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Environmental Protection
Agency

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EPA Proposes to Reduce Toxic Air Emissions from Combustion Sources That Burn Hazardous Waste

ACTION

- ! Recently, the Environmental Protection Agency (EPA) issued a proposed rule to reduce emissions of toxic air pollutants from five types of combustion sources that burn hazardous waste (incinerators, cement kilns, lightweight aggregate kilns, boilers, and hydrochloric acid production furnaces). Hazardous air pollutants, also known as air toxics, are known or suspected to cause cancer, other serious health problems and environmental damage.

- ! This proposed rule would reduce emissions of a number of hazardous air pollutants, including lead, mercury, arsenic, dioxin and furans, and hydrogen chloride and chlorine gas. This proposed rule would also reduce emissions of particulate matter and sulfur dioxide in conjunction with the toxic air pollutant reductions. This proposed rule may result in fewer premature deaths, fewer cases of chronic bronchitis, reduced hospital admissions for pneumonia, asthma and cardiovascular problems. It may also result in fewer respiratory illnesses in children, fewer lost work days, and restricted activity days for people with respiratory problems. This rule would also help reduce exposures to chlorinated dioxins and furans and the many adverse health effects associated with this group of compounds, including multiple organ cancers and endocrine and reproductive effects. The rule would also reduce exposures to lead, which can have a variety of health-related consequences, especially in children.

- ! Sources that would be affected by today's proposal combust hazardous waste in order to treat, i.e., detoxify, the waste. Numerous sources also recover valuable energy when processing the hazardous waste, reducing the amount of fossil fuels that otherwise would have to be combusted.

- ! Some of the air toxics targeted by this rule are known to cause cancer. EPA considers other air toxics such as hydrogen chloride and chlorine gas to be "threshold pollutants," pollutants that have known threshold levels, or cut-offs, below which health effects - such as respiratory irritation - are not likely to occur. Carcinogens are not generally regarded as threshold pollutants.

- ! This proposal would limit the amount of air toxics that may be released from exhaust stacks of all new and existing hazardous waste combustors, irrespective of if they are major sources of air toxics. The Clean Air Act defines a major source as one that emits 10 tons a year or more of a single air toxic, or 25 tons a year or more of a combination of air toxics.
- ! EPA estimates that 150 facilities operating 276 existing hazardous waste-burning sources would be subject to this proposed rule.
- ! This proposal also requests comment on its tentative decision regarding the February 28, 2002 petition for rulemaking submitted by the Cement Kiln Recycling Coalition (CKRC) to the Administrator. In the petition, the CKRC requests that the Agency repeal the existing site-specific risk assessment policy and technical guidance for hazardous waste combustors. They also request that the Agency promulgate the policy and guidance in accordance with the Administrative Procedures Act if we continue to believe that site-specific risk assessments may be necessary.

COMPLYING WITH THE PROPOSED RULE REQUIREMENTS

- ! Existing hazardous waste combustors would comply with the proposed rule no later than three years after the final rule is published. However, existing units may petition EPA for an extra year to comply. New hazardous waste combustors would be subject to emission limitations upon promulgation of the final rule or upon startup, whichever is later.
- ! The proposed rule includes a compliance alternative provided for in the Clean Air Act [section 112(d)(4)] for hydrogen chloride and chlorine gas whereby sources can comply with risk-based emission levels rather than levels determined by performance of technology. Risk-based emission levels must show that the emissions of these pollutants are protective of human health with an ample margin of safety. Emission limitations developed under this approach would appear in the source's permit issued under Title V of the Clean Air Act.

HEALTH/ENVIRONMENTAL BENEFITS

- ! This proposed rule would protect human health and the environment by reducing emissions of hazardous air pollutants (HAPs). EPA estimates the total annual reductions of HAPs (total chlorine, dioxin/furans, and metal hazardous air pollutants) would be 1600 tons per year. Depending on the number of sources demonstrating eligibility for the risk-based alternative chlorine limit, the total air toxics emissions reduced could be 168 tons per year.

This proposed rule would also protect human health and the environment by reducing particulate matter in conjunction with the HAP. EPA estimates particulate matter reductions could be as high as 1700 tons per year.

- ! Emission reductions are summarized below:

<u>Pollutant</u>	<u>Emissions Reductions</u>
Hydrogen chloride and chlorine gas	1577 tons/year
Metal hazardous air pollutants (including lead and mercury)	23 tons/year
Dioxin and Furans	4.7 grams/year
Particulate matter	1700 tons/year

- ! Exposure to emissions of these air toxics may produce a wide variety of human health effects including irritation of the lungs, skin and mucous membranes, problems with the central nervous system, kidney damage, and cancer. Lead is a very toxic metal. Longterm exposure to lead results in problems with the blood, central nervous system, blood pressure, and kidneys.

- ! EPA estimates that the total annualized non-discounted benefits for this proposal are estimated to range from \$4.6 million to \$10.3 million.

It is important to emphasize that monetized benefits represent only a portion of the total benefits associated with this rule. A significant portion of the benefits are not monetized. Specifically, ecological benefits, and human health benefits associated with reductions in chlorine, mercury, and lead are not quantified or monetized. In some locations these benefits may be significant. In addition, specific sub-populations near combustion facilities, including children and minority populations, may be disproportionately affected by environmental risks and may therefore enjoy more significant benefits.

COST

- ! The total nationwide engineering and compliance costs for today's proposal are estimated at \$77.9 million per year, assuming no sources comply with the alternative risk-based standard for total chlorine. Engineering costs assume no market adjustments in response to cost and price impacts associated with the replacement standards. Market adjusted costs reflect a more accurate projection of real world impacts. Depending on the number of facilities demonstrating eligibility for the risk-based alternative, total market adjusted costs are expected to range from \$41 million/year to \$50.0 million/year.

BACKGROUND INFORMATION ON HAZARDOUS WASTE COMBUSTORS

- ! The Clean Air Act requires EPA to develop rules to reduce hazardous air pollutant (HAP) emissions from categories of sources that emit one or more of 188 listed HAPs. These rules require the application of strict emissions controls based on performance of best technologies, the overall approach usually being referred to as maximum achievable control technology (MACT).
- ! EPA has identified categories of major sources for which emission standards must be developed. Those source categories include hazardous waste combustors.
- ! EPA promulgated MACT standards for incinerators, cement kilns, and lightweight aggregate kilns that combust hazardous waste (otherwise known as Phase I sources) on September 30, 1999 (64 FR 52828). This final rule is referred to as the Phase I rule or 1999 final rule. These emission standards created a technology-based national cap for hazardous air pollutant emissions from the combustion of hazardous waste in these

A number of parties representing interest of both industrial sources and of the environmental community sought judicial review of the Phase I rule. The United States Court of Appeals for the District of Columbia Circuit (the Court) held that EPA had not demonstrated that the standards met the statutory requirement of being no less stringent than (1) the average emission limitation achieved by the best performing 12 percent of existing sources and (2) the emission control achieved in practice by the best controlled similar source for new sources. As a remedy, the Court vacated the challenged regulations. However, the Court invited any of the parties to this proceeding to file a motion to delay issuance of the mandate to request either that the current standards remain in place or that EPA be allowed reasonable time to develop interim standards.

In response, EPA and the litigating parties negotiated a set of interim emission standards (67 FR 6792 (Feb. 13, 2002)). EPA and Sierra Club also entered into a Consent Decree requiring EPA to develop actual MACT standards by June 14, 2005. Today's proposal is part of EPA's effort to comply with that Consent Decree.

- ! Boilers and hydrochloric acid production furnaces (otherwise known as Phase II sources) are also subject to the MACT standard setting process in section 112(d) of the CAA. We delayed promulgating MACT standards for these source categories pending reevaluation of the MACT standard setting methodology following the Court's decision to vacate the MACT standards for the Phase I source categories. We have also entered into a separate consent decree with the Sierra Club which requires EPA to promulgate MACT standards for boilers and other Phase II sources by June 14, 2005 – the same promulgation date that is required for the replacement MACT standards for Phase I sources.

FOR MORE INFORMATION

- ! To download the proposal, or view other pertinent information relating to this rulemaking effort, go to the following web address:<http://www.epa.gov/ttn/oarpg>. <http://www.epa.gov/hwcmact/>
- ! For further information about this proposed rule, contact Mr. Michael Galbraith at EPA's Office of Solid Waste at 703-605-0567; Address written requests to: RCRA-Docket@epa.gov or RCRA Information Center (5305T), 1200 Pennsylvania Avenue, NW, Washington, DC 20460-0001.