

Notice of Proposed Rulemaking
Department of Environmental Protection
Environmental Quality Board
(25 Pa. Code, Chapters 121, 129 and 145)
(Clean Air Interstate Rule)

Preamble

The Environmental Quality Board (Board) proposes to amend 25 Pa. Code, Chapters 121 (relating to general provisions), 129 (relating to standards for sources) and 145 (relating to interstate pollution transport reduction).

The proposed amendments incorporate by reference, with some exceptions, the Clean Air Interstate Rule (CAIR) NO_x (nitrogen oxides) Annual Trading Program and CAIR NO_x Ozone Season Trading Program model rules, as a means of mitigating the interstate transport of fine particulates and NO_x. The proposed amendments also incorporate by reference the CAIR Sulfur Dioxide (SO₂) Trading Program model rules as a means of mitigating the interstate transport of fine particulates and sulfur dioxide. The proposed amendments establish general provisions and the applicability, allowance and supplemental monitoring, record keeping and reporting provisions, and make other related revisions. The CAIR NO_x trading programs in the proposed amendments will supersede the Commonwealth's existing NO_x Budget Trading Program.

This proposal was adopted by the Board at its meeting of _____ (date).

A. Effective Date

These amendments will go into effect upon publication in the *Pennsylvania Bulletin* as final rulemaking.

B. Contact Persons

For further information contact James A. Stoner, Chief, Stationary Sources Section, Bureau of Air Quality, P.O. Box 8468, Rachel Carson State Office Building, Harrisburg, PA 17105-8468, (717) 772-3921, or Kristen M. Campfield, Assistant Counsel, Bureau of Regulatory Counsel, P.O. Box 8464, Rachel Carson State Office Building, Harrisburg, PA 17105-8464, (717) 787-7060. Information regarding submitting comments on this proposal appears in Section J of this preamble. Persons with a disability may use the AT&T Relay Service by calling 1-800-654-5984 (TDD users) or 1-800-654-5988 (voice users). This proposal is available electronically through the DEP Web site (<http://www.depweb.state.pa.us>). Select "Public Participation."

C. Statutory Authority

This proposed rulemaking is authorized under Section 5 of the Pennsylvania Air Pollution Control Act (35 P.S. § 4005). Section 5(a)(1) of the Air Pollution Control Act (APCA) (35 P.S. § 4005(a)(1)) grants the Environmental Quality Board the authority to adopt rules and regulations for the prevention, control, reduction and abatement of air pollution in the Commonwealth.

D. Background and Purpose

The purpose of this proposed rulemaking is to establish a program to limit the emission of nitrogen oxides (NO_x) and sulfur dioxide (SO₂) from electric generating facilities of 25 megawatts or greater. This proposed rulemaking also extends existing NO_x emission permit limits for certain boilers, stationary combustion turbines and stationary internal combustion engines; and provides for the allocation of NO_x allowances to cogeneration units that did not receive SO₂ allowances under the Federal Acid Rain Program and to certain renewable energy and energy efficiency units.

The Clean Air Act (CAA) contains a number of requirements to address fine particles (PM_{2.5}) and 8-hour ozone national ambient air quality standards (NAAQS), including requirements that States address interstate transport that contributes to nonattainment. The United States Environmental Protection Agency (EPA) has concluded that emissions in certain upwind States result in amounts of transported PM_{2.5} and ozone, and emission precursors for both (namely, NO_x as a precursor for PM_{2.5} and ozone, and SO₂ as a precursor for PM_{2.5}), that contribute significantly to nonattainment in downwind States. EPA has determined that the Commonwealth is both an upwind and downwind State.

Section 110(a)(1) of the CAA requires that States submit state implementation plans (SIPs) to meet the applicable requirements of section 110(a)(2) within 3 years after the promulgation of a new or revised NAAQS, or within such shorter period as EPA may provide. Pursuant to section 110(a)(1), States are required to submit SIPs that satisfy the requirements of section 110(a)(2)(D)(i) related to interstate transport of pollution. In 1997, EPA adopted a NAAQS for fine particulate matter (PM_{2.5}) at 62 FR 38652 (July 18, 1997), and 8-hour ozone, at 62 FR 38855 (July 18, 1997). On April 25, 2005, EPA made national findings that states had failed to submit the required SIPs to address interstate transport with respect to the PM_{2.5} and 8-hour ozone NAAQS. 70 FR 21147 (April 25, 2005). Publication of EPA's findings started a 2-year time clock under section 110(c)(1) in which EPA would promulgate a Federal Implementation Plan (FIP) for any state that failed to submit a SIP approved by EPA that satisfies the interstate transport requirements of CAA section 110(a)(2)(D)(i) within the 2 years.

On May 12, 2005, EPA published the final CAIR rule, in which EPA issued findings that 28 states and the District of Columbia contribute significantly to

nonattainment of the PM_{2.5} and/or 8-hour ozone NAAQS in downwind states. 70 FR 25162 (May 12, 2005), as amended at 71 FR 25328 (Apr. 28, 2006). EPA required these states and the District of Columbia to submit revised SIPs that include control measures to reduce emissions of SO₂ and/or NO_x that significantly contribute to nonattainment of the PM_{2.5} and 8-hour ozone NAAQS in downwind states. Each state subject to the CAIR may independently determine which emissions sources to subject to controls, and which control measures to adopt. EPA included statewide emission reduction levels in the final rule, as well as model rules for multi-state cap and trade programs for annual SO₂ and NO_x emissions for PM_{2.5} and for seasonal NO_x emissions for ozone. In the rulemaking, EPA also revised the Acid Rain Program regulations, particularly the regulatory provisions governing the SO₂ cap and trade program, to streamline that program and facilitate its interaction with the CAIR model SO₂ cap and trade program. EPA also specified that the NO_x SIP Call cap and trade program, known as the NO_x Budget Trading Program, will be replaced by the CAIR NO_x Ozone Season Trading Program.

By way of background, the NO_x SIP Call was promulgated in 1998 as EPA's principal effort to reduce interstate transport of precursors for both the 1-hour and 8-hour ozone NAAQS. 63 FR 57356 (Oct. 27, 1998). The NO_x SIP Call followed on the heels of the Ozone Transport Commission's (OTC) NO_x Budget Trading Program, which was developed and adopted by the OTC Member States, including the Commonwealth, as a regional approach to reducing NO_x from large fossil-fuel-fired combustion units. The Commonwealth's adoption of the OTC NO_x Budget Trading Program was embodied in 25 *Pa. Code* §§ 123.101-123.121 (relating to NO_x allowance requirements). In EPA's NO_x SIP Call, EPA imposed seasonal NO_x reduction requirements on 22 states (including the Commonwealth) and the District of Columbia in the eastern part of the country. All states subject to the NO_x SIP Call submitted SIPs incorporating the NO_x SIP Call requirements. The Commonwealth adopted the NO_x Budget Trading Program in 25 *Pa. Code* Ch. 145, Subchapter A (relating to NO_x Budget Trading Program) in response to EPA's NO_x SIP Call.

When ground-level ozone is present in concentrations in excess of the Federal health-based standard, public health is adversely affected. The EPA has concluded that there is an association between ambient ozone concentrations and increased hospital admissions for respiratory ailments, such as asthma. Further, although children, the elderly and those with respiratory problems are most at risk, even healthy individuals may experience increased respiratory ailments and other symptoms when they are exposed to ambient ozone while engaged in activities that involve physical exertion. Though the symptoms are often temporary, repeated exposure could result in permanent lung damage. The implementation of measures to address ozone air quality nonattainment in this Commonwealth is necessary to protect the public health.

In addition to causing adverse health effects, EPA has concluded that ozone affects vegetation and ecosystems, leading to reductions in agricultural crop and commercial forest yields; reduced growth and survivability of tree seedlings; and increased plant susceptibility to disease, pests, and other environmental stresses, such as harsh weather. In long-lived species, these effects may become evident only after several

years or even decades and have the potential for long-term adverse impacts on forest ecosystems. Ozone damage to the foliage of trees and other plants can also decrease the aesthetic value of ornamental species used in residential landscaping, as well as the natural beauty of parks and recreation areas. The economic value of some welfare losses due to ozone can be calculated, such as crop yield loss from both reduced seed production and visible injury to some leaf crops, such as lettuce, spinach, tobacco, as well as visible injury to ornamental plants, such as grass, flowers, shrubs. Other types of welfare loss may not be quantifiable, such as reduced aesthetic value of trees growing in heavily visited parks.

Fine particles, or PM_{2.5}, are associated with a number of serious health effects, including premature mortality, aggravation of respiratory and cardiovascular disease (as indicated by increased hospital admissions, emergency room visits, absences from school or work, and restricted activity days), lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems such as heart attacks and cardiac arrhythmia. The EPA has estimated that attainment of the PM_{2.5} standards would prolong tens of thousands of lives and would prevent, each year, tens of thousands of hospital admissions as well as hundreds of thousands of doctor visits, absences from work and school, and respiratory illnesses in children. Individuals particularly sensitive to fine particle exposure include older adults, people with heart and lung disease, and children.

A number of petitions for review have been filed in the Federal Court of Appeals for the District of Columbia Circuit challenging various aspects of the CAIR. The cases have been consolidated into *State of North Carolina v. EPA*, Case No. 05-1244, which addresses CAIR-specific issues, and *Sierra Club v. EPA*, Case No. 06-1221, which addresses EPA's response to North Carolina's petition to reduce interstate transport of fine particulate matter and ozone. It is possible that a ruling by the Court will lead to revisions in the CAIR by EPA.

EPA set two phases of NO_x and SO₂ reductions in the CAIR, which are addressed in this rulemaking. The first phase of NO_x reductions begins in 2009 (covering 2009-2014), and the first phase of SO₂ reductions starts in 2010 (covering 2010-2014). The second phase of reductions for both NO_x and SO₂ starts in 2015 (covering 2015 and thereafter). EPA's emissions reduction requirements are based on controls that EPA identified as being highly cost effective for electric generating units (EGUs).

Under the CAIR, States' SIP revisions were due by September 11, 2006. The Commonwealth proposes to submit the proposed regulation, once adopted, to EPA as a SIP revision to satisfy EPA's CAIR SIP requirements.

In the event that a State does not submit its SIP revision on time, EPA issued a FIP for each State covered by the CAIR on April 28, 2006 (71 FR 25328). The FIPs are designed to regulate EGUs in the affected States and to achieve the emission reduction requirements established by the CAIR until States have approved SIPs to achieve the reductions. As the control requirement for the FIPs, EPA adopted the model trading rules

provided in the CAIR, with minor changes to account for Federal rather than State implementation. EPA has stated that there are no sanctions associated with being subject to a CAIR FIP.

EPA designed the model rules in the CAIR to parallel the NO_x SIP Call model trading rules (40 CFR part 96) and to coordinate with the Acid Rain Program. In order to have EPA administer the trading programs and for sources to be able to trade allowances with sources in other States, EPA requires States to adopt the model rules, with flexibility to modify sections regarding NO_x allowance allocations and determine whether to include individual unit opt-in provisions. Once the CAIR NO_x Ozone Season Trading Program is operating, EPA will no longer administer the NO_x SIP Call trading program.

Under the model rules, States will allocate the CAIR NO_x annual allowances and the CAIR NO_x Ozone Season allowances. The Department's proposed rulemaking specifies how allowances will be calculated. The NO_x Budget Trading Program allowances and CAIR NO_x Ozone Season allowances cannot be used for compliance with the annual CAIR NO_x emission reduction requirement. Pre-2009 NO_x Budget Trading Program allowances can be banked into the program and used by CAIR sources for compliance with the CAIR NO_x Ozone Season program. NO_x Budget Trading Program allowances of vintages (namely, the year for which the allowance is issued) 2009 and later cannot be used for compliance with CAIR or the CAIR FIP and will be superseded, as described further below.

The CAIR SO₂ cap and trade program will rely upon Title IV SO₂ allowances that have already been issued, although a State may provide CAIR SO₂ allowances to an opt-in source. Pre-2010 Title IV SO₂ allowances can be used for compliance with the CAIR. Sulfur dioxide reductions are achieved under the model rules by requiring sources to retire more than one allowance for each ton of SO₂ emissions. The emission value of an SO₂ allowance is independent of the year in which it is used, but is based upon its vintage. Sulfur dioxide allowances of vintage 2009 and earlier will offset one ton of SO₂ emissions. Vintages 2010 through 2014 will offset 0.5 tons of emissions, and vintages 2015 and beyond will offset 0.35 tons of emissions.

The CAIR provides each State with a share of the compliance supplement pool, which is comprised of 200,000 CAIR NO_x annual allowances of vintage year 2009. For Pennsylvania, the compliance supplement pool will be allocated by EPA under the FIP in 2009.

Sources will monitor and report their emissions using 40 CFR Part 75 (relating to continuous emission monitoring). Compliance for the annual and ozone season NO_x cap and trade programs, as well as the SO₂ program, will be determined separately. Any source found to have excess emissions must surrender allowances sufficient to offset the excess emissions and surrender allowances from the next control period equal to three times the excess emissions.

If a State chooses to control EGUs in its CAIR program, as the Commonwealth is proposing to do, then the State must establish a budget for EGUs. EPA established statewide budgets for the Commonwealth's CAIR trading programs that include only EGUs, as follows: (1) an annual EGU NO_x budget of 99,049 tons per year for 2009-2014 and 82,541 tons per year for 2015 and thereafter; (2) a compliance supplement pool of 16,009 tons of CAIR NO_x annual allowances; (3) an Ozone Season EGU NO_x budget of 42,171 tons per year for 2009-2014 and 35,143 tons per year for 2015 and thereafter; and (4) an annual EGU SO₂ budget of 275,990 tons per year for 2010-2014 and 193,193 tons per year for 2015 and thereafter. The EPA calculated the amount of each State's EGU emissions cap, or budget, based on reductions that EPA determined to be highly cost effective.

Sulfur dioxide allowances are allocated to sources by EPA under the Acid Rain Program. Certain independent power production (IPP) facilities that are subject to the SO₂ emission control requirements of the CAIR, however, were exempted from the Acid Rain Program. Most of these IPP facilities are waste coal-fired facilities located in the Commonwealth, that combust coal mining refuse. Since States cannot allocate CAIR SO₂ allowances to these facilities, the facilities will have to purchase or otherwise obtain the necessary allowances. To make up for the absence of SO₂ allowances, the Department is proposing to allocate additional CAIR NO_x allowances to these facilities, the proceeds from the sale of which the facilities may use to purchase the needed CAIR SO₂ allowances.

The proposed rulemaking establishes general provisions to achieve reductions from EGUs currently covered by the NO_x Budget program of 25 *Pa. Code* Chapter 145, Subchapter A (relating to NO_x Budget Trading Program). The proposed NO_x reduction requirements are similar to the existing requirements of the NO_x Budget Trading Program, and contain provisions relating to designated representatives of covered units, permitting, allowances, monitoring, and opting-in. These proposed amendments establish three CAIR trading programs, which cover annual NO_x emissions, ozone season NO_x emissions, and annual SO₂ emissions, respectively. Each of the three proposed CAIR trading programs contains similar provisions.

The proposed rulemaking makes minor changes to the requirements that already apply to small sources of NO_x in the five-county Philadelphia area. The proposed amendments would require these sources to surrender CAIR NO_x Ozone Season allowances rather than NO_x Budget program allowances if the sources' NO_x emissions exceed its NO_x emission limits, beginning in 2009. A similar change is proposed for NO_x emissions from large stationary internal combustion engines that are not subject to the NO_x Budget Trading Program, and for NO_x emissions from Portland cement kilns. The proposed rulemaking also addresses the transitioning of NO_x allowance allocations, NO_x emission limitations and NO_x monitoring requirements from the NO_x Budget program and address certain compliance issues. The proposed rulemaking establishes requirements for non-EGUs that are currently subject to the NO_x Budget Trading Program.

EGUs will likely be governed by the NOx allowances already allocated by the Department for 2007 and 2008. As the Department stated in its 2005 allocation of NOx allowances, action at the Federal or State level could affect the Department's allocations, and "...it is possible that NOx allowances allocated for 2008 – 2012 would be terminated, limited or otherwise affected." 35 Pa. B. 1714, 1715 (Mar. 12, 2005).

A NOx allowance allocated by the Department under the NOx Budget Trading Program does not constitute a property right. 25 Pa. Code §145.6(b)(7) (relating to standard requirements). A "NOx allowance" is defined as: "An authorization by the Department under the NOx Budget Trading Program to emit up to one ton of NOx during the control period of the specified year or of any year thereafter, except as provided under § 145.54(f) (relating to compliance). No provision of the NOx Budget Trading Program, any permit, or an exemption under § 145.4(b) or § 145.5 and no provision of law will be construed to limit the authority of the Department or the Administrator to terminate or limit the authorization, which does not constitute a property right. For purposes of all sections of this subchapter except §§ 145.41-145.43 and 145.88, NOx allowance also includes an authorization to emit up to one ton of NOx during the control period of the specified year or of any year thereafter by the Department or the Administrator." 25 Pa. Code § 145.2 (relating to definitions).

The CAIR NOx allowances expected to be allocated by EPA under the FIP will replace the NOx allowances already allocated to EGUs by the Department under the NOx Budget Trading Program for 2009 and subsequent years until the FIP is replaced by an approved SIP revision. In administering the FIP, EPA will record annual and ozone season CAIR NOx allowance allocations for 2009 by September 30, 2007 and for 2010 by September 30, 2008.

Non-EGUs will continue to be covered by the NOx allowances already allocated by the Department until this proposed rulemaking is adopted. Once this proposed rulemaking is adopted, the NOx allowances already allocated by the Department to non-EGUs will be replaced by the NOx permit limits described in the proposed rulemaking, as explained more fully below under "Section E, Summary of Regulatory Requirements."

Both EPA's CAIR NOx model rules and CAIR FIP state that CAIR NOx annual allowances and CAIR NOx Ozone Season allowances do not constitute property rights. 40 CFR 96.106(c)(6); 96.306(c)(6); 97.106(c)(6); 97.306(c)(6) (relating to standard requirements). The same is true of CAIR SO₂ allowances. 40 CFR 96.206(c)(6) and 97.206(c)(6) (relating to standard requirements). These provisions also provide that no provision of the CAIR programs, a CAIR permit application, a CAIR permit or the retired unit exemption and no provision of law shall be construed to limit the authority of the State or the United States to terminate or limit such authorization. The proposed rulemaking incorporates by reference these Federal provisions.

The Department consulted with the Air Quality Technical Advisory Committee (AQTAC) on the proposed rulemaking on December 14, 2006, and January 4, 2007. On January 4, 2007, AQTAC concurred with the Department's recommendation that the

Board approve the proposed rulemaking for publication and comment. The Department also consulted with the Citizens' Advisory Council on January 17, 2007, and the Small Business Compliance Advisory Committee on January 24, 2007.

The proposed rulemaking is necessary to achieve and maintain the NAAQS and to satisfy related Clean Air Act requirements. The proposed rulemaking, when finally adopted, will be submitted to the EPA as a revision to the Commonwealth's SIP.

E. Summary of Regulatory Requirements

The proposed rulemaking amends § 121.1 (relating to definitions) to add a definition of "vintage or vintage year." The term is defined to refer to the calendar year assigned to an allowance by the issuing authority that designates the first year in which the allowance is valid for use in meeting an emission limit.

The proposed rulemaking amends § 129.204 (relating to emission accountability) by changing "NOx allowance" to "CAIR NOx Ozone Season allowance." This revision will require the small sources of NOx in the five-county Philadelphia area to surrender CAIR NOx Ozone Season allowances rather than NOx Budget program allowances if the sources' NOx emissions exceed their NOx emission limits, beginning in 2009.

A similar change is proposed for NOx emissions from large stationary internal combustion engines that are not subject to the NOx Budget program, and for NOx emissions from Portland cement kilns, in §§ 145.113 and 145.143 (relating to standard requirements; and standard requirements), respectively.

The proposed rulemaking also clarifies the existing provisions in § 129.204 relating to alternative calculation and recordkeeping procedures for the calculation of actual emissions from small sources of NOx in the five-county Philadelphia area.

The proposed rulemaking addresses the transition from the NOx Budget Trading Program to the CAIR NOx trading programs. New § 145.8 (relating to transition to CAIR NOx trading programs) provides that the final year for NOx allowance allocations to be made under the NOx Budget Trading Program will be 2008. Allocations in 2009 will be made in accordance with the FIP. CAIR NOx Ozone Season allowance allocations for the control period starting May 1, 2010, and for each control period thereafter, will be distributed in accordance with the CAIR NOx trading programs. New § 145.8 provides that the emission limitations and monitoring requirements established in the NOx Budget Trading Program are replaced by the requirements in Subchapter D pertaining to the CAIR NOx Ozone Season Trading Program beginning with the May 1, 2010, control period. This section also addresses compliance.

Section 145.101 (relating to transition requirements for nonelectric generating units) addresses the transition for nonelectric generating units (non-EGUs) from the NOx Budget Trading Program to the CAIR NOx Ozone Season Trading Program. EPA

requires that States continue to meet their NO_x SIP Call obligations. EPA explains that if a State achieves all of its required CAIR emissions reductions by capping EGUs, then the State must modify its existing NO_x SIP Call program to require that non-EGUs in the State that are currently participating in the NO_x Budget Trading Program conform to the requirements of the CAIR Ozone Season NO_x trading program with a trading budget that is the same as or more stringent than the budget in the State's currently approved SIP. 70 Fed. Reg. 25256 (May 12, 2005). The Department is proposing to meet this requirement in the following manner in § 145.101: the non-EGUs units will be subject to an ozone season permit limit beginning in 2009 based on their most recent NO_x Budget Trading Program allocation, unless the Department approves a timely application for the unit to participate in the CAIR NO_x Ozone Season Trading Program. Section 145.101 also addresses monitoring, compliance and opting-in for the non-EGUs. The Board is specifically seeking comment on how the proposed rulemaking addresses non-EGUs.

The proposed rulemaking contains a new Subchapter D in Chapter 145, entitled, "CAIR NO_x and SO₂ Trading Programs." This new Subchapter incorporates by reference EPA's CAIR NO_x Annual Trading Program, CAIR NO_x Ozone Season Trading Program and CAIR SO₂ Trading Program, with modifications.

Section 145.201 (relating to purpose) describes the purpose of Subchapter D. This section explains that Subchapter D incorporates by reference the CAIR NO_x Annual Trading Program and CAIR NO_x Ozone Season Trading Program as a means of mitigating the interstate transport of fine particulates and nitrogen oxides, and incorporates the CAIR SO₂ Trading Program as a means of mitigating the interstate transport of fine particulates and sulfur dioxide. The section also explains that Subchapter D establishes general provisions and applicability, allowance and supplemental monitoring, recordkeeping, and reporting provisions.

Section 145.202 (relating to definitions) contains new and revised definitions. The section includes federal definitions from EPA's CAIR programs for the following terms, modified to accommodate the Commonwealth's formatting policies. In some instances, definitions for the CAIR NO_x Annual Trading Program, CAIR NO_x Ozone Season Trading Program and FIP are consolidated. The defined terms are: "Acid Rain Program," "Administrator," "bottoming-cycle cogeneration unit," "CAIR NO_x allowance," "CAIR NO_x Annual Trading Program," "CAIR NO_x Ozone Season allowance," "CAIR NO_x Ozone Season Trading Program," "CAIR NO_x Ozone Season unit," "CAIR NO_x unit," "CAIR SO₂ Trading Program," "CAIR SO₂ unit," "cogeneration unit," "combustion turbine," "commence commercial operation," "control period," "operator," "owner," "ozone season," "topping-cycle cogeneration unit," "unit," "useful power," and "useful thermal energy." The definitions of "CAIR NO_x Annual Trading Program" and "CAIR NO_x Ozone Season Trading Program" also specify that those terms refer to the respective programs adopted in Subchapter D.

Several definitions in § 145.202 are derived from or relate to the Pennsylvania Alternative Energy Portfolio Standards Act (AEPS Act) (73 P.S. § 1648.1 *et seq.*), including the term "Pennsylvania Alternative Energy Portfolio Standard." The term

“tier I renewable energy qualifying source” is derived from the definition of “Tier I alternative energy source” in the AEPS Act, but includes only those sources included in the definition of “renewable energy” in this proposed rulemaking. The term “tier II demand side management energy efficiency qualifying source” is derived from the definition of “Tier II alternative energy source” in the AEPS Act, but is limited by the definition of “demand side management” in this proposed rulemaking. The term “demand side management,” which is also derived from the AEPS Act, does not include industrial by-product technologies, in order to prevent double allocation of allowances under the CAIR NO_x trading programs.

Section 145.202 also includes a definition of “EIA,” “gross electrical output,” “MWh - Megawatt-hour,” “renewable energy” and “renewable energy certificate.”

Section 145.203 (relating to applicability) describes the applicability of Subchapter D. Section 145.203 states that this subchapter will apply to CAIR NO_x units, CAIR NO_x Ozone Season units and CAIR SO₂ units, as well as tier I renewable energy qualifying sources and tier II demand side management energy efficiency qualifying sources.

Section 145.204 (relating to incorporation of Federal regulations by reference) establishes the incorporation by reference of the Federal CAIR regulations. This section specifies that the incorporation by reference includes all appendices, future amendments and supplements to the Federal regulations. This is consistent with the existing Commonwealth law on incorporation by reference, set forth in the Statutory Construction Act, 1 Pa.C.S.A. § 1937(a).

Section 145.205 (relating to emission reduction credit provisions) requires that the Department permanently reduce the Commonwealth’s CAIR NO_x trading budget and that the owner or operator of a unit subject to Subchapter D surrender NO_x allowances if NO_x emission reduction credits or creditable emission reductions are considered in an applicability determination under Chapter 127, Subchapter E (relating to new source review) for a unit not subject to Subchapter D, or if an emission trade under Chapter 127 (relating to construction, modification, reactivation and operation of sources) is authorized for a unit not subject to Subchapter D, whenever the emission reduction credits, creditable emission reductions or emission trade are from a unit subject to Subchapter D. An example of an emission trade under Chapter 127 is a trade at a facility under a plant-wide applicability limit (PAL) from a CAIR NO_x unit to a non-CAIR NO_x unit at the same facility. Section 145.205 carries over the requirements of sections 145.40(b) (relating to State Trading Program budget) and 145.90 (relating to emission reduction credit provisions).

Section 145.211 (relating to timing requirements for CAIR NO_x allowance allocations) addresses timing requirements for CAIR NO_x allowance allocations under the CAIR NO_x Annual Trading Program. The timing requirements replace the timing requirements in EPA’s CAIR NO_x Annual Trading Program.

Under EPA's model rule, the Department would have been allocating CAIR NOx allowances for the CAIR NOx Annual Trading Program every year for the control period 6 years after the year of the allocation (except that the first allocation would have been in 2006 and would have covered 6 control periods beginning 2009). This provision of the model rule is found at 40 CFR 96.141(a) and (b) (relating to timing requirements for CAIR NOx allowance allocations). EPA explains in the CAIR NOx Annual Trading Program SIP submission requirements, found at 40 CFR 51.123(o)(2)(ii)(B), that a State may adopt provisions that differ substantively from EPA's allowance allocation provisions and still receive SIP approval as long as the State's methodology provides, among other things, that the State will make CAIR NOx allowance allocations each year for the fourth year after the year of the allocation. The Department's approach differs in that it requires the Department to make allocations every two years for the third and fourth years after the allocation.

The Department is proposing this process in order to foster competition and enable new units to transition to existing units sooner. Under EPA's CAIR model rules, new units do not get regular allocations for 9 years, and the allowances allocated throughout the life of the program are based on baseline heat input data that is older than that used under the proposed rulemaking. The Department's proposed methodology will achieve regular allocations for new units in 5 or 6 years and will use more recent baseline data to make allocations. It also ensures that allocations to new units, which collect NOx allowance allocations based upon emissions, are minimized so as not to build up to significant levels in the program. The Department will consider shortening the time span between issuance of the allocations and the years to which they apply, or, if required by EPA, lengthening the time span. The Board is specifically seeking comment on its proposed approach to allocating allowances to new units.

Under § 145.211(b), the Department will make CAIR NOx allowance allocations to existing units in 2008 for the control periods in 2010 and 2011. Beginning in 2009, and every two years thereafter, the Department will make CAIR NOx allowance allocations to existing units for the two control periods that begin three and four years after the calendar year of the allocation. These allocations are referred to as "regular allocations." This is illustrated in the example provided with the description of § 145.212(e), below.

Under § 145.211(c), the Department will submit to the Administrator CAIR NOx allowance allocations to new units by April 30 each year, beginning with 2011. Section 145.211(c) cross-references § 145.212(e) (relating to CAIR NOx allowance allocations), which states that the allocations to new units will be made for the fifth year after the year of the NOx emissions. Section 145.211(c) states that the Department will base the allocations to new units on actual emissions in the calendar year preceding the year of the submission.

Under EPA's model rule, the Department would make CAIR NOx allowance allocations for the CAIR NOx Annual Trading Program to new units out of a new unit

set-aside every year for the year of the allocation. This provision of the model rule is found at 40 CFR 96.141(c). EPA explains in the CAIR NO_x Annual Trading Program SIP submission requirements, found at 40 CFR 51.123(o)(2)(ii)(C), that a State may adopt provisions that differ substantively from EPA's allowance allocation provisions and still receive SIP approval as long as the State's methodology provides, among other things, that the State notifies EPA regarding the amount of allowances to be allocated to new units by October 31 of the year of the allocation. The proposed rulemaking meets this requirement and provides new units with more advance notice of their allocations than does EPA's model rule. Under the proposed rulemaking, new units will receive future year allowances as compensation to cover their compliance obligations. Unit operators will be able to make an inter-company swap, or external trade or sale of the future vintage year allowances for current vintage year allowances that the operators will require for the new unit's compliance obligations. The Board is specifically seeking comment on the proposed approach.

Under § 145.211(d), the Department will publish notice of the proposed CAIR NO_x allowance allocations in the *Pennsylvania Bulletin* and will publish the final allocations after a 15-day public comment period.

Section 145.212 (relating to CAIR NO_x allowance allocations) addresses allocation procedures for CAIR NO_x allowance allocations under the CAIR NO_x Annual Trading Program. Subsection (a) explains that the allocation requirements in the proposed rulemaking replace the allocation requirements in EPA's CAIR NO_x Annual Trading Program.

The procedure for issuing CAIR NO_x allowances to new and existing units under the proposed rulemaking is based on the "new unit" allocation methodology in the CAIR model rules and FIP. EPA's model rules and FIP would provide existing units with a permanent allocation based on historical operations. EPA's method has several negative aspects. It rewards past inefficiency, does nothing to pay back efficiency improvements, and in States like Pennsylvania with deregulated markets gives existing units an unwarranted and counterproductive competitive advantage. It could also fail to provide more productive units with an equitable share of allowances when market forces change the level of output from particular units. Using EPA's new unit allocation method with an updating component remedies these deficiencies.

The Commonwealth has a deregulated electric market that seeks to achieve the economic and environmental benefits of competition and that is better served by the allocation method in the proposed rulemaking. This approach will allow for the timely integration of new sources into the general allocation pool, and provide allowances for energy efficiency/renewable energy resources on a regular and equitable basis so that these resources will not be placed at a competitive disadvantage. The Board is specifically seeking comment on the modified heat input approach to allocating CAIR NO_x allowances proposed in this rulemaking.

Subsection (b) addresses the determination of baseline heat input for existing units in a manner that is consistent with EPA's model rule approach for new units. The Board is specifically seeking comment on the Department's proposed allocation methodology, including the routine updating of allocations, calculating converted control period heat input for calculating allocations using EPA's new unit allocation methodology, and including EPA's methodologies for calculating allowance allocations taking into consideration useful thermal energy for cogeneration units.

Subsection (c) explains that allocations will be made to existing units, qualifying resources, and new units using baseline heat input data as determined under subsection (b) from a baseline year that is five years before the vintage year of the allowances that are allocated. Subsection (c) also explains that the allocations for each control period beginning with 2010 will equal the number of CAIR NO_x allowances remaining in the Commonwealth's trading budget under 40 CFR 96.140 (relating to state trading budgets).

Under the EPA model rule, a State would maintain a set-aside of 5% of the budget of CAIR NO_x allowances for allocation to new units. The Department is not proposing a set-aside for new units; instead, the Department proposes under § 145.212(c) that new unit allowances be allocated from the same pool of allowances as those allocated to other units and qualifying resources, in order to prevent the problem of over-subscription of the new source set-aside experienced under the NO_x Budget Trading Program. The Board is specifically seeking comment on the proposed approach of allocating future CAIR NO_x allowances to new units rather than allocating CAIR NO_x allowances to new units under a new unit set-aside.

Subsection (d) further describes the allocation calculation process for existing units and qualifying resources, and states that the Department will make CAIR NO_x allowance allocations under this subsection after the Department makes CAIR NO_x allowance allocations to new units under subsection (e).

Subsection (e) explains that the Department will allocate CAIR NO_x allowances to new units by March 31, 2011, and March 31 each year thereafter. A unit may receive a "new unit" allocation under subsection (e) in the same year it receives an allocation based on qualifying converted baseline heat input for regular sources. These concurrent allocations will continue until the unit has already received allowances of the same vintage year as the year in which the emissions that support the "new unit" allocation were generated. At that point, the unit will have transitioned into regular source status and will no longer be eligible for new unit allocations. NO_x allowance allocations to new units will be made for the fifth year after the year of the emissions. For example:

A unit that commences operations in 2010 will be allocated 2015 CAIR NO_x allowances in 2011, based on 2010 emissions. This allocation is made under the procedures for new units because the unit will not have received an allocation of 2010 vintage. Since the unit has a converted heat input baseline

in 2010, in 2011 it will also be allocated 2015 allowances because it has a qualifying converted baseline heat input for regular source status in 2015.

In 2012, the unit in the example will be allocated, as a new unit, 2016 CAIR NO_x allowances based on 2011 emissions.

In 2013, the unit will be allocated, as a new unit, 2017 CAIR NO_x allowances based on 2012 emissions. In 2013, the unit will also be allocated 2016 and 2017 allowances because it has a qualifying converted baseline heat input for regular source status in 2011 and 2012.

In 2014, the unit will be allocated, as a new unit, 2018 CAIR NO_x allowances based on 2013 emissions.

In 2015, the unit will be allocated, as a new unit, 2019 CAIR NO_x allowances based on 2014 emissions. In 2015, the unit will also be allocated 2018 and 2019 allowances because it has a qualifying converted baseline heat input for regular source status in 2013 and 2014.

In 2016, the unit will no longer be allocated as a new unit, because the unit will have received allowances (in 2011) of the same vintage year (2015) as the year before the allocation based on qualifying converted baseline heat input for regular source status. The unit will now have transitioned into regular source status.

In 2017, the unit will be allocated 2020 and 2021 CAIR NO_x allowances because it has a qualifying converted baseline heat input for regular source status in 2015 and 2016. Allocations to the unit will continue in the same manner in which they are allocated in 2017 every two years thereafter.

Allocations to new units in 2009 will be made directly by EPA under the FIP.

Subsection (f) applies to allocations to qualifying resources and units exempted under EPA's Acid Rain Program. Qualifying resources may be issued allowances under this provision if they submit an application that meets the requirements of subsection (f). The number of allowances allocated to them will be determined by converting the certified quantity of electric energy production, useful thermal energy and energy equivalent value of the measures approved under the Pennsylvania Alternative Energy Portfolio Standard to equivalent thermal energy. The proposed rulemaking does not limit the CAIR NO_x allowances that can be allocated to qualifying resources as a whole. The Board is specifically seeking comment on the proposed approach to allocating CAIR NO_x allowances on the basis of new Pennsylvania renewable energy sources and demand-side management under the Pennsylvania Alternative Energy Portfolio Standard, including the appropriateness of including load shifting as a demand side management measure.

Units exempted under EPA's Acid Rain Program, and which therefore did not receive SO₂ allowances and yet are subject to the CAIR SO₂ Trading Program, may receive a cost equivalent additional amount of CAIR NO_x allowances under subsection (f), based on a ratio of 1 CAIR NO_x allowance to every 8 tons of SO₂ emitted. This ratio is derived from historical price data showing a 1:8 price ratio for NO_x and SO₂ allowances. Up to 1.3 percent of the Commonwealth's annual NO_x budget is available for allocation to these units for each control period from 2010 through 2015, as described in paragraph (4). Paragraph (5) provides that the Department may extend, terminate or otherwise modify the allocation after providing public notice and a 30-day public comment period. The proposed allocation of NO_x allowances to these units is discussed more completely above, under Section D, Background and Purpose.

Section 145.213 (relating to supplemental monitoring, recordkeeping and reporting requirements for gross electrical output and useful thermal energy for units subject to 40 CFR 96.170 – 96.175) contains monitoring, recordkeeping and reporting requirements for gross electrical output and useful thermal energy for units that are subject to the monitoring and reporting requirements of EPA's CAIR rules. These requirements in the proposed rulemaking are in addition to the requirements in the CAIR rules, and are included in order to ensure that allocations are made on an equitable basis. This can only be accomplished by requiring all units to collect and report data that meets a standard level of accuracy, consistency, and accountability. Most units already have the necessary instrumentation and recordkeeping measures in place.

The provisions in the proposed rulemaking that relate to the CAIR NO_x Ozone Season Trading Program are nearly identical to those relating to the CAIR NO_x Annual Trading Program. The differences relate to the different control periods (May through September, versus entire year) and different federal cross-references. Consequently, the discussion of §§ 145.211 through 145.213, above, pertain also to §§ 145.221 through 145.223, with the relevant Federal citations being specified in Annex A. No provision is made in § 145.222 as in § 145.212 for units exempted under EPA's Acid Rain Program.

F. Benefits, Costs and Compliance

Executive Order 1996-1 requires a cost/benefit analysis of the proposed regulation.

Benefits

The citizens of the Commonwealth are the major benefactors of these regulatory provisions. This proposed rulemaking is designed to reduce emissions of PM_{2.5}, ozone and their precursors, NO_x and SO₂. The proposed rulemaking is intended to meet the Federal requirements under the CAIR. Implementation of the proposed rulemaking will contribute to the attainment and maintenance of the health-based ozone and fine particle NAAQS. Affected unit owners and operators as well as

entities that implement measures within the state to generate credit under the Commonwealth's Advanced Energy Portfolio Standard will receive emission allowances that have a marketable cash value. The budgets for CAIR NO_x allowances that will be distributed to these entities contain over 99,000 annual allowances, and 42,000 Ozone Season allowances, which may have a collective market value of approximately \$250,000,000 per year. CAIR NO_x allowances would be distributed under the proposed rulemaking based on ongoing production and service activities. Control installation and operation would create jobs and reduce air contaminants that have adverse environmental and health impacts. EPA claims that the CAIR helps maintain coal as a viable fuel/energy source, keeps jobs in the Commonwealth and will not significantly impact regional electricity prices. If the CAIR program ensures that the emission reductions occur in the Commonwealth and elsewhere as projected, the monetized public health benefits are estimated to be almost 20 times greater than the estimated costs of the program.

Twenty-eight other Eastern states must adopt a similar program. Some have regulated electric markets. Although NO_x allowances are a small portion of the equation, the allocation method in the proposed rulemaking provides a positive synergistic means of accelerating the desired benefits of market competition. Some of the states have either adopted programs similar to EPA's CAIR program or EPA's CAIR FIP in a manner that constrained their allocation methods in ways that do not provide this benefit. Therefore, it is anticipated that this proposed rulemaking will place Pennsylvania units at a competitive advantage.

Compliance Costs

Since the proposed rulemaking sets forth an economic incentive-based trading program, the costs and savings are largely indeterminable since they will vary over different timeframes and will be determined by plant operator decisions and the allowance market. An existing plant operator, for instance, may choose to upgrade the plant emission controls and sell excess allowances it receives to make a profit over the long-term. Every plant in the state may choose this path and every plant may make a profit. On the other hand, the opposite could occur. With multi-state corporations operating power plants, and with costs and savings being averaged over several states, it is not possible to predict.

Currently under the Acid Rain Program, Pennsylvania facilities are issued 540,000 tons worth of SO₂ allowances each year. The market value of those allowances at a current market value of \$500.00 per ton is \$270,000,000.00 a year. In addition to the SO₂ allowance allocation, Pennsylvania facilities purchase approximately 400,000 tons worth of additional allowances each year at about \$200,000,000.00 a year at the current allowance price of \$500.00 per allowance. The CAIR SO₂ Trading Program will reduce the effective state budget allocation from 540,000 SO₂ allowances to about 270,000 in 2010 and 193,000 in 2015. If purchasing allowances rather than controlling emissions remains cost effective at Pennsylvania facilities, the cost of the new CAIR SO₂ Trading Program will be the cost of purchasing 270,000 additional tons worth of SO₂ allowances

in 2010 at about \$500.00 a ton (about \$135,000,000.00 per year) and 347,000 additional tons worth (about \$174,000,000.00 dollars per year) in 2015.

There is currently no annual NOx trading program in Pennsylvania, but assuming that the predicted price of future CAIR NOx annual allowances is about \$1200.00 a ton and Pennsylvania facilities make no NOx emission reductions, facilities would need to purchase the difference between current annual NOx emissions (about 180,000 tons each year) and the Commonwealth's annual CAIR NOx budget (about 99,000 tons in 2009 and 82,500 in 2015). The annual cost in 2009 would be about \$97,200,000.00 and in 2015 would be about \$117,000,000.00. It is impossible to predict whether the economics will continue to favor purchasing allowances over installing controls.

There is currently an ozone season NOx trading program in Pennsylvania. Assuming that the predicted price of future CAIR NOx Ozone Season allowances is about \$1200.00 a ton and Pennsylvania facilities make no ozone season NOx emission reductions, facilities would need to purchase the difference between current ozone season NOx emissions (about 48,000 tons each ozone season) and the Commonwealth's Ozone Season CAIR NOx budget (about 42,000 tons in 2009 and 35,000 in 2015). The annual cost in 2009 would be about \$7,200,000.00 and in 2015 would be about \$15,600,000.00. It is impossible to predict whether the economics will continue to favor purchasing allowances over installing controls.

In summary, if no emission reductions are made and all allowance are purchased on the market, the costs of the CAIR rule to the regulated community may be about \$239,400,000.00 annually in 2010 and \$306,600,000.00 annually in 2015. Still, the savings associated with the reduction in premature mortality and health care costs yield economic benefits 20 times greater than costs.

Compliance Assistance Plan

The Department plans to educate and assist the regulated community and the public with understanding these new regulatory requirements through various means, including field inspector contacts, mailings and the Small Business Compliance Assistance Program.

Paperwork Requirements

This rulemaking utilizes the existing federal recordkeeping and reporting requirements, as expanded slightly under the CAIR model rules. EPA will not administer the allowance tracking portion of the program for a state nor allow a state to engage in interstate allowance trading, unless the state's CAIR program includes these recordkeeping and reporting requirements. In addition, the rulemaking specifies reporting of electrical and useful thermal output to ensure the producing facilities receive the correct amount of allowances.

G. Pollution Prevention (if applicable)

The Federal Pollution Prevention Act of 1990 established a national policy that promotes pollution prevention as the preferred means for achieving state environmental protection goals. DEP encourages pollution prevention, which is the reduction or elimination of pollution at its source, through the substitution of environmentally-friendly materials, more efficient use of raw materials, and the incorporation of energy efficiency strategies. Pollution prevention practices can provide greater environmental protection with greater efficiency because they can result in significant cost savings to facilities that permanently achieve or move beyond compliance. This regulation has incorporated the following pollution prevention incentives:

The regulation modestly increases the cost of emissions from fossil-fired power generators and thereby encourages fewer polluting power supply options to be adopted. The NOx portion of the rulemaking includes provisions for the owners of alternative power generation resources to receive NOx allowances in proportion to the pollution prevention benefits the resources provide. These resources include wind, solar and energy efficiency projects. Because the NOx allowances for these resources are based on the output, on par with fossil generation, the rulemaking gives no competitive advantage to one form of energy production over the other in the energy market. In this way, the proposed rulemaking increases the potential for the adoption of less polluting resources.

H. Sunset Review

This regulation will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulation effectively fulfills the goals for which it was intended.

I. Regulatory Review

Under Section 5(a) of the Regulatory Review Act (71 P.S. § 745.5(a)), on (blank), the Department submitted a copy of these proposed amendments and a copy of the Regulatory Analysis Form to the Independent Regulatory Review Commission (IRRC) and the Chairpersons of the House and Senate Environmental Resources and Energy Committees. A copy of this material is available to the public upon request.

Under section 5(g) of the Regulatory Review Act, IRRC may convey any comments, recommendations or objections to the proposed regulations within 30 days of the close of the public comment period. The comments, recommendations or objections shall specify the regulatory review criteria that have not been met. The Regulatory Review Act specifies detailed procedures for review, prior to final publication of the rulemaking, by the Department, the General Assembly and the Governor of the comments, recommendations or objections raised.

J. Public Comments

Written Comments - Interested persons are invited to submit comments, suggestions, or objections regarding the proposed regulation to the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477 (express mail: Rachel Carson State Office Building, 15th Floor, 400 Market Street, Harrisburg, PA 17101-2301). Comments submitted by facsimile will not be accepted. Comments, suggestions or objections must be received by the Board by (blank) (within (blank) days following publication in the *Pennsylvania Bulletin*). Interested persons may also submit a summary of their comments to the Board. The summary may not exceed one page in length and must also be received by (blank) (within (blank) days following publication in the *Pennsylvania Bulletin*). The one-page summary will be provided to each member of the Board in the agenda packet distributed prior to the meeting at which the final regulation will be considered.

Electronic Comments - Comments may be submitted electronically to the Board at RegComments@state.pa.us and must also be received by the Board by (date). A subject heading of the proposal and a return name and address must be included in each transmission.

K. Public Hearings

The Environmental Quality Board will hold public hearings for the purpose of accepting comments on this proposal. The hearings will be held at (blank) p.m. on the following dates:

- (blank)
- (blank)
- (blank)

Persons wishing to present testimony at a hearing are requested to contact the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477, (717) 787-4526, at least one week in advance of the hearing to reserve a time to present testimony. Oral testimony is limited to ten minutes for each witness. Witnesses are requested to submit three written copies of their oral testimony to the hearing chairperson at the hearing. Organizations are limited to designating one witness to present testimony on their behalf at each hearing.

Persons in need of accommodations as provided for in the Americans With Disabilities Act of 1990 should contact the Environmental Quality Board at

(717) 787-4526 or through the Pennsylvania AT&T Relay Service at 1-800-654-5984 (TDD) to discuss how the Department may accommodate their needs.

BY:

KATHLEEN A. MCGINTY
Chairperson
Environmental Quality Board