areas under Subpart 2 of Part D of the CAA, which contains detailed and prescriptive requirements for areas depending on the severity of their violation of the 8-hour ozone level. EPA's other classification option – and its preferred one – would generally place areas that are nonattainment only for the 8-hour standard, and not the 1-hour standard, under Subpart 1, with other areas subject to Subpart 2. Subpart 1 contains more flexible requirements for nonattainment areas. The Supreme Court in 2001 held that EPA could not ignore Subpart 2 completely in implementing the 8-hour ozone standard and remanded EPA's original implementation scheme to the agency to reasonably resolve the ambiguity in the CAA concerning the manner in which Subpart 1 and Subpart 2 interact with regard to revised ozone standards.

On July 9, 2003, the Commonwealth made a submittal for the 8-hour ozone designations in which it confirmed the designation of the geographic areas recommended in its July 29, 2000 submittal.

On August 6, 2003 (68 FR 46536), EPA released the draft regulatory text for its proposal to implement the 8-hour ozone standard. On June 2, 2003, EPA published a proposal outlining various options for each element or feature of implementation. In the newly released draft regulatory text, the agency provides language for only one of the options proposed for each feature or element, to demonstrate how the regulatory text would appear for that particular option. In the preamble to the draft regulatory text, EPA says that selection of a particular option was generally based on the preferences stated in the June 2, 2003 proposal and should not be interpreted as a decision by EPA to proceed with that option in final rulemaking.

On December 3, 2003, EPA notified the Governor of EPA's proposed intentions regarding

the designation of areas in Virginia under the 8-hour ozone air quality standard.

On February 10, 2004, the Commonwealth submitted its final recommendations and comments on the designations of areas in Virginia under the 8-hour ozone air quality standard. On April 30, 2004 (69 FR 23858), EPA's nonattainment and attainment/unclassifiable designations for the 8-hour ozone standards were published in the Federal Register, along with area classifications. The designations became effective June 15, 2004 (except for early action compact areas). Below is a comparison of EPA's final designations and Virginia's recommendations.

| Area | Commonwealth's 2/10/04 proposal | EPA's 4/30/04 response/classification |
|---|--|---|
| Northern Virginia | Same as previous 1-hour nonattainment area; transfer Stafford County to Fredericksburg. | No change/moderate. |
| Richmond | Same as previous 1-hour nonattainment area. | Add all of Charles City County, City of Petersburg and Prince George County/moderate. |
| Hampton Roads | Same as previous 1-hour nonattainment area. | Add Gloucester and Isle of Wight Counties/marginal. |
| Fredericksburg | Establish area separate from Northern Virginia but with same classification; transfer Stafford County from Northern. | No change/moderate. |
| Caroline County | New nonattainment area. | Denied. |
| Roanoke | New nonattainment area; designation deferred by EAC. | No change/basic. |
| Frederick County/ Winchester | New nonattainment area; designation deferred by EAC. | No change/basic. |
| Shenandoah National Park | Portion of park within Madison and Page Counties. | No change/basic. |

On April 30, 2004 (69 FR 23951), part one of EPA's final rule for implementing the 8-hour ozone standard was published in the Federal Register. Part one covers two key implementation issues: classifying areas for the 8-hour standard and transitioning from the 1-hour to the 8-hour standard, which includes revocation of the 1-hour standard and the anti-backsliding principles that should apply upon revocation. EPA selected its preferred method for classifying nonattainment areas: each area with a 1-hour design value at or above 0.121 parts per million will be classified under subpart 2 based on its 8-hour design value; all other areas will be covered under subpart 1 using their 8-hour design values. EPA will revoke the 1-hour standard in full, including the associated designations and classifications, one year following the effective date of the 8-hour ozone designations (June 15, 2005). However, EPA maintains that its rule preserves control obligations mandated by subpart 2 for an area's classification for the 1-hour standard, though a state may revoke or modify discretionary measures in a SIP so long as it demonstrates that such removal or modification will not interfere with attainment of or progress toward the 8-hour ozone standard (or any other applicable CAA requirement). States with unmet 1-hour ozone attainment demonstration obligations have three options for meeting this obligation. Areas will not be obligated to continue to demonstrate conformity for the 1-hour NAAQS as of the effective date of the revocation of the 1-hour NAAQS. EPA will no longer make findings of

failure to attain the 1-hour standard and, therefore, 1) EPA will not reclassify areas to a higher classification for the 1-hour standard based on such a finding and 2) areas that were classified as severe for the 1-hour NAAQS are not obligated to impose fees as provided under §§ 181(b)(4) and 185A of the CAA. (These antibacksliding provisions and others are covered in § 51.905 of the final rule.) The rule also covers attainment dates. For areas subject to subpart 2, the maximum period for attainment will run from the effective date of designations and classifications for the 8-hour standard and will be the same periods as provided in Table 1 of § 181(a) of the CAA. For areas subject to subpart 1 of the CAA, the period for attainment will be no later than five years after the effective date of the designation, with a five-year extension possible. The rule became effective June 15, 2004.

On July 12, 2004, the Commonwealth submitted a request to reclassify the Richmond Ozone Nonattainment Area from moderate to marginal. EPA was required to make a final decision by September 15, 2004. Approval by EPA would remove the need to implement some control measures such as a basic motor vehicle emissions inspection and maintenance program. Section 181 (a) (4) of the CAA provides that an ozone nonattainment area may be reclassified in another category if the design value in the area was 5 percent greater or 5 percent less than the level on which the classification was based. On September 15, 2004, EPA approved a final rule that reclassified the 8-hour ozone classification for Richmond from moderate to marginal. The rule was published in the Federal Register on September 22, 2005 (69 FR 56697). Because of the bumpdown, the area must now attain the 8-hour ozone standard by 2007 rather than 2010. The rule became effective November 22, 2004.

On May 24, 2005, EPA took action on several issues raised with respect to the final 8-hour ozone implementation rule (phase I). EPA changed the date for determining which 1-hour ozone requirements will remain "applicable requirements" under the 8-hour ozone rule from April 15, 2004 to June 15, 2004. The final action also provides that states are no longer required to impose fees under § 185 of the CAA based on a failure of an area to attain the 1-hour ozone standard. States may remove adopted fee provisions from their SIPs and will no longer be required to include the § 185 fee obligation as part of an attainment demonstration for a 1-hour severe or extreme ozone nonattainment area. EPA also clarified that states are no longer required to include in their SIPs contingency measures for failure to make reasonable further progress toward attainment of the 1-hour standard or failure to attain by an area's 1-hour attainment date once the 1-hour standard is revoked. Further, EPA revised the definition of "applicable requirement" to include 1-hour attainment demonstrations.

In the Federal Register of August 29, 2005, EPA deferred, for the second time, the effective date for nonattainment designations for 14 of the 29 communities participating in the EAC program. Because these 14 communities – which are in nonattainment but ahead of schedule to meet the 8-hour ozone standard – met the agreed upon milestone of submitting SIPs with adopted control measures that demonstrate attainment by December 31, 2007, EPA has deferred certain CAA requirements, such as those for controls on new sources, from September 30, 2005 until December 31, 2006. Frederick County/Winchester, and Roanoke are the two Virginia localities participating in EACs that are affected by this action.

On November 29, 2005 the U.S. Court of Appeals for the DC Circuit rejected challenges to the 8-hour ozone designations filed by Delaware and Pennsylvania. The two states challenged EPA's rule designating 8-hour ozone areas, arguing that EPA's inconsistent consideration of downwind effects rendered the designations arbitrary and capricious. Delaware also argued that EPA should have established a much larger nonattainment area encompassing the entire northeast corridor. The court rejected both claims, finding that the decision to place two Delaware counties in the Philadelphia nonattainment area was not arbitrary and capricious. It found that EPA adhered to its policy of only changing designations when an 11-factor analysis and EPA data support it. With respect to the contention that all counties from Virginia to Maine are nonattainment areas, all are "nearby" and nothing in the statute prevents placing them in one contiguous area, the court found that, given the discretion in the CAA given to EPA, and Delaware's failure to submit an 11-factor analysis, "Delaware has offered us no basis for questioning EPA's rejection of its proposal to establish a broad, interstate nonattainment area."

EPA announced its intent to reconsider overwhelming transport classification for 8-hour ozone on March 23, 2006, seeking comment on several issues related to the overwhelming transport classification it proposed for certain 8-hour ozone nonattainment areas. EPA had proposed that the overwhelming transport classification could be used by nonattainment areas that can demonstrate that their air quality is affected by overwhelming transport of ozone and its precursors from sources beyond the nonattainment area's boundaries; it would only be available to basic nonattainment areas that meet the CAA definition of a "rural transport area." EPA 1) requested public comment on the overwhelming transport classification for 8-hour ozone nonattainment areas; 2) requested public comment on the draft overwhelming transport guidance, and 3) reopened the comment period on the proposed rule regarding how the CAA's general requirements for nonattainment areas would apply to areas with an overwhelming transport classification. EPA held a hearing on April 12, 2006 and accepted comments until May 12, 2006.

Ozone Attainment Planning for the 8-hour Standard

On January 19, 2005, EPA released guidance explaining how it intends to interpret and apply the NO_x exemption provisions of § 182(f) of the CAA for the 8-hour ozone standard. Section 182(f) generally provides that states apply the same requirements to major stationary sources of NO_x as are applied to major stationary sources of VOCs, but it also specifies circumstances in which these NO_x requirements would be limited or not apply (i.e., NO_x exemptions). This guidance covers the procedures for requesting a NO_x exemption, provides further detail on the tests that must be met in order to be granted an exemption and provides technical information related to modeling techniques and emissions analyses that may be carried out in order to support a NO_x exemption request

On January 10, 2005, EPA announced in a letter to Earthjustice that it will reconsider the "overwhelming transport" classification in the 8-hour ozone rule in response to a petition filed by Earthjustice. EPA planned to issue guidance "in early 2005" on what requirements should apply to areas that receive an "overwhelming transport" classification, and to seek comments on this guidance and simultaneously reopen the comment period on the 8-hour ozone implementation provisions that will apply to these areas. In the letter, EPA also informed Earthjustice that it will not reconsider two other issues Earthjustice raised. First,

with respect to reformulated gasoline (RFG), EPA said it has not decided whether RFG requirements will continue to apply in nonattainment areas and will provide its views “in an action separate from the April 2004 final rule.” Second, EPA said that Earthjustice was mistaken in interpreting a provision of the final rule (§ 51.905(a)(3)(ii)(B)) as constraining EPA’s authority to redesignate an attainment area as a nonattainment area if the area violates the 8-hour standard in the future.

On February 3, 2005, EPA requested comment on four aspects of the 8-hour ozone implementation rule (phase one). First, EPA requested comment on two issues raised in Earthjustice's petition for reconsideration: 1) that fee provisions under § 185 of the CAA would no longer apply for a failure to attain the 1-hour standard once that standard is revoked and 2) to change from April 15, 2004 to June 15, 2004 the date for determining which 1-hour requirements remain “applicable requirements.” Second, EPA requested comment on its proposals to clarify two aspects of the implementation rule: 1) that the contingency measures in §§ 172(c)(9) and 182(c)(9), which are triggered upon a failure to attain the 1-hour standard or to meet reasonable progress milestones for the 1-hour standard, will no longer be required once the 1-hour ozone standard is revoked and 2) that “applicable requirements” be redefined to include attainment demonstration.

On March 28, 2005, EPA requested comment on a proposed consent decree setting dates by which the agency must make certain determinations as to whether each state has submitted adequate SIPs required by § 110(a) for PM_{2.5} and 8-hour ozone. The consent decree established a deadline of March 15, 2005 for the signature of a notice of EPA's determination pursuant to § 110(k)(1)(B) as to whether each state has submitted the SIP revisions for PM_{2.5} and 8-hour ozone that meet the minimum criteria promulgated by EPA pursuant to § 110(k)(1)(A). Note that on March 10, 2005, EPA posted on its web site a finding that states have failed to submit SIPs addressing the transport of pollutants that form ozone and particle pollution in downwind states; this action, according to EPA, satisfies the first requirement. In addition, the proposed consent decree establishes a deadline of December 15, 2007, with respect to SIPs for 8-hour ozone and October 5, 2008, with respect to SIPs for PM_{2.5} for the signature of a notice of EPA's determination pursuant to § 110(k)(1)(B) as to whether each state has submitted the remaining SIP revisions for PM_{2.5} and 8-hour ozone that meet the minimum criteria promulgated by EPA pursuant to § 110(k)(1)(A).

On March 31, 2005, EPA requested comment from states and localities on draft guidance for preparation of maintenance plans required under 40 CFR 51.905 (the anti-backsliding provisions of the 8-hour ozone implementation rule). The guidance applied to areas that were initially designated attainment for the 8-hour ozone standard but were designated nonattainment for the 1-hour ozone standard, or areas designated attainment for the 1-hour ozone standard with a maintenance plan at the time of their 8-hour ozone designation.

EPA released the final Phase 2 Ozone Implementation Rule on November 9, 2005. It covers issues not addressed in the Phase 1 Ozone Implementation Rule, including attainment demonstrations and modeling, new source review requirements, RACT determinations, RACM determinations, reasonable further progress, and reformulated gasoline requirements. Areas that are required to submit attainment demonstrations must do so by three years after the effective date of designation for the 8-hour ozone standard.

A state is not required to perform a NO_x RACT analysis if it is subject to CAIR and, for the CAIR NO_x requirements, is achieving CAIR reductions solely from electric generating units. The final rule was published in the Federal Register on November 29, 2005 and became effective January 30, 2006.

The state of New Jersey, the Natural Resources Defense Council (NRDC) and several Louisiana-based business groups filed petitions with the U.S. Court of Appeals for the DC Circuit on January 20, 2006 seeking review of EPA's final phase 2 rule implementing the 8-hour ozone standard. Only the Louisiana groups identified the bases for their challenge: they seek a review of EPA's decision to "impose the requirements and obligations of a 'nonattainment-severe' classification, including mandating the use of reformulated gasoline, in the Baton Rouge area even though EPA has classified Baton Rouge as 'nonattainment-marginal' for ozone" under the 8-hour ozone standard. NRDC also filed a petition for reconsideration with EPA objecting to EPA's determination that EGUs complying with CAIR are exempt from ozone RACT requirements, and relaxation of NSR requirements.

EPA issued, on December 21, 2005, its proposal for revising the PM NAAQS that would change the daily standard for PM_{2.5} and create a new indicator for the coarse fraction of PM. The agency proposed to lower the daily PM_{2.5} standard to 35 micrograms per cubic meter (μm^3) from the current standard of 65 μm^3 and retain the existing annual standard of 15 μm^3 . EPA also proposed a new indicator for coarse particles that covers particles between 10 and 2.5 micrometers in diameter: PM_{10-2.5}. Under the proposal, coarse particles are defined to exclude particles from sources such as windblown dust and soils, agricultural sources and mining sources, and to include coarse particles that come from sources such as high-density traffic on paved roads, industrial sources and construction activities. The proposed PM_{10-2.5} standard would be a 24-hour standard set at 70 μm^3 . With respect to the current PM₁₀ standard, EPA proposed to revoke the 24-hour standard, except in areas that have both violating monitors and a population of 100,000 or more. The 24-hour PM₁₀ standard would remain in place in these areas until EPA has completed attainment and nonattainment designations for PM_{10-2.5}. The annual PM₁₀ standard would be revoked completely. In a staff paper, EPA staff recommended two options for the PM_{2.5} standard: 1) retaining the 15 μm^3 annual standard and lowering the daily standard to between 25 and 35 μm^3 or 2) lowering the annual standard to between 12 and 14 $\mu\text{g}/\text{m}^3$ and lowering the daily standard to between 30 and 40 $\mu\text{g}/\text{m}^3$. EPA's Clean Air Scientific Advisory Committee (CASAC) recommended an annual average standard between 13 and 14 $\mu\text{g}/\text{m}^3$ combined with a daily PM_{2.5} standard between 30 and 35 $\mu\text{g}/\text{m}^3$.

On January 17, 2006, EPA published its PM proposal. It also released an interim Regulatory Impact Analysis (RIA) that focuses on the costs and benefits of attaining the standard by 2015 in Atlanta, Chicago, New York/Philadelphia, San Joaquin Valley, CA, and Seattle. The analysis concludes that the proposed new daily NAAQS would be met in 2 of the 3 eastern areas through existing programs alone and can be met with additional local controls in Seattle and New York/Philadelphia. EPA projects that San Joaquin Valley cannot attain the proposed new daily standard by 2015. The RIA concludes that if EPA were to adopt the more stringent annual and daily alternatives (14 μm^3 annual and 30 μm^3 daily), additional regional reductions would be necessary in the east as well as new

intrastate regional reductions in the West. EPA will release a national analysis when it finalizes the proposal in September 2006.

On March 21, 2006, CASAC responded to EPA's proposal to revise the PM NAAQS by recommending that EPA 1) lower the annual fine PM ($PM_{2.5}$) standard; 2) expand the monitoring for coarse PM ($PM_{10-2.5}$) to both urban and rural areas; 3) not exempt specific industries from the $PM_{10-2.5}$ standard; and 4) promulgate a sub-daily standard to protect visibility. With respect to the annual $PM_{2.5}$ standard, CASAC said that "epidemiological evidence . . . indicates adverse effects of $PM_{2.5}$ at current annual average levels below 15 $\mu\text{g}/\text{m}^3$ [micrograms per cubic meter]." EPA had recommended that the current annual standard of 15 $\mu\text{g}/\text{m}^3$ not be changed. Accordingly, CASAC recommends EPA reconsider the level for the annual standard so it is set within the range of 13 to 14 $\mu\text{g}/\text{m}^3$. With respect to the proposed $PM_{10-2.5}$ standard, CASAC told EPA that the 24-hour $PM_{10-2.5}$ standard should "be accompanied by monitoring of particles in both urban and rural areas to aid in informing future health effects studies on rural dusts. Moreover, the CASAC strongly recommends expansion of our knowledge of the toxicity of rural dusts rather than exempting specific industries (e.g., mining, agriculture)." EPA's proposal would place $PM_{10-2.5}$ monitors in urbanized areas of 100,000 people or more, and would exempt from control agricultural and mining activities in order to meet the $PM_{10-2.5}$ standard. CASAC also said that "serious consideration" should be given to a secondary $PM_{10-2.5}$ standard at a level similar to the primary standard but without any limitation to urban areas. Finally, CASAC noted three cautions to EPA's proposed visibility standard and requested that the sub-daily standard for visibility, as recommended in the PM Staff Paper and by most of the CASAC PM Panel, "be favorably reconsidered."

Fine Particles ($PM_{2.5}$) Standard - Designation of Nonattainment Areas

On July 18, 1997 (62 FR 38652), EPA promulgated the air quality standards for fine particulate matter ($PM_{2.5}$). The standards were based on a number of health studies showing that increased exposure to $PM_{2.5}$ is correlated with increased mortality and a range of serious health effects, including aggravation of lung disease, asthma, and heart problems. Estimates show that attainment of these standards would result in tens of thousands fewer premature deaths each year and would prevent tens of thousands of hospital admissions and millions of work absences and respiratory illnesses in children annually. The designation process for $PM_{2.5}$ is the next step toward developing and implementing emission control programs that will address this important public health problem.

The first step in the designation process is the submittal of state recommendations. EPA requests that states provide a list of recommended designations to EPA by February 15, 2004. EPA plans to announce its intended designations in July 2004 and will provide 120 days for states to comment on any modifications that EPA makes to the recommended designations. EPA plans to publish final $PM_{2.5}$ designations for all areas on December 15, 2004. EPA also intends to propose and finalize its implementation rule for $PM_{2.5}$ early enough to be taken into consideration during the designation process. By following a designation schedule for $PM_{2.5}$ similar to that for the 8-hour ozone program, states will be able to harmonize area boundaries and future control strategies.

As explained in the guidance, EPA intends to apply a presumption that the boundaries for urban nonattainment areas should be based on metropolitan area boundaries. A metropolitan area, as defined by the Office of Management and Budget, may consist of a single Metropolitan Statistical Area in some cases, and a Consolidated Metropolitan Statistical Area in other cases. These metropolitan areas provide presumptive boundaries for the geographic extent of urban areas. The presumptive use of metropolitan area boundaries to define urban nonattainment areas is based on recent evidence that violations of the PM_{2.5} air quality standards generally include a significant urban-scale contribution as well as a significant larger-scale regional contribution. For rural areas that are identified as violating the PM_{2.5} standards, the guidance sets forth EPA's presumption that the full county should be designated nonattainment. The approach taken in this guidance is similar to our approach to designations for the 8-hour ozone standard, and EPA urges states harmonize their ozone and PM_{2.5} designation recommendations where appropriate.

On May 19, 2003, EPA filed a consent decree setting out a schedule for reviewing the particulate matter (PM) National Ambient Air Quality Standard (NAAQS) to settle a lawsuit brought by a coalition of environmental and health groups. EPA agreed to issue its final criteria document by December 19, 2003, publish a proposed rule (including review of PM standards, any revisions and any new standards) in the Federal Register by April 10, 2005 and publish a final rule in the Federal Register by December 30, 2005. The groups had filed a lawsuit alleging that the EPA Administrator had failed to meet the CAA deadlines for reviewing the PM standard. The CAA requires EPA to conduct a thorough review of NAAQS and make revisions as appropriate every five years. EPA issued revised criteria for PM in 1996 and revised the standard in 1997. The proposed settlement was filed in U.S. District Court for the District of Columbia.

On February 13, 2004, the Commonwealth submitted its initial recommendations on the designations of areas in Virginia under the fine particulate matter (PM_{2.5}) air quality standards. The letter explained that based on the most recent three years of fine particulate matter monitoring data from 2001 to 2003, all monitors within the Commonwealth of Virginia are currently measuring PM_{2.5} concentrations that are in compliance with the standards. It went on to say that no short-term (24-hour) exceedances of the standard have ever been recorded in the Commonwealth. Based on these monitoring data, the initial recommendation of the Commonwealth is that all areas in Virginia should be designated attainment for the fine particulate matter standards.

On June 29, 2004, EPA notified the Governor of EPA's proposed intentions regarding the designation of areas in Virginia under the PM_{2.5} air quality standard. Despite not having any violations of the PM_{2.5} air quality standard in the Commonwealth, EPA proposed to designate 9 localities (Arlington County, Alexandria City, Fairfax County, Fairfax City, Falls Church City, Loudoun County, Manassas City, Manassas Park City, Prince William County) in Northern Virginia area as nonattainment, alleging that the emissions from these localities contribute to nonattainment conditions in the Maryland and Washington DC areas.

On January 5, 2005, EPA published the final PM_{2.5} designations in the Federal Register (70 FR 944) with an effective date of April 5, 2005. The Virginia localities originally proposed by EPA were designated as a PM_{2.5} nonattainment area. The designations

were based on air quality data for calendar years 2001 through 2003. In the Federal Register notice, EPA provided that if any state submitted, by February 22, 2005, complete, quality assured, certified 2004 data that suggested that a change of designation status would be appropriate for any area within that state, and EPA agreed that a change of designation status would be appropriate, then EPA would withdraw the designation and issue another designation reflecting inclusion of 2004 data. EPA would only conduct this process if the state submitted the data by the deadline and EPA could complete the analysis and effect the change of designation status before April 5, 2005.

EPA released its proposed PM_{2.5} Implementation Rule on September 9, 2005. The proposed rule describes the implementation framework and requirements that state and local governments must meet in developing PM_{2.5} SIPs. The proposal covers attainment demonstration and modeling, reasonably available control measures, reasonably available control technology, EPA's policy on PM_{2.5} and precursors and NSR requirements. Direct PM_{2.5} and sulfur dioxide emissions must be addressed in all nonattainment areas, and NO_x must be addressed unless EPA or the state determines that it is not a significant contributor in a specific area. VOCs and ammonia need only be addressed if the state or EPA demonstrates that either compound is a significant contributor.

In a proposed settlement made public on September 8, 2005, EPA committed to take final action amending its transportation conformity regulations to address PM_{2.5} "hot spot" issues and to do so no later than March 31, 2006. Environmental Defense, the Natural Resources Defense Council, the Sierra Club and the Transportation Solutions Defense and Education Fund sued EPA in August 2004 challenging EPA's amendments to the transportation conformity regulations to address the 8-hour ozone and PM_{2.5} standards.

On January 26, 2006 EPA denied petitions from five state and local governments and one business requesting that EPA reconsider several PM_{2.5} nonattainment designations. The denied petitions were filed by Georgia, Michigan, Ohio and West Virginia; Oakland County, MI; and Dynegy Midwest Corporation. This action follows the December 2005 decision to deny requests filed by six states (including Virginia) and one local government to reconsider several PM_{2.5} nonattainment designations.

On September 9, 2005, EPA released its proposed rule describing the implementation framework and requirements that state and local governments must meet in developing PM_{2.5} SIPs. The proposed rule covers attainment demonstration and modeling, reasonably available control measures, reasonably available control technology, EPA's policy on PM_{2.5} and precursors and NSR requirements. Direct PM_{2.5} and SO₂ emissions must be addressed in all nonattainment areas, and NO_x must be addressed unless EPA or the state determines that it is not a significant contributor in a specific area. VOCs and ammonia need only be addressed if the state or EPA demonstrates that either compound is a significant contributor. EPA published the proposed rule in the Federal Register on November 1, 2005 with comments due by January 3, 2006; the comment period was later extended to January 31, 2006.

EPA released an advanced notice of proposed rulemaking on February 7, 2006, seeking comment on various issues related to implementing a new or revised PM NAAQS. EPA solicited comment on the following: 1) the agency's preferred approaches to revocation of

the 1997 PM_{2.5} standards once any new 2006 PM_{2.5} standards would be in place; 2) approaches to revocation of the 24-hour PM₁₀ standard in areas where it would remain after promulgation of any new PM_{10-2.5} standards; 3) the agency's preliminary thinking on how to address some of the key NSR issues related to the new PM_{10-2.5} standards; 4) the transition from PM₁₀ standards to PM_{10-2.5} standards; and 5) potential timeframes for designations, attainment demonstrations and SIP submittals and attainment dates for any new PM_{2.5} and PM_{10-2.5} standards. EPA also announced it will hold public hearings on the PM NAAQS proposal and proposed revisions to the national ambient air monitoring regulations.

Section 126 Petitions

On March 18, 2004, North Carolina filed a petition with EPA under § 126 of the CAA seeking relief from air pollution from 13 states that it claims is contributing significantly to nonattainment, or interfering with maintenance, of the National Ambient Air Quality Standards (NAAQS) in North Carolina. The 13 states are Alabama, Georgia, Illinois, Indiana, Kentucky, Maryland, Michigan, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia and West Virginia. The petition alleges that NO_x and SO₂ emissions from electric generating units in these 13 states are preventing North Carolina from meeting the NAAQS for PM_{2.5} and ozone. The petition says that compliance with the proposed EGU emission budgets in EPA's proposed Interstate Air Quality Rule (IAQR) "would satisfy the requirements of this petition" and that North Carolina "does not oppose the flexibility discussed by EPA [in the IAQR proposal] to allow equivalent reductions from other source categories in a given state . . . so long as those reductions are real and enforceable." However, North Carolina is concerned that the interstate trading regime proposed in the IAQR might deny the state the benefit of needed reductions in states whose emissions particularly affect North Carolina's quality. In addition, § 110 (under which the IAQR is being promulgated) and § 126 do not provide mutually exclusive remedies; North Carolina believes its § 126 petition will assist in assuring expeditious implementation of controls on interstate transport affecting North Carolina. Section 126(b) states that, within 60 days after receiving a § 126 petition, EPA must make a finding of violation of the Act's "significant contribution" provision or deny the petition. Section 307(d)(10) authorizes EPA to extend this period.

On May 19, 2004, EPA announced that it is extending by six months its final action on North Carolina's § 126 petition, citing its authority under § 307(d)(10) to extend to November 18, 2004 the deadline for its response.

On February 17, 2005, EPA agreed to a settlement with the state of North Carolina and Environmental Defense requiring EPA to act on the § 126 petition. Under the settlement, EPA was to propose cleanup standards for power plants by August 1, 2005 and take final action by March 15, 2006. The settlement was filed as a consent decree in federal district court in North Carolina and was required to undergo a 30-day public comment period.

On March 2, 2005, EPA requested public comment on a settlement with the North Carolina § 126 petition. On August 1, 2005, EPA issued its proposed FIP for CAIR, to take effect in CAIR states in case those states fail to submit adequate CAIR SIPs. As part of this action, EPA also proposed to deny the § 126 petition requesting that power plants in certain

upwind states reduce their contribution to North Carolina's fine particle pollution. EPA based the proposed denial on issuance of the CAIR FIP; it believes that emissions reductions required by the proposed FIP will satisfy the petition. EPA denied North Carolina's petition with respect to 8-hour ozone on the basis that EPA modeling shows all of North Carolina's counties in attainment for 8-hour ozone in the 2010 CAIR base case. According to EPA, the § 126 and FIP actions would not constrain states in their selection of control strategies to comply with CAIR. EPA intends to withdraw § 126 or FIP requirements in a state if that state submits, and EPA approves, a SIP meeting the requirements of CAIR. Because EPA proposed to finalize the CAIR FIP by March 15, 2006, but yet CAIR SIPs are not due from states until September 11, 2006, the federal CAIR trading programs would be promulgated in advance of the state SIP submission deadline. EPA, however, does not intend to record NO_x allocations in sources' allowance accounts (or take any other steps to implement the § 126 or FIP requirements that could affect a state's ability to regulate its sources in a different manner) until December 1, 2007. This would allow EPA time to take rulemaking action to approve SIPs and withdraw the § 126 or FIP requirements.

When EPA promulgated CAIR federal implementation plans (FIPs) on March 16, 2006, it also denied North Carolina's § 126 petition. EPA says the CAIR FIPs will eliminate significant contribution from the states now linked to North Carolina's nonattainment.

Regional Haze

On April 15, 2005, EPA and Environmental Defense agreed to extend the deadline in a consent decree for EPA to finalize the rules explaining how states determine which power plants and other facilities must install best available retrofit technology (BART) in order to address regional haze. The deadline for EPA to act was changed from April 15, 2005 to June 15, 2005. The BART rules are part of the regional haze program aimed at restoring visibility to natural conditions in the nation's Class 1 areas. The BART requirements of the regional haze rule apply to facilities built between 1962 and 1977 that have the potential to emit more than 250 tons a year of visibility-impairing pollution. Those facilities fall into 26 categories, including utility and industrial boilers, and large industrial plants such as pulp mills, refineries and smelters. Many of these facilities have not previously been subject to federal pollution control requirements for these pollutants. EPA initially issued BART rules in 1999, but these were overturned in a court decision. EPA repropose rules in April 2004.

EPA released final amendments on June 16, 2005 to the 1999 regional haze rule to clarify how to apply BART requirements to industrial facilities that emit pollutants that reduce visibility. The amendments assist states as they identify which of their BART-eligible sources should undergo a BART analysis (i.e., which are "sources subject to BART") and select controls in light of the statutory factors ("the BART determination"). Any electric generating units (EGUs) greater than 750 megawatts (MW) are required to put on controls. For SO₂, the presumptive controls are 95 percent control or 0.15 pounds per million British Thermal Units (lb/MMBtu). For NO_x, in the NO_x SIP Call area, controls must be used year-round; outside this area, the presumptive controls are 0.2–0.45 lb/MMBtu. States that adopt the cap-and-trade program under CAIR for EGUs for SO₂ and NO_x are allowed to apply CAIR controls as a substitute for controls required under BART because EPA's

analysis concluded that CAIR controls are “better than BART” for EGUs in the states subject to CAIR. For other sources (i.e., EGUs under 750 MW and other sources deemed BART-eligible), EPA provides guidelines to states on determining which sources are subject to BART and which controls can be considered BART. States are required to submit SIPs by December 17, 2007. EPA will propose a rule to provide states with alternative programs (like a cap-and-trade program) to address BART and will finalize this rule by November 8, 2005.

On July 21, 2005, EPA released proposed revisions to its regional haze rule governing alternative trading programs. The proposed revisions are intended to help states that want to propose emissions trading programs as a substitute for BART determinations under the regional haze rule. First, EPA proposed to amend the regulations prescribing the type of analysis used to determine emissions reductions achievable from source-by-source BART, for purposes of comparison to an alternative trading program; the amendments are intended to address deficiencies identified by a court decision. Second, EPA proposed new regulatory text to provide minimum elements for cap-and-trade programs in lieu of BART. Finally, EPA proposed amendments to enable certain western states and tribes to continue to use the strategies contained in 40 CFR 51.309 as a means to satisfy reasonable progress requirements for certain Class I areas.

In an ongoing process, Virginia is meeting its federal regional haze and BART obligations by ensuring that all permitting, regulatory, and SIP requirements are addressed. In support of these efforts, Virginia is participating in the Visibility Improvement State and Tribal Association of the Southeast (VISTAS), a collaborative effort of state governments, tribal governments, and various federal agencies established to initiate and coordinate activities associated with the management of regional haze and visibility. The agencies participating in VISTAS are committed to a sound and thorough scientific analysis of regional haze problems, development of effective control alternatives for agency consideration, timely delivery of analyses to participating agencies, and stakeholder involvement throughout the evaluation of the regional haze issue.

Mercury

The final CAMR rule was published in the Federal Register (70 FR 28606) on May 18, 2005. Upon publication, a group of 11 states, led by New Jersey’s Attorney General, filed a legal challenge to the rule. Other states joining in the suit include California, Connecticut, Maine, Massachusetts, New Hampshire, New Mexico, New York, Pennsylvania, Vermont and Wisconsin. A related mercury rule, which rescinded EPA’s findings made in 2000 supporting a requirement that utilities should install the Maximum Achievable Control Technology (MACT), was published in the Federal Register on March 29, 2005. At that time, a group of states filed suit on that element of EPA’s mercury rule. On March 17, 2005, 12 environmental organizations filed suit on the March 29 rule.

On May 31, 2005, 14 states formally petitioned EPA to reconsider its decision to remove power plants from the list of sources that must be regulated with a MACT standard under § 112 of the CAA. In a December 2000 regulatory determination, EPA determined that power plant standards under § 112 were needed. However, as part of its recent decision to regulate emissions of mercury from power plants under § 111 rather than § 112, EPA

issued a regulatory finding that regulation of utilities under § 112 was not necessary and appropriate. EPA subsequently issued CAMR, calling for reductions in mercury emissions through a cap-and-trade program under § 111. The states' current petition for reconsideration addresses the agency's decision to delist power plants. Separately from the states' action, several environmental groups and one tribe have also submitted petitions for reconsideration. Many of the states and other groups that submitted petitions have also filed lawsuits on both the delisting rule and the CAMR itself. The states participating in the petition for reconsideration are led by the New Jersey Attorney General and include California, Connecticut, Delaware, Illinois, Maine, Massachusetts, New Hampshire, New Mexico, New York, Pennsylvania, Rhode Island, Vermont and Wisconsin.

On June 14, 2005, four health organizations intervened in the CAMR lawsuit. The American Academy of Pediatrics, the American Nurses Association, the American Public Health Association and Physicians for Social Responsibility joined to intervene in the suit brought by 13 state attorneys general and environmental groups.

The U.S. Government Accountability Office (GAO) issued a report on June 23, 2005 entitled, "Emerging Mercury Control Technologies Have Shown Promising Results, but Data on Long-Term Performance Are Limited," in which it describes the use, availability and effectiveness of technologies to reduce emissions of mercury from power plants, identifies the factors that influence the cost of technologies and reports cost estimates. GAO concluded that, while power plants have not been required to install mercury controls, there are some technologies that are available for purchase that have shown promising results during field tests. For example, tests of sorbent technologies have shown reductions of 30 to 95 percent, with effectiveness improving over time. However, there is no long-term data on power plant emissions with this technology. GAO indicates that costs are expected to decrease as the market for the control technologies increases. Additionally, EPA now believes that the agency's "earlier cost estimates likely overstated the actual cost power plants would incur."

In a letter to the Natural Resources Defense Council and the Attorney General of New Jersey, EPA announced on June 24, 2005 that it would commence the reconsideration process for the "Revision of December 2000 Regulatory Finding on the Emissions of Hazardous Air Pollutants from Electric Utility Steam Generating Units and the Removal of Coal- and Oil-Fired Electric Utility Steam Generating Units from the § 112(c) List." The rule was the first of two final rules designed to address emissions of mercury from power plants (the second being CAMR). EPA indicated that, while the agency was granting the request for reconsideration, it would deny the request for a stay on the implementation of the rule, since that would require the agency to stay CAMR as well. EPA received two petitions for reconsideration and a stay – one from a group of 14 states and the other from a group of five environmental groups and four Indian Tribes.

On June 29, 2005, Senator Leahy, along with 31 other senators, introduced S.J. Resolution 20 under the Congressional Review Act, which is a little-used provision that allows Congress to overturn a regulation after it has been submitted to Congress. S.J. Res. 20 was a resolution to disapprove the EPA rule that delists power plants as a source of hazardous air pollutants under § 112 of the CAA. The delisting rule was the first of the two regulations that EPA issued as part of its cap-and-trade strategy to address mercury

emissions from power plants. On September 13, 2005, the Senate voted against the measure.

Five environmental groups filed suit challenging CAMR on July 18, 2005. Previously, a coalition of environmental groups and a group of states sued EPA on the related rule to delist power plants from the § 112 list of source categories that must be subject to hazardous air pollutant regulations. In addition to the lawsuits, several environmental groups have petitioned EPA to reconsider CAMR, stating that EPA's rule includes "a number of issues on which it was impracticable to raise objections during the period provided for public comments."

On July 18, 2005, the Department of Justice (DOJ) filed briefs opposing the stay sought by environmental petitioners in the litigation challenging EPA's mercury rule. Environmental groups had filed briefs earlier attempting to persuade the U.S. Court of Appeals for the District of Columbia that electric utilities should not be delisted, but rather should be required to install MACT to reduce mercury. Their stay motion sought to establish that they are likely to prevail on the merits and that EPA's rule causes imminent harm to public health. The government claims in its opposition to the stay that stopping the delisting would "frustrate ongoing implementation" of EPA's cap-and-trade program for mercury emissions. Moreover, DOJ claims that if the court were to issue an injunction preventing EPA from implementing the delisting provisions, "it would severely upset this carefully coordinated regulatory regime, rendering worthless comprehensive technical, policy and legal analyses before EPA ever had a chance to present its full case to the court." In addition to the brief opposing the stay, EPA's Assistant Administrator for Air and Radiation filed a declaration in support of the mercury rule. The group of 14 states also suing EPA over its delisting of electric utilities from mercury MACT requirements did not join with environmental petitioners in seeking to stay the delisting.

The Circuit Court of Appeals for the District of Columbia denied the March 2005 motion to stay EPA's mercury rule that was filed by the environmental petitioners and refused as well to hear the case on an expedited basis. The Court's order of August 4, 2005 states, "[p]etitioner has not satisfied the stringent standards required for a stay pending court review." Since the stay was denied, the rule remains in effect during the litigation period.

On August 10, 2005, Michigan became the sixteenth state to challenge the mercury rule. According to the Director of Michigan's Department of Environmental Quality, "The federal rule falls far short of the measures needed to protect human health and the environment. Regional reductions are needed to protect Michigan's citizens and our water bodies from mercury pollution." In announcing its legal action, the Michigan DEQ explained that because of the rule's cap-and-trade approach, plants exceeding their emissions cap "can simply purchase pollution credits from those emitting less mercury than their cap allows." As a result, even though the rule requires a reduction of mercury from power plants in Michigan by 2018, it is a "soft cap" that "could allow utilities to continue to emit excess mercury well beyond 2020." Michigan, which has a special health advisory in place for all inland lakes in the state due to mercury contamination, joins California, Connecticut, Delaware, Illinois, Maine, Massachusetts, Minnesota, New Hampshire, New Jersey, New Mexico, New York, Pennsylvania, Rhode Island, Vermont and Wisconsin in challenging the rule.

EPA announced On October 21, 2005 that it will reconsider certain aspects of its two mercury utility rules issued on March 15, 2005. With respect to the delisting rule, EPA is reconsidering legal issues underlying the decision and the methodology used to assess the mercury levels in fish tissue attributable to utilities and the public health implications of those levels. With respect to the cap-and-trade rule, EPA is reconsidering the following: 1) the method used to apportion the national caps to individual states; 2) the definition of "designated pollutant;" 3) EPA's subcategorization for new subbituminous coal-fired units subject to NSPS; 4) the statistical analysis used for the NSPS; 5) the highest annual average mercury content used to derive the NSPS; 6) the definition of covered units as including municipal waste combustors; and 7) the definition of covered units as including some industrial boilers. Two notices of this reconsideration were published in the Federal Register on October 28, 2005. Publication of the reconsideration notices officially began the 45-day public comment period, which ended on December 19, 2005.

On June 9, 2006, EPA published a Federal Register notice announcing its decision on the CAMR reconsideration. EPA determined that its original delisting decision was correct, and left the provisions of CAMR mostly unchanged.

The 2006 General Assembly passed legislation, specifically Chapters 867 and 920, 2006 Acts of Assembly, which requires adoption of two regulations; CAMR and a state-specific rule. The legislation mandates that the operator of the largest utility must meet the federal second phase reduction requirements by 2015—three years ahead of the federal schedule—and cannot purchase allowances to comply, but may sell excess credits. The second largest operator may use emission credits generated from other units under common ownership that are within 200 km of VA's border. Units within a nonattainment area cannot purchase credits to comply; however, credits generated at units under common ownership within 200 km of VA's border may be used to comply with the state rule. The legislation also requires that an assessment of mercury deposition in VA be conducted with a final report due in October, 2008.

An ad hoc committee has completed its work to assist the DEQ with the development of the state specific rule. As previously mentioned, the federal CAMR is on schedule to be submitted to EPA by November of 2006. The proposal for the state specific rule is anticipated to be submitted to the State Air Pollution Control Board in December of 2006.

Interstate Transport - General

On March 28, 2005, EPA requested comment on a proposed consent decree setting dates by which the agency must make certain determinations as to whether each state has submitted adequate SIPs required by § 110(a) for PM_{2.5} and 8-hour ozone. The consent decree establishes a deadline of March 15, 2005 for the signature of a notice of EPA's determination pursuant to § 110(k)(1)(B) as to whether each state has submitted the SIP revisions for PM_{2.5} and 8-hour ozone that meet the minimum criteria promulgated by EPA pursuant to § 110(k)(1)(A). Note that on March 10, 2005, EPA posted on its web site a finding that states have failed to submit SIPs addressing the transport of pollutants that form ozone and particle pollution in downwind states; this action, according to EPA staff, satisfies this first requirement. In addition, the proposed consent decree establishes a

deadline of December 15, 2007, with respect to SIPs for 8-hour ozone and October 5, 2008, with respect to SIPs for PM_{2.5} for the signature of a notice of EPA's determination pursuant to § 110(k)(1)(B) as to whether each state has submitted the remaining SIP revisions for PM_{2.5} and 8-hour ozone that meet the minimum criteria promulgated by EPA pursuant to § 110(k)(1)(A). Comments on the proposed consent decree were due to EPA on or before April 27, 2005.

On April 25, 2005, EPA issued a finding that states have failed to submit SIPs to satisfy the requirements of § 110(a)(2)(D)(i) of the CAA for the 8-hour ozone and PM_{2.5} standards. This section provides that states are required to submit SIPs that contain adequate provisions prohibiting any source or other type of emissions activity within a state from emitting any air pollutant in amounts that will contribute significantly to nonattainment in, or interfere with maintenance by, any other state with respect to any NAAQS. According to the EPA, states have not yet submitted SIPs to satisfy this requirement of the CAA, and the agency is, by this action, making a finding of failure to submit, thereby starting a two-year clock for the promulgation of a Federal Implementation Plan (FIP) by EPA unless, prior to that time, each state makes a submission to meet the requirements of § 110(a)(2)(D)(i) and EPA approves such submission. EPA indicated that this action does not start a sanctions clock pursuant to § 179 because this finding of failure to submit does not pertain to a part D plan for nonattainment areas required under § 110(a)(2)(I) and because this action is not a SIP Call pursuant to § 110(k)(5). The finding became effective May 25, 2005.

On May 12, 2005 (70 FR 25162), EPA published the final Clean Air Interstate Rule (CAIR), designed to reduce the interstate transport of sulfur dioxide (SO₂) and NO_x across the eastern portion of the United States and help states and localities attain the 8-hour ozone and PM_{2.5} standards. CAIR covers 23 states and the District of Columbia for PM_{2.5} and 25 states and the District of Columbia for 8-hour ozone. Emissions of NO_x are capped at 2.5 million tons in 2009 (a year earlier than proposed) and 1.3 million tons in 2015, and emissions of SO₂ are capped at 3.6 million tons in 2010 and 2.5 million tons in 2015. CAIR is effective July 11, 2005, except for provisions relating to the Acid Rain Program, which are effective July 1, 2006. SIPs are due September 10, 2006. In a related action, EPA released its finding that states have failed to submit SIPs to satisfy the requirements of § 110(a)(2)(D)(i) for the 8-hour ozone and PM_{2.5} standards. This finding starts a two-year clock for the promulgation by EPA of a FIP, unless each state submits a SIP to satisfy the § 110(a)(2)(D)(i) requirements and EPA approves such submissions prior to that time.

EPA plans to propose a Federal Implementation Plan (FIP) for CAIR. According to EPA, states are still free to submit CAIR SIPs by the September 11, 2006, deadline, and, if they do so, such a SIP would replace the FIP. EPA is planning to issue the FIP for several reasons. First, in response to the § 126 petition filed by North Carolina, EPA must issue a § 126 rule covering the states named in the petition. Rather than issue a rule – which would be similar to a FIP – that covers only those states, EPA decided a more seamless option would be a FIP that covers all CAIR states. In addition, the CAIR FIP serves as a backstop in case states are not able to submit CAIR SIPs by the September 11, 2006 deadline or in case EPA does not approve those SIPs. EPA wants to ensure that the NO_x trading program is able to begin January 1, 2009, as contemplated by CAIR. EPA

stresses that the CAIR FIP is not intended to prevent states from submitting CAIR SIPs that differ from the CAIR model rule or CAIR FIP.

On June 22, 2005, EPA released a notice of data availability announcing additional modeling data to support its proposal to include New Jersey and Delaware in the CAIR for PM_{2.5} (these states are already covered by CAIR for ozone). EPA also extended the comment period on the proposal.

In a report made public on July 1, 2005, Resources for the Future for the New York State Energy Research and Development Authority researchers analyzed the environmental and public health benefits from CAIR and CAMR and from more stringent requirements than these rules. The report found that additional SO₂ emissions reductions beyond those called for by the EPA rules would yield benefits that substantially exceed the additional cost. The report's evaluation of scenarios with tighter mercury emission controls shows that the net benefits of a MACT approach exceed the net benefits of a cap and trade approach. In addition, the report notes that the final CAIR with the seasonal cap on NO_x emissions produces higher net benefits relative to the originally proposed CAIR, which only had an annual cap. The authors calculate that, as proposed, the reductions in pollutant emissions from electricity generation brought about by CAIR and CAMR will provide benefits of more than \$1.7 billion to New York by 2010 and in excess of \$14 billion to the nation by 2020, even after accounting for the costs associated with technologies designed to reduce emissions of SO₂, NO_x and mercury.

In response to 11 petitions for reconsideration, EPA granted, on November 22, 2005, reconsideration and seeking comment on four aspects of CAIR: 1) claims that inequities result from applying the SO₂ allocation methodology that states choosing to participate in the CAIR SO₂ trading program would use to allocate SO₂ emission allowances to sources; 2) EPA's use of fuel adjustment factors in establishing state NO_x budgets; 3) certain inputs to the PM_{2.5} modeling used to determine Minnesota's inclusion in the CAIR region for PM_{2.5}; and 4) EPA's determination that Florida should be included in the CAIR region. EPA held a public hearing on December 14, 2005 and accepted public comment until January 13, 2006.

EPA also granted reconsideration and sought comment on the potential impact of the D.C. Circuit Court vacating of the pollution control project exclusion in the NSR regulations. EPA's analysis shows that the court decision does not affect the CAIR analyses. EPA provided the opportunity for public comment on the issue on December 29, 2005.

On January 30, 2006, the U.S. Court of Appeals for the D.C. Circuit denied a petition filed by various Florida utilities to stay implementation of CAIR pending the court's review of CAIR. The court order says that the petitioners did not satisfy "the stringent standards required for a stay pending court review."

EPA promulgated CAIR federal implementation plans (FIPs) on March 16, 2006 that establish three emissions cap-and-trade programs that apply to power plants located in the District of Columbia and all states subject to CAIR. EPA will withdraw a FIP for any state once that state's own SIP for meeting the CAIR requirements is approved and in place. In this same action, EPA also denied a § 126 petition submitted by North Carolina; EPA says

the CAIR FIPs will eliminate significant contribution from the states now linked to North Carolina's nonattainment. EPA issued its final decisions on petitions filed for reconsideration of CAIR. It has determined that its decisions in the final CAIR were reasonable and should not be changed, although it did clarify the definition of EGU to confirm that municipal solid waste incinerators should not be considered EGUs for purposes of CAIR.

The department is currently engaged in developing a proposed regulation to implement CAIR in Virginia. The public comment period closed on September 8, 2006 and it is anticipated that the Board will adopt a final regulation in December of this year with a submittal to EPA in mid 2007. In addition to the requirements of the federal CAIR, additional reductions of NOx are required by legislation passed by the 2006 General Assembly. Specifically Chapters 867 and 920 of the 2006 Acts of Assembly requires an owner of one or more electric generating units in the Commonwealth whose NOx emissions exceeded 40,000 tons in 2004, to reduce their NOx emissions during the 2007 or 2008 control period by approximately 5000 tons.

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. 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 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 implemented that is a model for other states to follow. Acceptance by and support from the vehicle repair industry has been very good. This enhanced emissions inspection program commenced operation in April 1998. The program provides an enhanced computerized emissions inspection process and provides for 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 provides significant air pollution reduction benefits in the Northern Virginia area.

In 2005, the department added a procedure to the program for testing the OBD system (on-board diagnostics 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 CAA that each vehicle emissions inspection program monitor the OBD systems, and fail those vehicles if the OBD warning light is illuminated and if other malfunctions are detected. For most vehicles the OBD test takes the place of a tailpipe test and thus greatly reduces the

amount of time for an emissions test. The department has now substituted the OBD test for the tailpipe test for most 1996 and newer vehicles. For program evaluation purposes, some vehicles get both the OBD test and, for data collection only, the tailpipe test.

As required by the CAA, 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 to perform remote sensing of vehicle emissions throughout the Northern Virginia area. A preliminary remote sensing study was undertaken in 1996 through 1997 to assess remote sensing technology. 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 comprehensive pilot study was conducted in 2002 to obtain information regarding the feasibility of such a program.

The later study indicated that vehicles subject to emission inspections are from 16% to 30% cleaner than those in other areas that are not, a greater difference than was observed in the earlier study. The later study confirmed 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 board has adopted regulations to implement a remote sensing (On Road Emissions monitoring or ORE) program that will identify gross polluting vehicles and require out-of-cycle retesting and repair, if needed. A contractor was hired to provide remote sensing services beginning late 2004 and data procedures were coordinated with VA DMV. Inspection station equipment software was updated to accommodate the On Road Emissions program in 2005.

In 2006 DEQ began implementation of ORE. Vehicles with very high emissions, as identified by remote sensing devices, are sent a Notice of Violation (NOV) and are required to take their vehicles to an inspection station for a confirmation test. If the vehicle fails the confirmation test, repairs must be made and the vehicle retested. There is no inspection fee if the vehicle passes. Also, owners of vehicles observed by remote sensing to be exceptionally clean are notified that their vehicle has received a "clean screen," which constitutes an emission inspection pass. At the same time DEQ is implementing procedures to provide repair assistance to low-income vehicle owners whose vehicles were found to be high emitters through remote sensing.

Mirant Potomac River Plant

This is a 500MW coal fired plant located on the Potomac River in the City of Alexandria. Most or all of the electricity produced at this site is sold in Washington DC. The plant was built in 1949 and is now surrounded by residential and commercial properties including

condominiums which look down on the plant and the plant's stacks. DEQ has been investigating complaints from residents about coal dust and ash.

In 2003, DEQ issued a notice of violation against Mirant for allegedly exceeding the Potomac River plant's permit limit for nitrogen oxide (NO_x) emissions. In 2004, Virginia, in cooperation with Maryland, EPA, and the U.S. Department of Justice, completed an agreement to settle the alleged violations. Due to issues that arose during public comment on the proposed settlement in 2005, the parties renegotiated certain aspects of the original agreement, and lodged an amended settlement with the court in April 2006. The government plaintiffs are in the process of reviewing public comments received on the amended settlement. Pending the outcome of that review, the plaintiffs will move the court to approve the amended settlement later this year.

The settlement requires improved pollution control technology and reduction of NO_x, a criteria pollutant that contributes to ozone pollution, at the plant beginning 2005. In reaching this settlement, Virginia concluded that achieving pollution reductions from all four Mirant facilities in the region was more beneficial than the smaller improvements that could be made at the Virginia plant alone. The settlement thus requires Mirant to make similar improvements at three larger plants in Maryland. The settlement will bring a total reduction of 29,000 tons per year of NO_x by 2010.

Highlights of the settlement include the following:

- By 2010, NO_x emissions during the ozone season (May-September) will decline from 2,100 tons to 1,475 tons at the Potomac River plant. The facility must also install state-of-the-art pollution control equipment. Ozone season NO_x emissions from the four Mirant plants combined will also drop from the 2002 level of 19,249 tons per year to 5,200 tons. Year-round NO_x emissions will decline from 45,000 tons to 16,000 tons, and the settlement includes a 3700 ton per year annual limit on NO_x from the plant effective immediately.
- The air quality improvements must be made at the Mirant facilities, and can not be achieved through trading of emission credits.
- The NO_x reductions will help improve water quality in the Chesapeake Bay and its tributaries by lowering the amount of airborne nitrogen that contributes to nutrient pollution in the water.
- Mirant will complete several environmental projects at the Potomac River plant, at a total cost of at least \$1 million, to reduce pollution from airborne particles. These projects are expected to reduce particle pollution by more than 47 tons annually from the Alexandria plant's ash silos, trucks, coal piles and other equipment.
- Mirant will pay a civil penalty of \$500,000 to be divided evenly between Virginia and the United States.

In a separate agreement with DEQ and in cooperation with Alexandria, Mirant also agreed to conduct a study of the Potomac River plant's emissions. The study used computer

modeling to determine whether key pollutants such as ozone and mercury exceed air quality standards. As part of the agreement, Mirant was to reduce pollution that was demonstrated by the study to exceed the standards.

The modeling results, which were received by DEQ on August 19, 2005, showed violations of the health-based national ambient air quality standards (NAAQS) in the vicinity of the plant for a number of criteria pollutants: nitrogen dioxide, sulfur dioxide (up to 14 times the NAAQS) and particulate matter (PM₁₀) .

Given the seriousness of these pollutant levels, the DEQ director sent a letter to Mirant on August 19 asking for a plan to reduce the concentration of the criteria pollutants to safe levels, with a deadline of August 23 for submission of the plan. Mirant's response was to curtail operations by about 65% on August 21. On August 23, Mirant decided to close the plant because they could not come up with a short-term solution to the NAAQS violations.

Soon after the plant announced its closing, the Washington DC Public Service Commission petitioned the Federal Energy Regulatory Commission (FERC) to require the restart of the plant, alleging grid reliability issues associated with the power supply to the White House, Congress and other sites of national importance. DEQ has petitioned FERC to intervene in the DC action so that the air quality and human health issues will be represented in any decision the Commission makes.

Mirant resumed partial operation of the plant on September 21, 2005. The DOE issued an Order on December 20, 2005, directing Mirant to submit an operating plan to assure both electric system reliability and compliance with the NAAQS. Mirant submitted that plan on December 30, 2005, and DOE issued a Supplemental Order on January 4, 2006, directing Mirant to operate the plant in accordance with "Option A" of the plan submitted the previous week by Mirant.

EPA on December 22, 2005, issued a Notice to Mirant alleging that Mirant did not immediately undertake action necessary to protect human health and the environment in response to DEQ's August 19, 2005, letter to Mirant. EPA and Mirant entered into an Administrative Compliance Order by Consent (ACO) in June 2006 to resolve EPA's December 2005 Notice. The ACO allows the plant to operate in a manner that does not result in modeled exceedances of the NAAQS and to conduct a so-called "model evaluation study" to assess the accuracy of the of the computer model used to determine how the plant's emissions impact the NAAQS. The same day EPA and Mirant entered into the ACO, DOE amended its January 2006 Supplemental Order to direct the plant to operate in compliance with the terms of the ACO.

DEQ continues to closely monitor activities occurring at the plant. In addition, DEQ has commenced a process that will result in the issuance of an air state operating permit to the plant that will contain emission limits and operating requirements to assure that emissions from the plant do not result in exceedances of the NAAQS. Additional information concerning this plant is available from DEQ's webpage at: <http://www.deq.virginia.gov/info/mirant.html>.

Automobiles

The reductions in emissions from automobiles and trucks are due to several federal and state programs that are now in place. In January 1998, Virginia opted in to the National Low Emission Vehicle (NLEV) program. NLEV was a voluntary program through which the automobile industry and many eastern states jointly agreed to adopt and implement more stringent automobile emissions standards beginning in the 1999 model year. The NLEV standards reduced the emissions of ozone forming emissions by more than 50%, and applied to all vehicles up to 6000 pounds gross vehicle weight, which includes about 70% of the SUVs and pickup trucks on the road today. Because Virginia adopted this program, these vehicles, many of which are still on the road, continue to emit less pollution than those not subject to the program.

In January, 2000, EPA promulgated the Tier II vehicle emissions regulation, marking the first time that SUVs and other light-duty trucks, even the largest passenger vehicles, were subject to the same national pollution standards as cars. EPA also required a reduced sulfur content in gasoline to ensure the effectiveness of low emission control technologies in vehicles and to reduce harmful emissions. The rule took effect in the 2004 model year and reduced ozone-forming emissions about 95% when compared to many earlier model vehicles.

Heavy Duty Diesel On Road Engines

Recognizing the growing need to further regulate tractor-trailers, EPA adopted more stringent emission standards for heavy-duty diesel trucks in December, 2000, which take effect in 2007. Similar to the Tier II regulation for passenger vehicles, the diesel rule will also require the sulfur level in diesel fuel to be reduced about 97% to accommodate newer control technologies. The sulfur level in on road diesel fuel is scheduled to be reduced nation wide this year. These new diesel engine standards will reduce the emissions of particulate matter and nitrogen oxides by about 90% compared to today's diesel engines.

Voluntary Local Programs

DEQ's forecast modeling is indicating that the emission reductions described above, as well as those from other programs being developed such as reducing the emissions from adhesives and sealants and a variety of consumer products, will reduce pollution in the Northern Virginia area to the point where ozone and fine particulate levels meet the federal air quality standards by year 2009. Various localities in the Northern Virginia area have been working on voluntary programs that reduce the emissions of nitrogen oxides and volatile organic compounds as well as the emissions of other pollutants, such as air toxics. Fairfax County has retrofitted its entire school bus fleet with pollution control devices designed to reduce nitrogen oxides and volatile organic compounds. These devices have the added benefit of reducing children's exposure to harmful air toxic emissions when aboard school buses. Loudoun County has undertaken a similar program, and will be completing their bus retrofits in the next few years. Fairfax County and Arlington County purchased wind power to supply a portion of each county's electrical needs, helping to reduce emissions from power generation and also helping to reduce dependence on fossil fuels. Several counties in the Northern Virginia area have committed to using very low VOC paints and coatings in the maintenance of buildings and other county structures. All

these programs help to reduce the amount of pollution to which citizens are exposed each day.

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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 (CAA) 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 CAA 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 SIP 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 CAA and its requirements.

A state implementation plan is the key to the air quality programs. The CAA 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 CAA 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 SIP 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 CAA (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 CAA.

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 CAA, it must be submitted to and approved by the U.S. 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.