PROPOSED AMENDMENTS TO NATIONAL AIR TOXICS EMISSION STANDARDS FOR PORTLAND CEMENT MANUFACTURING

FACT SHEET

ACTION

- On April 21, 2009, EPA proposed to amend its national emissions standards for Portland cement manufacturing to reduce emissions of mercury, total hydrocarbons, hydrochloric acid and particulate matter from both new and existing cement kilns.

- The proposed amendments would set numerical emission limits for cement kilns that are considered "major" and "area" sources of air toxics emissions.

- Air toxics, also known as hazardous air pollutants, are known or suspected to cause cancer or other serious health effects. "Major sources" of air toxics emit 10 or more tons of a single air toxic pollutant, or 25 or more tons of a combination of air toxics. Sources emitting lower amounts are known as "area sources."

- Portland cement manufacturing is an energy-intensive process that grinds and heats a mixture of raw materials such as limestone, clay, sand and iron ore in a rotary kiln. That product, called clinker, is cooled, ground and then mixed with a small amount of gypsum to produce concrete. Air toxics emissions come from the burning of fuels and the heating of the raw materials. Air toxics also can be emitted from the grinding, cooling and materials-handling steps in the manufacturing process.

- In 2005, there were 186 Portland cement kilns currently operating at more than 100 facilities in the United States. Today's proposed rule would apply to 163 of those kilns. The remaining kilns are subject to a separate regulation, for kilns that burn hazardous waste.

WHAT THE PROPOSAL WOULD REQUIRE

- The proposed limits for mercury, total hydrocarbons and particulate matter would apply both to kilns that are major sources of air toxics and to kilns that are area sources. The proposed hydrochloric acid limits would apply only to major source kilns. The proposed emissions limits include:

Pollutant	Existing Source	New Source
Mercury	43 pounds per million tons of clinker produced, averaged over 30 days	14 pounds per million tons of clinker, averaged over 30 days
Total Hydrocarbons	7 parts per million by volume (ppmv) for all kilns, averaged over 30 days	6 ppmv for all kilns, averaged over 30days
Particulate Matter (as a surrogate for metals other than mercury)	0.085 pounds per ton of clinker	0.080 pounds per ton of clinker
Hydrochloric acid (major sources only)	2 ppmv, averaged over 30 days	0.1 ppmv, averaged over 30 days

- Kilns would have to comply with the new limits three years after the final rule is published in the Federal Register. This deadline is likely to occur in 2013.

- The proposed amendments would remove an existing ban on the use of fly ash from utility boilers, starting in 2013 (the compliance date for the proposed standards). Existing rules ban the use of fly ash from utility boilers if the mercury content of that fly ash has increased as a result of certain utility mercury emission controls (such as activated carbon injection) -- unless a facility can demonstrate that use of the fly ash will not increase its mercury emissions. The amendments would address emissions from fly ash through the proposed mercury emission limits.

- EPA also is proposing to require continuous emissions monitoring for mercury and to replace opacity standards with a more accurate means of demonstrating compliance with particulate matter emissions limits. Opacity standards require visual evaluation of the opacity or visibility of emissions and a comparison of the results to established limits.

- Also as part of this action EPA is proposing methods and criteria for installing and certifying continuous emission monitoring systems for mercury.

EMISSION REDUCTIONS, BENEFITS AND COSTS

- EPA models show the following estimated annual emissions reductions as a result of implementing the proposed rule:
    - Mercury: 11,600 to 16,250 pounds, or a reduction of 81 to 93 percent;
    - Total hydrocarbons: 11,670 to 13,900 tons, or a reduction of 75 percent;
    - Particulate matter: 10,500 to 13,600 tons, or a reduction of 90 to 96 percent;
    - Hydrochloric acid: 2,800 to 3,600 tons, or a reduction of 92 to 94 percent; and
    - Sulfur dioxide: 135,700 to 160,000 a reduction of 77 to 90 percent.

- The proposed standards do not include limits for sulfur dioxide (SO_2) emissions; however, the control technology to reduce hydrochloric acid also will lead to significant SO_2 reductions. Because some SO_2 is converted to sulfates in the atmosphere, these SO_2 reductions also would contribute to reductions in fine particle pollution.

- EPA has used two models to estimate the impact of the proposed amendments. While the results of the two models differ, both show that benefits of the proposed amendments significantly outweigh costs.

    - Estimated benefits range from $4.4 billion to $11 billion annually in 2013. This includes the value of the reduction in premature deaths estimated to result from this rule: 620 to 1,600 avoided deaths a year.
    - Cost estimates range from $222 million to $684 million annually in 2013.

BACKGROUND

- EPA issued air toxics standards for Portland cement manufacturing in 1999. Air toxics, also known as hazardous air pollutants, are known, or suspected to, cause cancer and other serious health problems.

- On December 15, 2000, the U.S. Court of Appeals for the D.C. Circuit remanded parts of the 1999 air toxics standard. The Court instructed EPA to consider setting standards for hydrogen chloride, mercury, total hydrocarbons and metal hazardous air pollutants.

- On December 8, 2006, EPA issued final amendments to the air toxics standards for Portland cement kilns. The amendments set emissions limits for mercury and total hydrocarbons for cement kilns built after December 2, 2005. The amendments also required that existing kilns meet "work practice" standards to help reduce mercury and hydrocarbon emissions.

- The 2006 amendments did not set limits on hydrogen chloride emissions from cement kilns.

- In a separate December 8, 2006, action, EPA announced that it would reconsider the emission limits for mercury and total hydrocarbons for new cement kilns. EPA took this step after becoming aware of information and questions about mercury and hydrocarbon controls at cement kilns that was not available during the public comment period on the proposed rule. Today's action responds to that reconsideration.

- Before the December 8, 2006 reconsideration, the cement industry, environmental groups, and state environmental agencies sued the agency on the final amendments. EPA also received petitions to reconsider the existing-source standards for mercury and total hydrocarbons, and the decision not to regulate HCl.

HOW TO COMMENT

- EPA will accept comment on the proposal for 60 days after publication in the Federal Register. Comments, identified by Docket ID No. EPA-HQ-OAR-EPA-HQ-OAR-2002-0051, may be submitted by one of the following methods:
    - www.regulations.gov: follow the on-line instructions for submitting comments.
    - E-mail: Comments may be sent by electronic mail (e-mail) to a-and-r-Docket@epa.gov.
    - Fax: Fax your comments to: 202-566-1741
    - Mail: Send your comments to: Air and Radiation Docket and Information Center, Environmental Protection Agency, Mail Code: 2822T, 1200 Pennsylvania Ave., NW, Washington, DC, 20460.
    - Hand Delivery or Courier: Deliver your comments to: EPA Docket Center, Room 3334, 1301 Constitution Ave., NW, Washington, DC, 20460. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Public Hearing on Request

- EPA will hold a public hearing on these proposed amendments 20 days after this proposal is published in the Federal Register – if the Agency receives a request for a public hearing. Requests for a public hearing must be made within 15 days after publication in the Federal Register.

- To request a hearing, please contact Pamela Garrett of EPA's Office of Air Quality Planning and Standards at (919) 541-7966 or garrett.pamela@epa.gov.

- If EPA holds a public hearing on the proposal, it will be at EPA's offices in Washington, D.C., or a nearby location.

FOR MORE INFORMATION

- To download a copy the proposed rule, go to EPA's Web site at http://www.epa.gov/ttn/oarpg/t3pfpr.html.

- For further technical information about the proposed rule contact Keith Barnett of EPA's Office of Air Quality Planning and Standards at (919) 541-5605 or Barnett.Keith @epa.gov.

- Additional information on Portland cement manufacturing is available at http://www.epa.gov/ttn/atw/pcem/pcempg.html.