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*Outline.* The information in this preamble is organized as follows:

- I. Introduction and Background
  - A. What Is the Source of Authority for Development of NESHAP?
  - B. What Is the Source Category?
  - C. What Criteria Are Used in the Development of NESHAP?
  - D. What Actions Were Proposed for This Source Category?
  - E. How Did the Public Participate in Developing the Rulemaking?
  - F. What Is a Mercury Cell Chlor-alkali Plant?
  - G. How Does This Action Relate to the 40 CFR Part 61 Mercury NESHAP?
- II. Summary of Changes Since Proposal
- III. Summary of the Final Rule
  - A. What Is the Source Category?
  - B. What Are the Affected Sources and Emission Points To Be Regulated?
  - C. What Are the Emissions Limitations?
  - D. What Are the Work Practice Standards?
  - E. What Are the Operation and Maintenance Requirements?
  - F. What Are the General Compliance Requirements?
  - G. What Are the Initial Compliance Requirements?
  - H. What Are the Continuous Compliance Requirements?
  - I. How Are Initial and Continuous Compliance With the Work Practice Standards To Be Demonstrated?
  - J. What Are the Notification and Reporting Requirements?
  - K. What Are the Recordkeeping Requirements?
- IV. Summary of Major Comments and Responses
  - A. What Issues Were Raised Regarding the Sources That Are Subject to the Rule as Proposed?
  - B. What Issues Were Raised Regarding the HAP Addressed by the Rule as Proposed?
  - C. What Issues Were Raised Regarding the Compliance Date?
  - D. What Issues Were Raised Regarding the Emission Limitations?
  - E. What Issues Were Raised Regarding the Work Practices?
  - F. What Issues Were Raised Regarding the Monitoring and Continuous Compliance Requirements?
- V. What Are the Environmental, Cost, and Economic Impacts of the Final Rule?
  - A. What Are the Air Emission Impacts?
  - B. What Are the Non-air Health, Environmental, and Energy Impacts?
  - C. What Are the Cost and Economic Impacts?
- VI. Statutory and Executive Order Reviews
  - A. Executive Order 12866—Regulatory Planning and Review
  - B. Paperwork Reduction Act
  - C. Regulatory Flexibility Act

- D. Unfunded Mandates Reform Act of 1995
- E. Executive Order 13132—Federalism
- F. Executive Order 13175—Consultation and Coordination With Indian Tribal Governments
- G. Executive Order 13045—Protection of Children From Environmental Health Risks and Safety Risks
- H. Executive Order 13211—Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use
- I. National Technology Transfer and Advancement Act of 1995
- J. Congressional Review Act

## I. Introduction and Background

### A. What Is the Source of Authority for Development of NESHAP?

Section 112 of the CAA contains our authorities for reducing emissions of hazardous air pollutants (HAP). Section 112(c)(1) of the CAA requires us to list categories and subcategories of major sources and area sources of HAP and to establish NESHAP for the listed source categories and subcategories. Section 112(c)(6) requires us to list source categories and subcategories assuring that sources accounting for not less than 90 percent of the aggregate emissions of each of seven specific pollutants (including mercury) are subject to standards under section 112(d) of the CAA. Finally, section 112(c)(3) and (k)(3)(B) require that we list source categories to ensure that area sources representing 90 percent of the area source emissions of the 30 urban HAP are subject to regulation under section 112(d).

### B. What Is the Source Category?

The chlorine production source category was initially listed as a category of major sources of HAP pursuant to section 112(c)(1) of the CAA on July 16, 1992 (57 FR 31576). At the time of the initial listing, we defined the chlorine production source category as follows:

The Chlorine Production Source Category includes any facility engaged in the production of chlorine. The category includes, but is not limited to, facilities producing chlorine by the following production methods: diaphragm cell, mercury cell, membrane cell, hybrid fuel cell, Downs cell, potash manufacture, hydrochloric acid decomposition, nitrosyl chloride process, nitric acid/salt process, Kel-Chlor process, and sodium chloride/sulfuric acid process.

In our subsequent analysis of the chlorine production source category, we did not identify any facilities that produce chlorine using hybrid fuel cells, the nitrosyl chloride process, the Kel-Chlor process, the sodium chloride/sulfuric acid process, or as a by-product

from potash manufacturing. The majority of the source category is made up of chlor-alkali plants that produce chlorine and caustic (sodium hydroxide) using mercury cells, diaphragm cells, or membrane cells. We also identified operating plants that produce chlorine as a by-product: one from the production of sodium metal in Down cells, another from the production of potassium nitrate fertilizer that uses the nitric acid/salt process, and a third that produces chlorine as a by-product from primary magnesium refining (magnesium refining is a separately listed source category and will be addressed on its own in a separate rulemaking). In addition, at a site where a membrane cell process is located, we have also identified a process that produces chlorine through the decomposition of HCl. Our analysis shows that the only HAP emitted from sources within this chlorine production source category are chlorine, HCl, and mercury; and mercury is only emitted from mercury cell chlor-alkali plants.

In addition to the listing pursuant to section 112(c)(1), chlor-alkali production was among the categories of sources identified pursuant to section 112(c)(6) to achieve the 90 percent goal for mercury. While this category was titled "chlor-alkali production," the only sources of mercury emissions are mercury cell chlor-alkali plants. However, the mercury cell chlor-alkali subcategory was not officially "listed" under section 112(c)(6) because the chlorine production source category was already listed under section 112(c)(1), and sources of mercury emissions at mercury cell chlor-alkali plants would be subject to section 112(d)(2) standards via that chlorine production source category listing.

Finally, on July 19, 1999 (64 FR 38706), we listed Mercury Cell Chlor-Alkali Plants as an area source category. In this listing, Mercury Cell Chlor-Alkali Plants were identified as one of the area source categories that contribute at least 15 percent of the total area source mercury emissions.

Because of the differences in the production methods and the HAP emitted, we decided to divide the chlorine production category into two subcategories: (1) Mercury cell chlor-alkali plants, and (2) chlorine production plants that do not rely upon mercury cells for chlorine production (diaphragm cell chlor-alkali plants, membrane cell chlor-alkali plants, *etc.*). Thus, on July 3, 2002, we issued separate proposals to address the emissions of mercury from the mercury cell chlor-alkali plant subcategory