Summary of US Environmental Laws and Regulations concerning mercury

Sometimes mercury is released through emissions from manufacturing, use, or disposal activities. Laws and regulations are a major tool in protecting the environment. Congress passes laws (statutes) that govern the United States. To put those laws into effect, Congress authorizes certain government agencies, including the Environmental Protection Agency (EPA), to create and enforce regulations. Regulations provide specific rules and details for how to put the law into practice. Under certain Federal environmental statutes, such as the Clean Air Act, Clean Water Act, and Resource Conservation and Recovery Act, EPA has the responsibility to develop regulations to control some mercury emissions to air, water, or from wastes and products. In addition, states also develop regulations to address mercury emissions.

Mercury-Specific Laws

Mercury Export Ban Act of 2008

The Mercury Export Ban Act (PDF) (8 pp, 166K, About PDF) was signed into law on October 14,

2008. The Act includes provisions on both mercury exports and long-term mercury management and storage. Because the United States is ranked as one of the world's top exporters of mercury, implementation of the act will remove a significant amount of mercury from the global market. Currently, mercury is exported from the United States to foreign countries where it has various uses, including for use in small-scale gold (artisanal) mining. This use of mercury raises worker safety and environmental emissions issues. To aid in addressing these concerns, EPA has provided expertise to the United Nations Industrial Development Organization (UNIDO)'s Global Mercury Project's artisanal mining project, which focuses on best management practices to reduce occupational exposure, emissions and mercury use.

The Act's three main provisions are the following:

- Federal agencies are prohibited from conveying, selling or distributing elemental mercury that is under their control or jurisdiction. This includes stockpiles held by the Departments of Energy and Defense.
- Export of elemental mercury is prohibited from the United States beginning January 1, 2013.
- The Department of Energy (DOE) shall designate one or more DOE facilities for long-term management and storage of elemental mercury generated within the U.S. This designation must occur no later than January 1, 2010.

To help the public understand and comply with the Act, EPA has provided "Questions and Answers about the Mercury Export Ban Act of 2008."

EPA released its Report to Congress on Mercury Compounds (PDF) (123 pp, 619K). The report, required by Congress under section 4 of the Mercury Export Ban Act of 2008, identifies sources of mercury compounds in the U.S. and reports quantities in imports, exports, and uses of these compounds in products and processes.

Exemptions to the Export Ban for Essential Uses

Any person residing in the U.S. may petition EPA for an exemption from the prohibition on export of elemental mercury. Read EPA's Instructions for Filing Exemption Petitions under the Mercury Export Ban Act of 2008 for more information.

EPA may grant by rule, after notice and opportunity for comment, an exemption for a specified use at an identified foreign facility if each of the following findings is satisfied:

- Non-mercury alternatives for the specified use are not available in the country where the facility is located.
- There is no other source of elemental mercury available from domestic supplies (not including new mercury mines) in the country where the elemental mercury will be used.

The country where the elemental mercury will be used certifies its support for the exemption.

The export will be conducted in such a manner as to ensure the elemental mercury will be used at the identified facility and not otherwise diverted for other uses for any reason.

The elemental mercury will be used in a manner that will protect human health and the environment, taking into account local, regional, and global human health and environmental effects.

The elemental mercury will be handled and managed in a manner that will protect human health and the environment, taking into account local, regional, and global human health and environmental effects.

The export of elemental mercury for the specified use is consistent with international obligations of the United States intended to reduce global mercury supply, use, and pollution.

Mercury-Containing and Rechargeable Battery Management Act of 1996

The Mercury-Containing and Rechargeable Battery Management Act of 1996 (Battery Act) phases out the use of mercury in batteries, and provides for the efficient and cost-effective disposal of used nickel cadmium (Ni-Cd) batteries, used small sealed lead-acid (SSLA) batteries, and certain other regulated batteries. The statute applies to battery and product manufacturers, battery waste handlers, and certain battery and product importers and retailers.

Text of the statute.

Implementation of the Mercury-Containing and Rechargeable Battery Management Act (PDF) (21 pp, 735K) - This booklet explains the "basics" of the Battery Act.

March 2002 Enforcement Alert newsletter about the Battery Act (PDF) (4 pp, 84K) - This newsletter is published periodically by the Office of Regulatory Enforcement to inform and educate the public and regulated community of important environmental enforcement issues, recent trends and significant enforcement actions.

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Other Environmental Laws that Limit Mercury Exposures

Clean Air Act

The Clean Air Act regulates 188 air toxics, also known as “hazardous air pollutants.” Mercury is one of these air toxics. The Act directs EPA to establish technology-based standards for certain sources that emit these air toxics. Those sources also are required to obtain Clean Air Act operating permits and to comply with all applicable emission standards.

The law includes special provisions for dealing with air toxics emitted from utilities, giving EPA the authority to regulate power plant mercury emissions by establishing "performance standards" or "maximum achievable control technology" (MACT), whichever the Agency deems most appropriate. On March 15, 2005, EPA issued the Clean Air Mercury Rule, which creates performance standards and establishes permanent, declining caps on mercury emissions. The Clean Air Mercury Rule marks the first time EPA has ever regulated mercury emissions from coal-fired power plants.

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Clean Water Act

Under the Clean Water Act, states adopt water quality standards for their rivers, streams, lakes, and wetlands. These standards identify levels for pollutants, including mercury, that must be met in order to protect human health, fish, and wildlife. No person may discharge pollutants, including mercury, into waters unless the person has a permit. Under the Act, either EPA or U.S. states issue permits, which must include limits that ensure the water quality standards are met. In addition, EPA and U.S. states issue information to the public on waters contaminated with mercury and on the harmful effects of mercury, identify the mercury sources and reductions needed to achieve water quality standards, and warn people about eating fish containing high levels of methylmercury.

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Resource Conservation and Recovery Act (RCRA)

RCRA requires that EPA manage hazardous wastes, including mercury wastes, from the time they are generated, through storage and transportation, to their ultimate treatment and disposal. EPA has established treatment and recycling standards that must be met before these wastes can be disposed of. Certain mercury wastes -- mercury-containing household hazardous waste and waste generated in very small quantities -- are exempt from some RCRA hazardous waste requirements. RCRA also sets emission limits for mercury-containing hazardous waste that is combusted. U.S. states are largely responsible for implementing the

RCRA program and their requirements can be more stringent than federal requirements; for example, some states have identified specific mercury-containing wastes, such as dental amalgam, as warranting more stringent treatment and disposal.

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Safe Drinking Water Act

Under the Safe Drinking Water Act, EPA sets standards for drinking water that apply to public water systems. These standards protect people by limiting levels of mercury and other contaminants in drinking water. Mercury contamination in drinking water can come from erosion of natural deposits of mercury, discharges into water from refineries and factories, and runoff from landfills and cropland. U.S. states have the primary responsibility for enforcing drinking water standards.

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Mercury Regulations and Standards

Air

On August 9, 2010, EPA issued a final rule to limit emissions of mercury and other toxics from Portland cement plants. This rule was published in the Federal Register on September 9, 2010. The rule adds or revises, 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.

On April 22, 2004, EPA issued a regulation to control emissions from iron and steel foundries. The rule included emission limits for manufacturing processes and pollution prevention-based requirements to reduce air toxics from furnace charge materials and coating/binder formulations. The rule also included a work practice requirement to ensure removal of auto mercury switches from scrap.

On May 20, 2005, EPA issued a direct final rule amending the work practice requirements for materials certification and scrap selection/inspection programs. The direct final amendments added clarification and flexibility but do not materially change the requirements of the April 22, 2004 rule.

On December 28, 2007, EPA issued a final National Emission Standards for Hazardous Air Pollutants (NESHAP) rule for electric arc furnace steelmaking facilities. The final rule established requirements for the control of mercury emissions that are based on the maximum achievable control technology and requirements for the control of other hazardous air pollutants that are based on generally available control technology or management practices. The Quicksilver Caucus of the Environmental Council of the States issued a fact sheet about this rule designed to help state and local agencies (PDF) (8 pp, 86K) EXIT Disclaimer understand how this rule applies to mercury emissions.

View more information about the iron and steel foundries NESHAP.

Development of standards for emissions of mercury from power plants / Clean Air Mercury Rule (vacated February 2008)

Reduction of Toxic Air Pollutants from Mercury Cell Chlor-Alkali Plants; Final Rule - December 19, 2003 - The final rule reduces mercury emissions from mercury cell chlor-alkali plants that are considered "major sources" of hazardous air pollutants as well as facilities considered to be "area sources." Mercury cell chlor-alkali plants produce chlorine and caustic using mercury cells.

Solid Waste Combustion Rules (Section 129) (PDF) (1 pg, 13K) - Find information about EPA's air emission regulations for large and small municipal waste combustors; hospital, medical and infectious waste incinerators; and commercial and industrial solid waste incinerators and, other solid waste incinerators (e.g., very small municipal waste combustors, institutional waste incinerators, etc.). Regulatory text, technical information, compliance and enforcement information, implementation guidance for states, and related links are provided.

Reduction of Toxic Air Emissions from Combustion Sources that Burn Hazardous Waste - This proposed rule would reduce emissions of toxic air pollutants, including mercury, from five types of combustion sources that burn hazardous waste (incinerators, cement kilns, lightweight aggregate kilns, boilers, and hydrochloric acid production furnaces). Sources that would be affected by the proposal combust hazardous waste in order to treat or detoxify the waste.

Reduction of Toxic Air Emissions from Industrial, Commercial, and Institutional Boilers and Process Heaters - This final rule reduces toxic air pollutants, including mercury, from industrial, commercial, and institutional boilers and process heaters. Boilers burn coal and/or other substances such as wood to produce steam. The steam is used to produce electricity or provide heat. Process heaters heat raw or intermediate material during an industrial process. This rule limits the amount of air toxics that may be released from exhaust stacks of all new (built after January 13, 2003) and existing large and limited use solid fuel boilers and process heaters that are located at facilities considered to be major sources of air toxics.

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Toxics

In July 2010, EPA issued a Final Significant New Use Rule (SNUR) for Elemental Mercury Used in Flow Meters, Natural Gas Manometers, and Pyrometers. The Agency requires 90 days' notice prior to U.S. manufacture, import or processing of elemental mercury for use in flow meters, natural gas manometers, and pyrometers.

In October 2007, EPA issued a Significant New Use Rule (SNUR) to require notification to EPA 90 days prior to U.S. manufacture, import or processing of elemental mercury for use in convenience light switches, anti-lock brake system (ABS) switches and active ride control system switches in certain motor vehicles.

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Water

Final Rule - Water Quality Guidance for the Great Lake Systems (Great Lakes Initiative) - In l995, EPA and the Great Lakes states agreed to a comprehensive plan to restore the health of the Great Lakes. The Final Water Quality Guidance for the Great Lakes System, also known as the Great Lakes Initiative, includes criteria for states to use when setting water quality standards for 29 pollutants, including bioaccumulative chemicals of concern, and prohibits the use of mixing zones for these toxic chemicals.

Method 1631: Guidelines Establishing Test Procedures for the Analysis of Pollutants; Measurement of Mercury in Water - EPA publishes methods used by industrial and municipal facilities to analyze the components of wastewater, drinking water, sediment, and other environmental samples. The methods are used to collect scientific information under the Clean Water Act and the Safe Drinking Water Act. Method 1631 is an additional testing procedure for compliance and water quality monitoring, effluent guidelines, and general laboratory use that improves EPA's ability to measure mercury in water.

Water Quality Criteria for Methylmercury - New criteria to protect human health from methylmercury, the form of mercury that accumulates in fish.

Total Maximum Daily Load (TMDL) Regulations and Guidance - EPA's regulations and guidance for the Total Maximum Daily Load, the maximum amount of a pollutant (including mercury) that a waterbody can receive and still meet water quality standards. Air deposition information is also available.

Listing Waters Impaired by Atmospheric Mercury under Clean Water Act Section 303(d), also

known as “subcategory 5m”: The approach is recommended for states that have in place a comprehensive mercury reduction program with elements recommended by EPA. These states may put their waters impaired by mercury primarly from air sources in a subcategory "5m" of their 303(d) lists and defer development of Total Maximum Daily Loads (TMDLs). The approach uses Clean Water Act tools to encourage state and regional mercury reduction programs, and recognizes early actions by states to address their mercury sources and achieve environmental results sooner.

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Wastes and Products

Hazardous Waste Identification Regulations (40 CFR Part 261) - Classification of solid wastes as hazardous wastes is based on exhibited hazardous waste characteristics and/or on inclusion of the waste on a list of hazardous wastes developed by EPA. Once a waste has been identified as hazardous, it must comply with all applicable Federal regulations regarding its management, which are contained in 40 CFR Parts 262 through 265, 268, and Parts 270, 271, and 124.

Universal Waste Regulations (40 CFR Part 273) - Stream-lined collection requirements for certain wastes, including mercury-containing batteries, pesticides, lamps, and thermostats.

Land Disposal Restrictions (LDR) Regulations (40 CFR Part 268) - Regulations to minimize hazards from the land disposal of hazardous wastes by setting treatment standards for mercury in hazardous wastes that must be achieved before land disposal.

Solid Waste Combustion Rules (Section 129) (PDF) (1 pg, 13K) - Find information about EPA's air emission regulations for large and small municipal waste combustors; hospital, medical and infectious waste incinerators; and commercial and industrial solid waste incinerators and, other solid waste incinerators (e.g., very small municipal waste combustors, institutional waste incinerators, etc.). Regulatory text, technical information, compliance and enforcement information, implementation guidance for states, and related links are provided.

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Methods 7470A-7474 - Test methods that can be used to detect the presence of mercury for use in complying with Resource Conservation and Recovery Act (RCRA) regulations.

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States

State Legislation and Regulations - Many states have enacted legislation and written regulations with the goal of reducing mercury emissions to air, land, and water. Links to state legislation, regulations, and resolutions; and county/city ordinances are listed below, sorted by state.

Interstate Mercury Education and Reduction Clearinghouse (IMERC) EXIT Disclaimer- The Northeast Waste Management Officials' Association's (NEWMOA) Interstate Mercury Education and Reduction Clearinghouse (IMERC) provides ongoing technical and programmatic assistance to states that have enacted provisions of the Mercury Education and Reduction Model Legislation, and provides a single point of contact for industry and the public for information on mercury-containing products and member states' mercury education and reduction programs.

Mercury in Schools Project Status of Local, State and Federal Mercury Product Legislation and Laws EXIT Disclaimer

Mercury in the Air - documents related to the development of Wisconsin's mercury emissions reduction rules

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