

Executive Summary

Final-form Amendments to 25 Pa. Code Chapter 145, Subchapter C

Control of NO_x Emissions from Cement Kilns

The Department of Environmental Protection (Department) recommends final-form amendments to Subchapter C (relating to emissions of NO_x from cement manufacturing) under 25 Pa. Code Chapter 145 (relating to interstate pollution transport reduction) for consideration by the Environmental Quality Board (Board).

Purpose of the Final-form Rulemaking

The purpose of this final-form rulemaking is to amend Chapter 145, Subchapter C, to further limit the emissions of nitrogen oxides (NO_x) from cement manufacturing processes in this Commonwealth. The owners or operators of the affected facilities would be required to meet revised NO_x emission limitations and comply with administrative requirements including emissions monitoring and reporting. Emissions of NO_x are precursors to the formation of ozone and fine particulate matter (PM_{2.5}) pollution, both of which are serious human health and public welfare threats.

These control measures are reasonably necessary as part of the Commonwealth's efforts to attain and maintain the 8-hour ozone and PM_{2.5} National Ambient Air Quality Standards. If adopted by the Board, the final regulation will be submitted to the U.S. Environmental Protection Agency (EPA) as a revision to the State Implementation Plan.

Summary of the Final Rulemaking

This final-form rulemaking amends Chapter 145, Subchapter C, with revisions to the NO_x emission limitations that are applicable to Portland cement kilns during the compliance period of May 1 through September 30 of each year beginning with 2011. The existing regulatory requirements for NO_x emission limits for cement kilns under Chapter 145, Subchapter C, would remain in effect through April 30, 2011. The compliance date for the final-form amendments under Chapter 145, Subchapter C, is May 1, 2011. The compliance date in the final-form rulemaking by which the CEMS must be installed, operating and maintained is April 15, 2011. The amendments would allow compliance to be demonstrated on a kiln-by-kiln, facility-wide or system-wide basis among Portland cement kilns under the common control of the same owner or operator in this Commonwealth. The amendments also include additional reporting, recordkeeping and emissions monitoring data requirements.

The final-form rulemaking amendments add new terms and definitions to § 145.142 (relating to definitions) to support the substantive provisions in the amendments under Chapter 145, Subchapter C. The new definitions and terms include "calcine," "long dry-process cement kiln," "long wet-process cement kiln," "precalciner cement kiln," "preheater cement kiln" and "system-wide."

Amendments to existing subsection 145.143(b) (relating to standard requirements) require that an owner or operator of a Portland cement kiln may not operate a Portland cement kiln that results in NO_x emissions in excess of the allowable emission limits specified in this section. The amendments to this subsection further specify that beginning May 1 through September 30, 2011, and for each year thereafter, the owner or operator of a Portland cement kiln shall determine allowable emissions of NO_x by multiplying the tons of clinker produced by the Portland cement kiln for the period by the revised NO_x emission limits specified in this section.

Existing subsection 145.143(d) remains unchanged at final and provides that the owner or operator of a Portland cement kiln subject to this section shall surrender to the Department one Clean Air Interstate Rule (CAIR) NO_x allowance and one CAIR NO_x Ozone Season allowance, as defined in 40 CFR 96.102 and 96.302 (relating to definitions), for each ton of NO_x by which the combined actual emissions exceed the allowable emissions of the Portland cement kilns subject to this section.

New § 145.144 (relating to compliance determination) requires, among other things, that by April 15, 2011, the owner or operator of a Portland cement kiln subject to paragraph 145.143(b)(2) shall install, operate and maintain CEMS for NO_x emissions, and report CEMS emissions data to the Department in accordance with the CEMS requirements of *25 Pa. Code* Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources). This section further requires that data invalidated in accordance with requirements under Chapter 139, Subchapter C, shall only be substituted with data that has been approved by the Department, in writing.

New § 145.145 (relating to compliance demonstration and reporting requirements) requires that by October 31, 2011, and for each year thereafter, the owner or operator of a Portland cement kiln subject to paragraph 145.143(b)(2) shall submit a written report to the Department. The owner or operator of a Portland cement kiln or multiple Portland cement kilns shall demonstrate compliance with the emission requirements specified in § 145.143 on either a kiln-by-kiln, facility-wide or system-wide basis.

New § 145.146 (relating to recordkeeping) requires that the owner or operator of a Portland cement kiln shall maintain an operating log for each Portland cement kiln that includes certain monthly information. Additional recordkeeping requirements are also specified under this section.

Affected Parties

The requirements would affect the owners and operators of the nine cement plants with 21 cement kilns in this Commonwealth. These cement kilns are one of the largest industrial NO_x emission source categories, and account for approximately 29% of the more than 45,000 tons per year of NO_x emitted into the air in this Commonwealth from sources other than electric generating units. These final-form amendments would provide approximately 1,300 tons per year of additional NO_x emission reductions in this Commonwealth.

Total costs for the regulated community were derived from estimated costs of purchasing CAIR NOx allowances. An owner or operator of a cement kiln shall surrender CAIR NOx allowances if the actual NOx emissions from the kiln exceed the allowable NOx emissions for the kiln. Based on a long-term average NOx allowance price of \$500, the compliance option of purchasing NOx allowances would cost the regulated industry approximately \$650,000 per year (approximately 1,300 excess tons NOx emissions removed * 1 NOx allowance/ton of excess NOx emissions * \$500/NOx allowance).

Advisory Groups

The Department discussed the final-form rulemaking with the Citizens Advisory Council (CAC) on October 27, 2008, and with the Air Quality Technical Advisory Committee (AQTAC) on October 30, 2008. The CAC concurred with the Department's recommendation to forward the final-form rulemaking to the Board for consideration. The AQTAC concurred with the Department's recommendation to present the rulemaking to the Board for consideration as a final-form rulemaking, with certain changes. These recommended changes to the final-form rulemaking included requiring written approval from the Department for substituted monitoring data and clarification regarding how cement kilns that commence operation after the effective date of adoption of the final-form rulemaking may determine their emissions to average. The change recommended by the AQTAC to require written approval by the Department for substituted monitoring data has been made to the final-form rulemaking. The change concerning the emissions averaging provision for new kilns was considered by the Department, and a decision was made to delete from the final-form rulemaking the emissions averaging provision for new kilns commencing operation after the effective date of adoption of the final-form rulemaking. The Department maintains that allowing new cement kilns to average their emissions with existing cement kilns in order to meet the regulatory obligation for the existing kilns is inconsistent with the Best Available Technology regulatory obligation for new cement kilns, which is to control emissions to the maximum degree possible. Therefore, the Department determined that the emissions averaging provision for new cement kilns in the proposed rulemaking is inconsistent with existing regulatory obligations, and this provision has been deleted from the final-form rulemaking.

Public Comment Period and Board Hearings

Three public hearings were held on May 19, 21 and 23, 2008, in Harrisburg, Wilkes-Barre and Pittsburgh, respectively. A 66-day public comment period opened on April 19, 2008, and closed on June 23, 2008.