



United States Government Accountability Office  
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B-320702

September 23, 2010

The Honorable Barbara Boxer  
Chairman  
The Honorable James M. Inhofe  
Ranking Member  
Committee on Environment and Public Works  
United States Senate

The Honorable Henry A. Waxman  
Chairman  
The Honorable Joe L. Barton  
Ranking Member  
Committee on Energy and Commerce  
House of Representatives

Subject: *Environmental Protection Agency: National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants*

Pursuant to section 801(a)(2)(A) of title 5, United States Code, this is our report on a major rule promulgated by the Environmental Protection Agency (EPA), entitled “National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants” (RINs: 2060-AO15; 2060-AO42). We received the rule on August 20, 2010. It was published in the *Federal Register* as a final rule on September 9, 2010, with an effective date of November 8, 2010. 75 Fed. Reg. 54,970.

The final rule amends the National Emission Standards for Hazardous Air Pollutants (NESHAP) from the Portland Cement Manufacturing Industry and to the New Source Performance Standards (NSPS) for Portland Cement Plants. The final amendments to the NESHAP add or revise, as applicable, emission limits for mercury, total hydrocarbons (THC), and particulate matter (PM) from new and existing kilns located at major and area sources, and for hydrochloric acid (HCl) from new and existing kilns located at major sources. The standards for new kilns apply to facilities that commence construction, modification, or reconstruction after May 6, 2009. The final amendments to the NSPS add or revise, as applicable, emission limits for PM, opacity, nitrogen oxides (NO<sub>x</sub>), and sulfur dioxide (SO<sub>2</sub>) for facilities that commence construction, modification, or reconstruction after June 16, 2008. The

final rule also includes additional testing and monitoring requirements for affected sources.

Enclosed is our assessment of EPA's compliance with the procedural steps required by section 801(a)(1)(B)(i) through (iv) of title 5 with respect to the rule. Our review of the procedural steps taken indicates that EPA complied with the applicable requirements.

If you have any questions about this report or wish to contact GAO officials responsible for the evaluation work relating to the subject matter of the rule, please contact Shirley A. Jones, Assistant General Counsel, at (202) 512-8156.

signed

Robert J. Cramer  
Managing Associate General Counsel

Enclosure

cc: Nicole Owens  
Director, Regulatory Management Division  
Environmental Protection Agency

REPORT UNDER 5 U.S.C. § 801(a)(2)(A) ON A MAJOR RULE  
ISSUED BY THE  
ENVIRONMENTAL PROTECTION AGENCY  
ENTITLED  
"NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS  
FROM THE PORTLAND CEMENT MANUFACTURING INDUSTRY  
AND STANDARDS OF PERFORMANCE FOR  
PORTLAND CEMENT PLANTS"  
(RINS: 2060-AO15; 2060-AO42)

(i) Cost-benefit analysis

EPA summarizes the total monetized benefits for the final NESHAP and NSPS amendments in the implementation year, 2013. EPA estimates that the total monetized benefits will be between \$7.4 to \$18 billion (2005 dollars), at a 3-percent discount rate and \$6.7 to \$16 billion (2005 dollars), at a 7-percent discount rate.

EPA performed two separate cost analyses for this final rule, an engineering analysis and an Industrial Sector Integrated Solutions (ISIS) model. In the engineering analysis, EPA estimates the total capital cost of installing alkaline scrubbers and ACI systems for mercury control, including monitoring systems, will be \$339 million with an annualized cost of \$113 million. EPA notes that where ACI does not provide sufficient control of organic hazardous air pollutants (HAP) and THC, RTO/wet scrubbers are used with an estimated capital cost of installation at \$253 million with annualized cost of \$49 million. EPA states that the capital cost of adding scrubbers for the control of HCl is estimated to be \$1,882 million with an annualized cost of \$261 million. EPA also states that the capital cost of adding membrane bags to existing fabric will be \$57 million with annualized cost of \$16 million. Additionally, EPA believes the total capital cost for the final amendments for kilns subject to existing source emissions limits will be an estimated \$2.2 billion with an annualized cost of \$377 million. EPA states that the estimated emission control capital cost per new 1.2 million tons per year (tpy) kiln is \$3.2 million and the annualized costs are estimated at \$1.2 million for mercury and THC/organic HAP control, and \$3.6 million for HCl control. According to EPA, because the new kiln will be equipped with a baghouse even in the absence of the rule and because the ACI system, which includes a polishing baghouse, will be installed for mercury and organic HAP control, there will be no additional cost for PM control. EPA notes that under the NSPS, 7 new kilns will install SNCR to control NO<sub>x</sub> and add NO<sub>x</sub> CEMS at a capital cost of \$19.6 million and an annualized cost of \$10.9 million. EPA believes that the control of SO<sub>2</sub> under the NSPS will be accomplished by wet scrubbers installed for HCl control under the NESHAP so that no control costs are attributable to the NSPS. EPA states that there will be SO<sub>2</sub> monitoring cost estimated at \$1.1 million capital cost and \$0.3 million annualized cost for the 7 new kilns subject to the NSPS. EPA

notes that flow monitoring devices are needed in conjunction with CEMS for NO<sub>x</sub> and SO<sub>2</sub>. Additionally, EPA states that capital costs for flow monitoring devices will be \$0.25 million capital and \$0.1 million annualized costs. According to EPA, national annualized cost by the end of the fifth year for all new kilns will be an estimated \$80.6 million.

In the ISIS results, EPA is not able to separate costs by pollutant because the model provides an overall optimization of the production and air pollution control costs. EPA notes that the total annual costs of the ISIS model for the NESHAP and NSPS are \$350 million in 2013. EPA believes that this estimate is significantly lower than the total costs estimated by traditional methods.

(ii) Agency actions relevant to the Regulatory Flexibility Act, 5 U.S.C. §§ 603-605, 607, and 609

EPA certifies that the final rule will not have a significant economic impact on a substantial number of small entities. For the amendments to NSPS, EPA estimates that 3 of the 26 existing Portland cement entities are small entities which will not incur any impacts under these final amendments unless an affected facility is constructed, modified, or reconstructed. For the amendments to NESHAP, EPA estimates that up to 3 of the 26 existing Portland cement plants are small entities. EPA also states that although this final rule will not impact a substantial number of small entities, EPA nonetheless has tried to reduce the impact of this rule on small entities by setting the final emissions limits at the maximum achievable control technology (MACT) standard floor, the least stringent level allowed by law.

(iii) Agency actions relevant to sections 202-205 of the Unfunded Mandates Reform (UMRA) Act of 1995, 2 U.S.C. §§ 1532-1535

For the amendments to NSPS, EPA states that the final rule does not contain a federal mandate that may result in expenditures of \$100 million or more for state, local, and tribal governments, in the aggregate, or the private sector in any one year.

For the amendments to NESHAP, EPA states that the final rule contains a federal mandate that may result in expenditures of \$100 million or more for state, local, and tribal governments, in the aggregate, or the private sector in any one year. Accordingly, EPA has prepared a written statement under section 202 of UMRA, which is summarized in the final rule.

(iv) Other relevant information or requirements under acts and executive orders

Administrative Procedure Act, 5 U.S.C. §§ 551 et seq.

The final regulations were issued using the notice and comment procedures found at 5 U.S.C. § 553. On May 6, 2009, EPA published a proposal to amend NESHAP from

the Portland Cement Manufacturing Industry. See 74 Fed. Reg. 21,159. EPA provides responses to the comments it received in the final rule.

#### Paperwork Reduction Act, 44 U.S.C. §§ 3501-3520

The information requirements in the final rule have been submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act, 44 U.S.C. § 3501 et seq. For the amendments to NSPS, the Information Collection Request (ICR) document prepared by EPA has been assigned EPA ICR number 2307.01. For the amendments to NESHAP, the ICR document prepared by EPA has been assigned EPA ICR number 1801.07.

#### Statutory authorization for the rule

For the amendments to NSPS, EPA states that the authority citations are 23 U.S.C. § 101 and 42 U.S.C. §§ 7401– 7671q.

For the amendments to NESHAP, EPA states that the authority citation is 42 U.S.C. § 7401, et seq.

#### Executive Order No. 12,866 (Regulatory Planning and Review)

Under section 3(f)(1) of the Order, EPA states that the final rule is an “economically significant regulatory action” because it is likely to have an annual effect on the economy of \$100 million or more. Accordingly, EPA submitted this action to OMB for review and any changes made in response to OMB recommendations have been documented.

#### Executive Order No. 13132 (Federalism)

EPA states that these two final rules do not have federalism implications. EPA notes that they will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13,132. Additionally, EPA states that none of the affected facilities are owned or operated by state governments and, thus, Executive Order 13,132 does not apply to these final rules.