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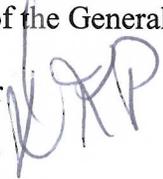
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To: The Honorable Timothy M. Kaine
And Members of the General Assembly

From: David K. Paylor 

Date: October 1, 2007

Subject: Report on Air Quality and Air Pollution Control Policies of the Commonwealth

In accordance with § 10.1-1307.G of the Code of Virginia, the Department of Environmental Quality has completed its 2007 Annual Report on Air Quality and Air Pollution Control Policies of the Commonwealth.

Overall Virginia's air quality continues to gradually improve and DEQ continues to take steps to improve air quality. During the previous year, the State Air Pollution Control Board approved regulations to implement the federal Clean Air Interstate Rule and the Clean Air Mercury Rule. These regulations are designed to reduce emissions of sulfur dioxide, nitrogen oxides and mercury and are expected to help improve air quality in Virginia and surrounding states.

This report is being made available at www.deq.virginia.gov/regulations/reports.html. If you need further information or would like a hard copy of this report, please contact Angela Jenkins, Assistant Director of Legislative and Legal Affairs, at 804-698-4268.

AIR QUALITY AND AIR POLLUTION CONTROL POLICIES OF THE COMMONWEALTH OF VIRGINIA



***A Report to the Honorable Timothy M. Kaine, Governor
and the General Assembly of Virginia***

Virginia Department of Environmental Quality

October 2007

EXECUTIVE SUMMARY

This report is prepared by the Department of Environmental Quality (DEQ) on behalf of the State Air Pollution Control Board for the Governor and General Assembly pursuant to § 10.1-1307 G of the Code of Virginia. This report details the status of Virginia's air quality and the policies and regulations that govern Virginia's air quality program.

- Status of Air Quality

Overall, Virginia's air quality continues to gradually improve. Originally, the Northern Virginia, Fredericksburg, Richmond, Hampton Roads and Shenandoah National Park areas did not meet the 8-hour ozone standard. Of the five areas, only the Northern Virginia region is still in violation of the 8-hour ozone standard. The U.S. Environmental Protection Agency (EPA) has designated 9 localities in Northern Virginia area as nonattainment for the PM_{2.5} (fine particulate matter) standard, asserting 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 8-hour Ozone Standard

DEQ submitted requests to redesignate the Fredericksburg, Shenandoah National Park, Richmond and Hampton Roads ozone nonattainment areas to maintenance. The requests for the Fredericksburg and Shenandoah National Park areas were approved by EPA on December 23, 2005 and January 3, 2006 respectively. The requests for the Richmond and Hampton Roads areas were approved on June 1, 2007. The approvals removed the need to implement certain control measures.

The Frederick County and Roanoke areas have been identified as potential 8-hour ozone standard nonattainment areas by both Virginia and EPA and have agreed to abide by EPA's early action compact policy. Under this policy, the areas have had the nonattainment designation delayed in exchange for implementing emissions reduction controls earlier than otherwise required.

- Planning for the PM_{2.5} Standard

Although there were no violations of the PM_{2.5} standard in the Commonwealth, EPA has designated 9 localities in the 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)

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.

States covered by CAIR must adopt these provisions. Accordingly, the State Air Pollution Control Board adopted its final regulation to implement the federal CAIR program on December 6, 2006. The regulation became effective on April 18, 2007. The State Implementation Plan (SIP) submittal (regulation and allocations) for the state CAIR program was made on March 30, 2007; EPA published a proposed approval of this SIP submittal in the Federal Register of September 25, 2007 (72 FR 54385).

- Clean Air Mercury Rule (CAMR)

On May 18, 2005, EPA published in the Federal Register the CAMR to control emissions of mercury from electric utilities under § 111 of the Clean Air Act (CAA). The State Air Pollution Control Board adopted its final regulation to implement the federal CAMR program on January 16, 2007. The regulation became effective on April 4, 2007. The §111(d) plan submittal (legal authority, regulation, inventory and allocations) for the state CAMR program was made on May 8, 2007.

- Clean Smokestacks Bill

During the 2006 General Assembly session, legislation was passed (Chapters 867 and 920) amending Code §§ 10.1-1327 and 10.1-1328 to require electric generating units (EGUs) to reduce emissions of SO₂, NO_x, and mercury. The legislation also benefits Virginia's air quality by requiring mercury reductions within Virginia.

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 approximately 110 instruments at 48 sites during 2006-07. 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 2006-07. Virginia continued to experience problems in 2007 with summertime ozone pollution, particularly in Northern Virginia, Fredericksburg, Richmond, and Hampton Roads. These areas each had days when the 8-hour ozone standards were exceeded.

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. 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 Hampton Roads and Richmond areas were redesignated as attaining the 8-hour ozone standard in the spring of 2007.

Data through the end of September 2007 show that Northern Virginia continues to exceed the 8-hour ozone standard for the 3-year period from 2005, 2006 and 2007. The Richmond and Fredericksburg areas also exceeded the 8-hour standard for the most recent 3-year period. This data has yet to be quality assured and approved as final by EPA.

In September 2006, the EPA announced changes to the standards for particulate matter. The PM_{10} annual average standard was revoked, and the 24-hour standard remained unchanged. The $PM_{2.5}$ 24-hour standard was dropped from $65 \mu\text{g}/\text{m}^3$ to $35 \mu\text{g}/\text{m}^3$, and the annual $PM_{2.5}$ standard remained unchanged.

Because data for the Hampton Roads and Richmond areas also showed compliance with the 8-hour ozone standard, requests for redesignation to attainment for these areas were submitted to and approved by EPA on June 1, 2006. Later in the ozone season, a violation was registered at a monitor in Henrico County. (A violation occurs when an area exceeds the ozone limit at a monitoring site more than once per year averaged over a three year period.) However, as discussed below, the redesignation request includes a maintenance plan that contains contingency measures to be implemented in the case of such an event.

Virginia is meeting the NAAQS for PM_{10} (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 2003-2006.

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.

In 2006, DEQ received a §103 Grant for a 2 year air toxic monitoring project in Hopewell,

Virginia. The sampling project would allow DEQ to accomplish the following objectives:

- To establish a baseline for ambient air exposure of hazardous volatile organics in these communities and help to identify the potential existence of “hot spots”.
- To provide information to support the development of the residual risk standards and evaluation of future emission control programs.
- To assess the validity of the National Air Toxics Assessment (NATA) findings. The comparison would enable DEQ to validate the model to monitor relationship for the Hopewell/Colonial Heights area. . .”

The Office of Air Quality Monitoring has worked in partnership with SHENAIR (SHENandoah Valley AIR Quality Initiative) to upgrade and enhance the Frederick County air monitoring station at Rest, Virginia. SHENAIR has purchased an environmental shelter to replace the aging air monitoring shelter at this site. SHENAIR also purchased a continuous PM_{2.5} monitor for the site. DEQ will continue to operate an ozone monitor at this site and will add a PM_{2.5} 24-hour sampler as well.

The Office of Air Quality Monitoring is in the process of installing an air monitoring station in the Charlottesville/Albemarle County area, and has been working with Albemarle County Public Schools to locate the station on the grounds of Albemarle High School. Instrumentation at the monitoring station will initially be an ozone analyzer, a continuous PM_{2.5} monitor and a PM_{2.5} 24-hour sampler. DEQ plans to install a PM₁₀ particulate monitor that can be operated by the school’s science classes. Startup of the particulate samplers should be by January 1, 2008, with ozone sampling to begin on April 1.

As discussed in greater detail below, EPA has made a number of changes to the PM_{2.5} standard, and is in the process of determining whether and how the ozone standard should 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 Designations for the 8-Hour Standard

EPA replaced the 1-hour average concentration standard 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.

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 defers the effective date of a nonattainment designation as long as all the terms and the milestones in the compacts are met.

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, 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;	No change/basic.

	designation deferred by EAC.	
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, 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 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.

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.

Because the Richmond and Hampton Roads 8-hour ozone nonattainment areas had been able to demonstrate compliance with the 8-hour standard, the Commonwealth submitted redesignation requests, inventories, and maintenance plans to EPA on September 25, and October 16, 2006, respectively, which were approved by EPA on June 1, 2007. The new attainment areas became effective on June 18, 2007. When an area is redesignated from nonattainment to attainment, the attainment area is considered to be a "maintenance" area, and the state is obligated to prepare a SIP that meets the requirements for 8-hour ozone maintenance areas.

During the 2006 ozone season, a violation was registered at a monitor in Henrico County. (A violation occurs when an area exceeds the ozone limit at a monitoring site more than once per year averaged over a three year period.) However, the redesignation request includes a maintenance plan that contains contingency measures to be implemented in the case of such an event. A regulatory action has been initiated in order to implement the first controls specified in the contingency measures for the Richmond area for: mobile equipment repair and refinishing, and architectural and industrial maintenance coatings. Additional contingency measures will be available should the need arise.

For the 8-hour ozone standard, the White Top Mountain area was designated attainment/unclassifiable on April 30, 2004, effective June 15, 2004. The Phase I rule provides that the 1-hour ozone NAAQS would no longer apply for an area one year following the effective date of the area's designation for the 8-hour ozone NAAQS. The Phase I rule stipulates anti-backsliding requirements for areas designated attainment or unclassifiable for the 8-hour ozone standard but were nonattainment under the 1-hour

ozone standard. The provisions require these areas to submit a 10-year maintenance plan no later than three years after the effective date of the area's 8-hour ozone NAAQS designation. Accordingly, the Commonwealth submitted this plan to EPA on August 8, 2007.

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). 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, reasonably available control technology (RACT) determinations, reasonably available control measures (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.

On December 11, 2006, EPA announced its reconsideration of three aspects of the Phase 2 8-hour ozone implementation rule: 1) the determination that EGUs that comply with CAIR, and that are located in states where all required CAIR emission reductions are achieved from EGUs, meet the 8-hour ozone SIP requirement for application of RACT for NO_x emissions; 2) a new source review requirement allowing sources to use certain emission reductions as offsets under certain circumstances and 3) a new source review provision addressing when requirements for the lowest achievable emission rate (LAER) and emission offsets may be waived. Because EPA is reconsidering the RACT determination, the agency believes it is appropriate to postpone the submission date for the portion of the 8-hour ozone SIP that addresses NO_x RACT for EGUs in the CAIR region. EPA therefore proposed a new date of June 15, 2007 for states in the CAIR region to submit RACT SIPs for these sources. Such a postponement would affect only moderate 8-hour ozone nonattainment areas in the CAIR region and only the portion of the RACT SIPs covering EGUs. EPA issued the notice of reconsideration in response to a petition for reconsideration filed by the Natural Resources Defense Council. This notice was published in the Federal Register of December 19, 2006.

The U.S. Court of Appeals for the D.C. Circuit Court ruled, on December 22, 2006, that

EPA “failed to heed the restrictions” in the Clean Air Act when it promulgated the Phase 1 8-hour ozone implementation rule and, accordingly, vacated the rule and remanded the matter to EPA. Several states, localities and environmental and industry groups filed challenges to EPA’s Phase 1 rule. With regard to the rule’s classification scheme, several states and environmental groups challenged EPA’s decision to place 8-hour ozone nonattainment areas under Part D, Subpart 1, the general provisions governing nonattainment areas, rather than under Subpart 2, the specific provisions governing these areas. The court noted that under the old 1-hour ozone standard, any area registering 0.121 ppm would be subject to Subpart 2, and EPA stated that this is equivalent, in terms of protection of public health, of a reading of 0.09 ppm of 8-hour ozone. Accordingly, “any area failing to achieve the equivalent of Congress’s chosen level of public health must be covered by Congress’s chosen prophylactic scheme.” Therefore, according to the decision, the Phase 1 Rule violates the Clean Air Act “insofar as it subjects areas with 8-hour ozone exceeding 0.09 ppm to Subpart 1.” With respect to areas with 8-hour ozone readings between 0.08 and 0.09 ppm, the court said EPA did not resolve the gap created in the Act reasonably, because the agency interpreted the Act “in a manner to maximize its own discretion.” Several states and environmental groups also challenged the anti-backsliding provisions of the rule; in particular, EPA’s treatment of new source review, § 185 penalties, contingency plans and motor vehicle conformity demonstrations. The court concluded that withdrawing any of these measures from a SIP “would constitute impermissible backsliding.”

EPA then filed a petition with the U.S. Court of Appeals of the D.C. Circuit on March 22, 2007 seeking a panel rehearing of five issues related to the Phase I rule. EPA is seeking rehearing on: 1) whether the court erred in holding that the Supreme Court decision in *Whitman v. American Trucking Associations* established that 0.90 parts per million is the upper bound 8-hour ozone reading for areas to be classified under Subpart 1; 2) whether the court erred in finding impermissible EPA’s rationale of flexibility for using the Subpart 1 classification; 3) whether the court erred in concluding that § 172(e) (anti-backsliding) applies as a legally binding requirement when EPA adopts a more protective standard (the 8-hour standard); 4) whether the court erred, when fashioning the anti-backsliding requirement for conformity, in requiring 1-hour conformity for all federal activities rather than simply retaining the 1-hour motor vehicle emissions budgets; and 5) whether the court “erred in vacating the entire rule even though many provisions of the rule were not challenged or were upheld by the Court, and even though the specific provisions of the rule rejected by the Court are segregable from those that were not.”

On March 19, 2007, EPA issued a memorandum to EPA regional administrators providing guidance on the impacts of the D.C. Circuit Court decision that vacated the Phase I rule. The memo says that EPA plans to seek clarification or a rehearing of the decision, but that EPA does not expect a final decision and mandate from the court for some time, and EPA “cannot give definitive guidance on the ramifications of the decision until it is final.” Nevertheless, the regional offices are encouraged to work with states to continue to develop 8-hour ozone SIPs. The memo does not answer definitively whether EPA will change the June 2007 deadline for submitting 8-hour ozone SIPs – it states instead that “the legal process leaves unclear at this time whether the June submittal deadline will change for any given area.” The memo also addresses nonattainment areas where 2004-2006 data show attainment and redesignation requests. EPA anticipates using its Clean

Data Policy “to suspend certain SIP requirements that are tied to achieving the NAAQS as long as areas now meeting the standard remain in attainment for the 8-hour NAAQS.” For the areas where redesignations have already been proposed, EPA issued a supplemental proposed rule to reopen the comment period, though EPA’s current position is that “the court’s decision does not alter the requirements for redesignation so as to preclude redesignation.” Finally, with respect to conformity and new source review, EPA says transportation conformity and general conformity determinations and New Source Review (NSR) permits issued at this time must at a minimum meet current applicable 8-hour requirements.

In response to a petition for reconsideration filed on the Phase 2 rule, EPA made two modifications to the rule on June 8, 2007. First, EPA changed the deadline for states in the CAIR region to submit NO_x RACT SIPs for EGUs to no later than July 9, 2007. EPA also modified its guidance on the issue of NO_x RACT for EGUs in CAIR states, delineating when a state can presume that compliance with CAIR will satisfy the NO_x RACT requirements for EGUs.

On June 18, 2007, a memo was issued to EPA’s regional administrators providing the agency’s interpretation of the U.S. Court of Appeals for the D.C. Circuit’s denial of EPA’s petition for rehearing in *South Coast AQMD v. EPA*. In that denial, the court limited its vacatur of the Phase 1 rule to provisions establishing the subpart 1 classification and those provisions determining that four requirements did not need to be retained as anti-backsliding requirements. According to the memo, because the court vacated the portions of the rule that created the subpart 1 classification, and because SIP submission deadlines “are based on an area’s classification,” subpart 1 areas are not subject to the June 15, 2007, SIP deadline. On the other hand, since the court clarified that it is not vacating the entire rule – in particular, it did not vacate the provisions providing for classifications of subpart 2 areas – subpart 2 areas are still subject to the June 15, 2007, deadline for SIP submittals. However, EPA will not make findings of failure to submit SIPs sooner than August 15, 2007.

Air Quality Standards - Review of Ozone

EPA entered into a consent decree on October 18, 2006 with environmental groups giving the agency a two-month extension under the current review of the ozone NAAQS. EPA had until May 30, 2007 to issue its proposal on whether to revise the current ozone NAAQS and until February 20, 2008 to issue its final decision. The consent decree says EPA is seeking this extension “to facilitate EPA’s completion of a number of specific analyses that EPA understands to have been recommended by the Clean Air Scientific Advisory Committee (CASAC) Review Panel for Ozone during that Panel’s review of the second draft of the Staff Paper in August 2006.”

On December 7, 2006, EPA announced changes to the process for reviewing the NAAQS, reflecting recommendations made by an EPA workgroup in April 2006. EPA will no longer prepare criteria documents or staff papers with staff recommendations for revising the NAAQS; instead, it will prepare an integrated science assessment and a risk/exposure assessment, along with a policy assessment that reflects the agency’s views, including the views of upper management. The policy assessment will discuss the range of options for

standard setting and help “bridge the gap” between EPA’s scientific assessment and the judgments to be made by the Administrator in determining whether and to what extent to revise the NAAQS. The role of CASAC would also change; CASAC would no longer provide recommendations on revisions to the NAAQS in advance of the Administrator’s assessment. Instead, CASAC, like the general public, would have an opportunity to comment on the policy assessment when it is published as an Advanced Notice of Public Rulemaking.

On January 31, 2007, EPA released its final staff paper in the current review of the ozone NAAQS, calling for lowering the primary standard “within the range of somewhat below 0.080 ppm to 0.060 ppm” and concluding that the overall body of evidence on ozone health effects may call into question the adequacy of the current standard. On October 24, 2006, CASAC told EPA that there was “no scientific justification” for keeping the primary standard at 0.080 ppm and recommended a range of 0.060 to 0.070 ppm. With respect to the secondary standard, EPA staff agreed with CASAC’s recommendation to use a cumulative seasonal standard. EPA also released the final Human Exposure Analysis and the Health Risk Assessment and Technical Report on Ozone Exposure, Risk and Impact Assessments for Vegetation.

EPA proposed, on June 20, 2007, to strengthen the 8-hour ozone standard, recommending a range for the primary standard between 0.070 and 0.075 ppm. At the same time, the agency announced that it is requesting comments on “alternative levels” of the standard, including retention of the current standard (0.084 ppm). EPA proposed two options for the secondary standard: (i) to set the secondary standard at a level identical to the primary standard, or (ii) to establish a cumulative standard adding daily concentrations across a three-month period. EPA proposed that the level of the standard fall in the range of 7-21 ppm hours. Based upon a March 12, 2008 issuance of final standards, EPA set out an implementation schedule for achieving the new standard. By June, 2009, states are required to submit to EPA their recommendations for designations. EPA is expected to make final designations a year later, or June, 2010. Three years after the final designations are approved, states must submit SIPs. States will be required to meet the new standard between 2013 and 2030, depending upon the severity of an area’s air pollution problem. The proposed revisions were published in the Federal Register on July 11, 2007.

The Senate Environment and Public Works Subcommittee on Clean Air and Nuclear Safety held a hearing to review EPA’s proposal to revise the ozone NAAQS on July 11, 2007. The EPA Administrator testified that the “current standard [of 0.08 parts per million (ppm)] does not protect public health with an adequate margin of safety and should be revised,” but that EPA was taking comment on whether it should retain the existing standard because, given “the diversity of views held by various stakeholders concerning what might constitute appropriate levels for the standard ... it is prudent policy to ask for comment specifically on a wider range.” EPA proposed that the primary ozone NAAQS be strengthened to between 0.070 and 0.075 ppm but is taking comment on ranges above (up to the current standard) and below (down to 0.060 ppm).

Fine Particles (PM_{2.5}) Standard - Attainment Planning

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 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.

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.

Air Quality Standards - Review of Particulate Matter

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 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 five localities. The RIA concluded 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.

On September 22, 2006, EPA announced the agency's final decision regarding revisions to the PM NAAQS. The agency 1) revised EPA's previous daily PM_{2.5} standard from 65 μm^3 to 35 μm^3 , 2) retained the current PM_{2.5} annual standard of 15 μm^3 , 3) retained the existing daily PM₁₀ standard of 150 μm^3 , 4) rescinded the annual PM₁₀ standard and 5) rescinded the PM_{10-2.5} standard. The implementation schedule for the revised standards is as follows: state recommendations for attainment and nonattainment designations are due November 2007; EPA designations are due by November 2009; designations take effect April 2010; SIPs are due three years after designation (April 2013); and states must attain the standards by April 2015, with a possible extension to 2020. The final rule also mentions a monitoring rule "establishing requirements for a new multi-pollutant monitoring network that will include approximately 75 PM_{10-2.5} monitors that will speciate according to the composition as well as size of the particles." EPA indicates that it expects that these speciated monitors, to be sited in both urban and rural locations, "will help alleviate the

current deficit of information regarding the public health impacts of PM_{10-2.5} mixes in different locations.”

An EPA study released in September reports that a dozen scientific experts on fine particulate matter agree that reducing the annual level of PM_{2.5} would save tens of thousands of lives. EPA asked these experts about their views on the mortality impacts of PM_{2.5}. Median estimates ranged from a 0.7-percent to a 1.6-percent decrease in annual, adult, all-cause mortality per 1 µg/m³ decrease in annual average PM_{2.5}. According to U.S. census data, about 2.4 million Americans die each year, so the scientists polled concluded that there would be between 17,000 to 30,000 fewer deaths if EPA tightened PM_{2.5} annual limits by 1 µg nationwide.

In October, EPA completed its Regulatory Impact Analysis (RIA) for its recently released revisions to the NAAQS for fine particulate. The RIA is intended to examine the benefits and costs associated with reducing fine particle pollution. The CAA prohibits EPA from considering costs in setting or revising any national air quality standard; EPA did not use this analysis in setting the new fine particle standards. The analysis shows that the benefits associated with revisions to the PM_{2.5} standard clearly outweigh the costs. “EPA calculated a range of benefits for fully meeting the revised 24-hour PM_{2.5} standard using estimates based on the opinion of outside experts, along with published scientific studies. That calculation shows that the revised standards will yield \$9 billion to \$76 billion a year in health and visibility benefits in 2020. Health benefits include reductions in premature death, diseases and symptoms associated with fine particle pollution exposure.” The range of benefits reflects two different sources of information from both published epidemiology literature and an expert elicitation study that EPA conducted in 2006. The RIA includes a variety of benefits estimates based on both sources of information.

On December 15, 2006, several environmental and agriculture groups filed challenges to EPA’s decision to revise the PM NAAQS. Earthjustice filed a challenge on behalf of the American Lung Association, Environmental Defense, the National Parks Conservation Association and Natural Resources Defense Council. The American Farm Bureau and National Pork Producers Council also filed a petition for review, focusing on coverage of agricultural dust. The Farm Bureau says “EPA’s rule is not based on sound science and the decision to regulate agricultural dust will negatively impact U.S. farmers and ranchers.” Three days later, 13 states, the District of Columbia and the South Coast Air Quality Management District filed suit in the U.S. Court of Appeals for the D.C. Circuit to challenge the revision to the PM NAAQS. They allege that EPA failed to set a standard protective of public health. Several industry groups also filed petitions separately seeking court review of the PM NAAQS, including the Utility Air Regulatory Group, the National Cattlemen’s Beef Association, the National Mining Association, the Agricultural Retailers Association and a group called the Fine Particulate Matter Petitioners Group.

On March 29, 2007, EPA released its final rule for implementing the PM_{2.5} standard. The final rule was published in the Federal Register on April 25, 2007. A number of agencies have expressed concerns over this rule. For example, on the issue of CAIR and RACT, the rule includes a “presumption” that for states that satisfy their CAIR requirements entirely through emission reductions from EGUs, RACT and RACM requirements for SO₂ and NO_x

would be satisfied for EGU sources covered by CAIR, provided that existing selective catalytic reduction controls are operated year-round beginning in 2009. Therefore, it will be possible for power plants in CAIR states to comply by buying emission credits rather than installing controls. With respect to RACT thresholds, the final rule requires only that sources of PM_{2.5} and precursors be evaluated; there is no requirement – RACT threshold – that sources over a certain size install controls. Regarding condensable emissions, EPA did not finalize its proposal to require a comprehensive inclusion of condensable PM for all aspects of SIP development for PM_{2.5}. Instead, the agency has established a transition period for developing emissions limits and regulations for condensable PM_{2.5}. This rule does not include final PM_{2.5} requirements for the NSR program; the final NSR rule will be issued at a later date. SIPs for PM_{2.5} are due April 5, 2008.

EPA issued guidance for states and localities to use in designating areas that attain or do not attain the revised 24-hour standard for PM_{2.5} on June 11, 2007. Designation recommendations are to be based on 2004-2006 data and submitted by December 18, 2007. EPA intends to complete final designations by December 18, 2008, though if insufficient information is available at that time for an area, the final designation date may be extended to December 18, 2009. The guidance also addresses factors to use in determining the boundaries of nonattainment areas. EPA will establish no presumption as to what those boundaries should be (previously EPA had applied the presumption that they should be based on metropolitan area boundaries as defined by the Office of Management and Budget).

In June, several environmental and public health groups petitioned EPA to reconsider the final PM_{2.5} implementation rule. The groups challenge the presumption in the rule that, for those states participating in CAIR, RACT requirements for NO_x and SO₂ are satisfied for EGUs if all the CAIR NO_x and SO₂ reductions in the state are achieved by EGUs. The groups also challenge the provisions allowing states to delay establishing emission limits for condensable PM emissions until January 1, 2011. The petition alleges that EPA has unlawfully and arbitrarily changed “well established criteria” for determining the economic feasibility of controls being considered for RACT and questions EPA’s decision to allow states to include sources outside of a nonattainment area in reasonable further progress demonstrations.

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, including Virginia, that it claims is contributing significantly to nonattainment, or interfering with maintenance, of the NAAQS in North Carolina. 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.

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.

North Carolina then asked, on February 19, 2007, that EPA take prompt action on two issues: inclusion of Georgia in the NO_x SIP Call and reconsideration of the state's § 126 petition. With respect to the NO_x SIP Call, North Carolina believes that sources of NO_x in the northern two-thirds of Georgia "must be regulated under the NO_x SIP Call similarly to all other sources in the NO_x SIP Call region." EPA stayed application of the NO_x SIP Call to sources in Georgia following the filing of a petition for reconsideration by the Georgia Coalition for Sound Environmental Policy. North Carolina also asked that EPA grant the state's petition for reconsideration of EPA's denial of the North Carolina § 126 petition.

On June 28, 2007, EPA denied petitions for reconsideration of EPA's final rule promulgating a FIP for CAIR; this final rule also denied North Carolina's § 126 petition.

Regional Haze

The best available retrofit technology (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.

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. 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. EPA also proposed new regulatory text to provide minimum elements for cap-and-trade programs in lieu of BART.

The requirements for an emissions trading program for EPA's Clean Air Visibility Rule were finalized on October 5, 2006. These requirements provide state and tribal agencies with a process to show that an emissions trading program may be used as an alternative to applying BART. On December 12, 2006, the U.S. Court of Appeals for the D.C. Circuit upheld the regional haze rule as a "reasonable interpretation" of § 169A of the CAA, rejecting challenges filed by industry and the National Parks Conservation Association. The court said that the CAA does not require EPA to ensure that any BART-alternative improves visibility at least as much as BART at every Class I area and in all categories of days.

In order to meet the federal regional haze requirements discussed above, the Commonwealth (i) developed a draft BART eligible emissions inventory; (ii) performed BART exemption determinations, and (iii) commenced the process of developing permits for those remaining sources for which BART must be implemented. In order to provide a legally enforceable basis for issuing these permits, the State Air Pollution Control Board adopted a regulation consisting of standards and procedures for making case-by-case BART determinations which became effective on August 1, 2007.

In support of these regional haze 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 was published in the Federal Register (70 FR 28606) on May 18, 2005. Upon publication, a group of states, filed a legal challenge to the rule. A related mercury rule, which rescinded EPA's findings made in 2000 supporting a requirement that utilities 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, twelve environmental organizations filed suit on the March 29 rule.

On May 31, 2005, fourteen 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 EPA'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 also have filed lawsuits on both the delisting rule and the CAMR itself.

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." 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.

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 to hear

the case on an expedited basis.

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.

States were required to submit their state plans and mercury allocations to comply with CAMR by November 17, 2006. The plans can be based on EPA's model rule, contained in CAMR, or can be the state's own program. The plans are similar to SIPs under § 111 of the Clean Air Act. Many states, including Virginia, underwent extensive stakeholder processes and rulemaking to develop their programs. States have adopted or are pursuing a variety of programs to comply with the CAMR requirements, many of which are more stringent than EPA's rule.

On December 8, 2006, EPA proposed a FIP for CAMR to be implemented in states that had not submitted a mercury plan to EPA. CAMR requires the FIP to be implemented in states that have not submitted approvable plans by six months after the November 17 deadline. The FIP is based on the cap-and-trade program for states outlined in CAMR. A public hearing was held by EPA on January 18, 2007, to hear comments on the proposal.

A coalition of 16 states and one city that is challenging CAMR submitted its brief to the U.S. Court of Appeals for the District of Columbia Circuit on January 12, 2007. They requested that CAMR be vacated and that EPA develop a new rule, arguing that EPA violated the Clean Air Act in promulgating the cap-and-trade regulations for power plants and that the rule will delay emission reductions of mercury for many years. The Utility Air Regulatory Group (UARG), an industry organization that is also challenging the rule, submitted a brief arguing that EPA should not allow states to develop federally enforceable state plans under CAMR that do not implement the cap-and-trade scheme contained in the rule. UARG argued that CAMR represents EPA's determination that the national cap-and-trade system is the best system for addressing mercury from power plants. Allowing states to develop their own programs, which would become federally enforceable, would undermine EPA's system. UARG conceded that states can have their own programs within the state, but those programs should not be federally enforceable.

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 Virginia's border. Units within a nonattainment area cannot purchase credits to comply; however, credits generated at units under common ownership within 200 km of Virginia's border may be used to comply with the state rule. The legislation also requires that an assessment of mercury deposition in Virginia be conducted with a final report due in October 2008.

The State Air Pollution Control Board adopted its final regulation to implement the federal CAMR program on January 16, 2007. The regulation became effective on April 4, 2007.

The §111(d) plan submittal (legal authority, regulation, inventory and allocations) for the state CAMR program was made on May 8, 2007.

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).

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 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 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 became effective July 11, 2005, except for provisions relating to the Acid Rain Program, which became effective July 1, 2006. SIPs were 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.

In response to 11 petitions for reconsideration, EPA granted, on November 22, 2005, reconsideration and sought 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 also granted reconsideration and sought comment on the potential impact of the D.C. Circuit Court vacating the pollution control project exclusion in the NSR regulations. EPA's analysis shows that the court decision does not affect the CAIR analyses.

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.

In addition to the requirements of the federal CAIR, additional reductions of NO_x are required by legislation passed by the 2006 General Assembly. Specifically Chapters 867 and 920 of the 2006 Acts of Assembly require an owner of one or more electric generating units in the Commonwealth whose NO_x emissions exceeded 40,000 tons in 2004, to reduce their NO_x emissions during the 2007 or 2008 control period by approximately 5000 tons.

The State Air Pollution Control Board adopted its final regulation to implement the federal CAIR program on December 6, 2006. The regulation became effective on April 18, 2007. The SIP submittal (regulation and allocations) for the state CAIR program was made on March 30, 2007; EPA published a proposed approval of this SIP submittal in the Federal Register of September 25, 2007 (72 FR 54385).

EPA extended the time for raising objections concerning the data and allocations the agency published concerning NO_x allocations under CAIR, but the time is extended only for cogeneration units combusting biomass. EPA provided the additional time because of difficulties experienced by some biomass cogeneration units in collecting information relating to the application of efficiency standards for cogeneration units (as defined in the CAIR FIP) to biomass cogeneration units. The notice was published in the Federal Register of February 16, 2007.

On April 16, 2007, EPA proposed to change the definition of cogeneration unit under CAIR and the CAMR so that biomass cogeneration units will qualify as cogeneration units that are exempt from these rules. Specifically, EPA proposed to revise the efficiency standard in the cogeneration unit definition so that the standard would apply, with regard to certain units, only to the fossil fuel portion of a unit's energy input. According to the proposal, this definitional change will "only affect a small number of relatively low emitting units... [and so] would have little effect on the projected emissions reductions and the environmental benefits of these rules." The proposal also contains minor technical corrections to CAIR and the Acid Rain Program rules, as well as minor revisions to the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters (the Boiler MACT). The proposal was published in the Federal Register of April 25, 2007.

Motor Vehicle Emissions Inspection and Maintenance Program

Since passage of the 1990 CAA 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. DEQ created 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, DEQ added a procedure to the program for testing the on-board diagnostic (OBD) system on model year 1996 and newer vehicles. All light duty vehicles 1996 and newer must be equipped with OBD systems 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 or 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. In July of 2007 DEQ began testing light-duty (i.e., up to 8,500 lbs GVWR) diesel vehicles of model

year 1997 and newer using the OBD technology.

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 DEQ 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 DEQ 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 State Air Pollution Control Board has adopted regulations to implement a remote sensing On Road Emissions (ORE) monitoring 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 the Virginia Department of Motor Vehicles. Inspection station equipment software was updated to accommodate the ORE program in 2005.

In August of 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. DEQ is now evaluating the first year of ORE data to determine ways to more effectively identify high polluting vehicles.

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, other light-duty trucks and 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

EPA adopted more stringent emission standards for heavy-duty diesel trucks in December 2000 that 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.

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 Virginia's air 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 Virginia's air 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 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 DEQ. 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. The 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.