2025 Report from the United States of America in Response to Paragraphs 2 and 3 of Decision MC-5/10

Documented Waste Management Measures Provided as an Alternative to the 15 mg/kg Total Concentration of Mercury Threshold

Article 11, Paragraph 2 of the Minamata Convention on Mercury defines mercury wastes as substances or objects:

a) Consisting of mercury or mercury compounds;
b) Containing mercury or mercury compounds; or
c) Contaminated with mercury of mercury compounds

in a quantity above the relevant thresholds defined by the Conference of the Parties, in collaboration with the relevant bodies of the Basel Convention in a harmonized manner, that are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law or this Convention. This definition excludes overburden, waste rock and tailings from mining, except from primary mercury mining, unless they contain mercury or mercury compounds above thresholds defined by the Conference of the Parties.

The Fifth Conference of the Parties of the Minamata Convention on Mercury adopted Decision MC-5/10 establishing 15 mg/kg total concentration of mercury as the threshold for wastes falling under subparagraph 2 (c) of article 11 of the Convention, subject to the provision in paragraph 2 of the decision. Paragraph 2 of MC-5/10 states:

> "A Party may, as an alternative to the provision in paragraph 1 above, use a different approach to determine whether a given waste is a mercury waste falling under subparagraph 2 (c) of article 11 of the Convention, provided that that party has documented waste management measures in place to protect human health and the environment, including measures to ensure that mercury waste is managed pursuant to paragraph 3 of article 11, and also including measures to identify mercury waste using approaches such as those based on national definitions of mercury wastes or hazardous wastes, listing approach, hazardous characteristics or risk considerations, leachate thresholds or total concentration thresholds[.]"

Paragraph 3 of MC-5/10 further provides "that a party making use of the alternative approach described in paragraph 2 above is to submit to the secretariat its documented waste management measures as described in paragraph 2."

The present submission provides notice that the United States of America uses an alternative approach to determine whether a given waste is a mercury waste falling under subparagraph 2 (c) of article 11 of the Convention as described in paragraph 2.

Determination of solid wastes which are hazardous wastes due to mercury contamination in the United States of America

The process that the United States uses for hazardous waste determination, including whether a material meets the definition of solid waste, is described at 40 CFR 262.11[1]. A solid waste can be hazardous waste due to mercury contamination either by exhibiting a hazardous waste characteristic (40 CFR 261.20) or by meeting the narrative definition of a listed hazardous waste which lists mercury as one of the contaminants for the basis of the listing (40 CFR 261.30, Appendix VII to Part 261 of 40 CFR).

- A solid waste (except manufactured gas plant waste) exhibits the characteristic of toxicity if, using the Toxicity Characteristic Leaching Procedure, test Method 1311 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in 40 CFR 260.11, the extract from a representative sample of the waste contains any of the contaminants listed in table 1 at the concentration equal to or greater than the respective value given in that table. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering using the methodology outlined in Method 1311, is considered to be the extract for the purpose of this section. A solid waste that exhibits the characteristic of toxicity has the EPA Hazardous Waste Number specified in Table 1 which corresponds to the toxic contaminant causing it to be hazardous (40 CFR 261.24).
    - **D009 mercury, CAS 7439-97-6, has a regulatory level of 0.2 mg/L TCLP**

- The following solid wastes are listed hazardous wastes from specific sources unless they are excluded under 40 CFR 260.20 and 40 CFR 260.22 and listed in Appendix IX to Part 261 (40 CFR 261.32).
    - **K071 Brine purification muds from the mercury cell process in chlorine production, where separately pre-purified brine is not used**
    - **K106 Wastewater treatment sludge from the mercury cell process in chlorine production**
    - **K175 Wastewater treatment sludges from the production of vinyl chloride monomer using mercuric chloride catalyst in an acetylene-based process**

[1] The United States of America publishes regulations in the Code of Federal Regulations (CFR), which can be found at https://www.ecfr.gov.

Appendix 1 contains documented waste management measures of the United States of America, as requested in paragraph 3 of MC-5/10. Similar information was previously provided in response to the request for information in paragraph 2 of MC-4/6. For information on transboundary movement of hazardous waste to the United States of America see https://www.epa.gov/e-manifest.

Appendix 1: Relevant National Regulations and Standards
Submission by the United States of America – January 2025

As indicated in its 2021 National Report, the United States has a broad, effective system of environmental management that provides for high levels of environmental protection, including through a set of media-specific environmental laws and regulations. These environmental laws and regulations are carefully designed, effectively implemented, and enforced. They are complemented by transparency and public participation requirements, and an independent judiciary, which further underscore their effectiveness. The relevant regulations and standards are as follows:

- Waste containing or contaminated with mercury that is not hazardous waste which does not leach more than 0.2 mg/L mercury in the Toxic Characteristic Leaching Procedure Test (TCLP) can be sent for final disposal in a municipal solid waste landfill (MSWLF) or an industrial non-hazardous waste landfill. In addition, hazardous waste containing or contaminated with less than 260 mg/kg total mercury may, after treatment to control leaching, be land disposed in a MSWLF, an industrial non-hazardous landfill, or a hazardous waste landfill. These are considered final disposal in the United States.

- Hazardous waste containing or contaminated with 260 mg/kg or more total mercury must undergo thermal treatment (retort) to separate and recover the mercury from the waste. The recovered elemental mercury may be considered a product (for domestic use only), or if it is not used, a waste.

- Storage, transport, treatment, and disposal (or recycling) of hazardous wastes, including mercury is regulated under the Resource Conservation and Recovery Act (RCRA). RCRA describes a comprehensive waste management program that requires different levels of management for waste depending on the hazards it poses. Under applicable regulations, waste containing mercury may be regulated as hazardous based on the concentration of leachable mercury in the waste, or if it exhibits another hazardous "characteristic." A RCRA characteristic hazardous waste is a solid waste that exhibits at least one of four characteristics defined in 40 CFR Part 261 subpart C — ignitability, corrosivity, reactivity, and toxicity. (Part 261 under Title 40 of the Code of Federal Regulations (40 CFR Part 261). Mercury-containing hazardous waste is regulated under RCRA and must meet specific treatment standards before land disposal. High concentration mercury wastes generally must be roasted or chemically retorted (i.e., thermally treated or distilled) to recover mercury for reuse before the wastes may be land-disposed. Low concentration mercury wastes may undergo stabilization treatment (to reduce mercury leaching) before it can be land-disposed, although recycling to recover the mercury is allowed as an option. (40 CFR Part 268).

- Industrial or commercial mercury-containing wastes that are not regulated as hazardous waste under RCRA may be disposed of in non-hazardous waste landfills, which are regulated by the 50 U.S. states and subject to federal minimum criteria. (40 CFR Parts

257-58). Household wastes, including those that may contain mercury (e.g., spent mercury lamps), must be disposed in municipal solid waste landfills. (40 CFR Part 258).

- Sewage sludge (biosolids) are regulated under the Clean Water Act and may be used for application to land, to condition the soil or to fertilize crops or other vegetation if specified pollutant limits for mercury and other pollutants are met. The following four conditions, expressed as dry weight concentrations of mercury in the sludge, must be met before mercury-containing sludge may be used for land application: (1) the maximum concentration of mercury in the applied sludge must not exceed 57 mg/kg, (2) the cumulative pollutant loading rate must not exceed 17 kg/hectare, (3) the monthly average concentration must not exceed 17 mg/kg, and (4) the annual pollutant loading rate must not exceed 0.85 kg/hectare per 365-day period. There are also restrictions on where and how biosolids, including sewage sludge, can be applied. (40 CFR 503.13).

- Under RCRA, export of hazardous waste from the United States is subject to the prior informed consent procedure and other shipment tracking requirements (e.g., RCRA manifest where applicable, international movement document, confirmation of receipt and confirmation of recovery or disposal). Hazardous waste exports are prohibited unless EPA has received consent from the proposed importing country and any transit countries (40 CFR Part 262 Subpart H). Import of hazardous waste is also subject to the prior informed consent procedure and related tracking requirements (40 CFR Part 262 Subpart H). Hazardous waste importers are also responsible for complying with the hazardous waste generator requirements (40 CFR Part 262 Subpart A – D). In addition, the U.S. Department of Transportation hazardous materials regulations have been harmonized with international recommendations on transport of dangerous goods. (49 CFR Part 172).

Categories of Mercury Waste and Associated Treatment Standards for Hazardous Wastes (40 CFR 268.40)

- Nonwastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the Toxicity Characteristic Leaching Procedure (TCLP) in SW846; and contain greater than or equal to 260 mg/kg total mercury that also contain organics and are not incinerator residues (High Mercury-Organic Subcategory). Applicable treatment standards: IMERC; OR RMERC. (See below).

- Nonwastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the toxicity characteristic leaching procedure (TCLP) in SW846; and contain greater than or equal to 260 mg/kg total mercury that are inorganic, including incinerator residues and residues from RMERC (High Mercury-Inorganic Subcategory) Applicable treatment standard: RMERC (See below).

- Nonwastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the toxicity characteristic leaching procedure (TCLP) in SW846; and contain less than 260 mg/kg total mercury and that are residues from RMERC

only (Low Mercury Subcategory). Applicable treatment standard: 0.20 mg/L TCLP and meet 40 CFR 268.48 standards.

- All other non-wastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the toxicity characteristic leaching procedure (TCLP) in SW846; and contain less than 260 mg/kg total mercury and that are not residues from RMERC (Low Mercury Subcategory). Applicable treatment standard: 0.20 mg/L TCLP and meet 40 CFR 268.48 standards.

- All wastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury. Applicable treatment standard: 0.15 mg/L TCLP and meet 40 CFR 268.48 standards.

Applicable treatment standards, technology codes and description of technology-based standards (40 CFR 268.42)

- IMERC: Incineration of wastes containing organics and mercury in units operated in accordance with the technical operating requirements of 40 CFR part 264 subpart 0 and part 265 subpart 0. All wastewater and nonwastewater residues derived from this process must then comply with the corresponding treatment standards per waste code with consideration of any applicable subcategories (e.g., High or Low Mercury Subcategories).

- RMERC: Retorting or roasting in a thermal processing unit capable of volatilizing mercury and subsequently condensing the volatilized mercury for recovery. The retorting or roasting unit (or facility) must be subject to one or more of the following: (a) a National Emissions Standard for Hazardous Air Pollutants (NESHAP) for mercury; (b) a Best Available Control Technology (BACT) or a Lowest Achievable Emission Rate (LAER) standard for mercury imposed pursuant to a Prevention of Significant Deterioration (PSD) permit; or (c) a state permit that establishes emission limitations (within meaning of section 302 of the Clean Air Act) for mercury. All wastewater and non-wastewater residues derived from this process must then comply with the corresponding treatment standards per waste code with consideration of any applicable subcategories (e.g., High or Low Mercury Subcategories).