



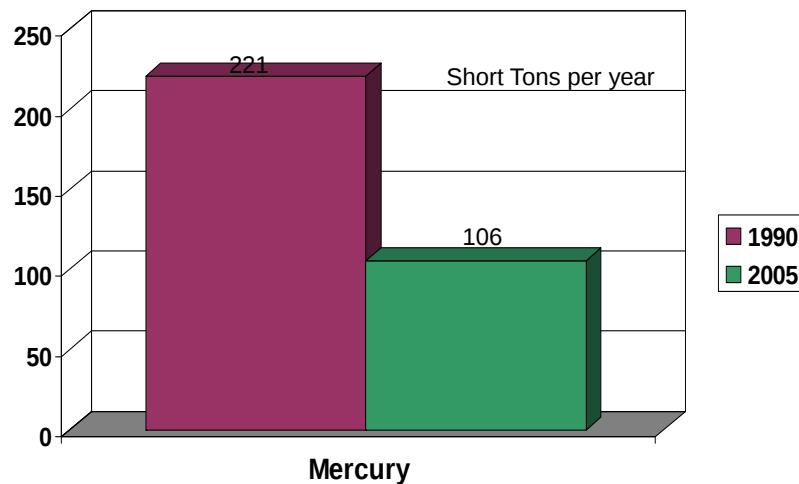
Controlling Mercury Air Emissions: Successes and Challenges

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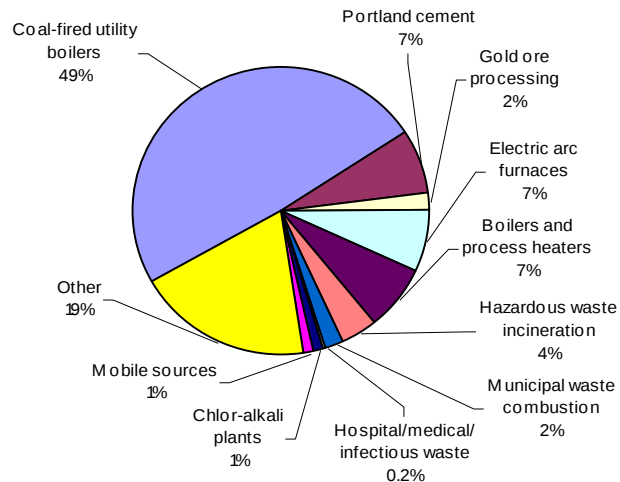
Total Estimated Anthropogenic Emissions of Mercury in U.S.A. 1990 & 2005



Source: EPA 1990 NTI and EPA 2005 NEI



U.S. Mercury Emissions (2005)



Note: as supplied by Anne Pope, OAQPS on 9/30/09

Total: 106 Short Tons



Maximum Achievable Control Technology

Clean Air Act section 112

The maximum degree of emissions reduction achievable taking into consideration cost, any non-air quality health and environmental impacts and energy requirements.

- **For existing facilities:**
 - No less stringent than the average emissions limit achieved by the best performing 12% of the sources.
- **For new facilities:**
 - No less stringent than the emissions limit achieved by the best controlled existing source.

Note: section 129 contains similar language for solid waste combustion facilities.



Upcoming MACT Standards for Sources of Mercury

Source Category	Proposal Date	Final Date
Coal-fired Power Plants	3/2011	11/2011
Industrial Boilers	4/2010	12/2010
Commercial and Industrial Solid Waste Incinerators*	4/2010	12/2010
Hazardous Waste Combustors*	TBD	TBD
Chlor-Alkali Manufacturing	5/2010	TBD
Portland Cement	4/2009	3/2010
Industrial Gold Production	4/2010	12/2010
Taconite Iron Mines	8/2013	10/2014
Electric Arc Furnaces	TBD	TBD
Integrated Iron and Steel	TBD	TBD

* Section 129 rule



General Approach

- Consistent with the Act
 - As interpreted by the Court
- Sector wide strategies – where multiple regulatory actions apply to one industry.
 - Portland Cement MACT gives an example of this. MACT and NSPS
 - So that companies know the full suite of requirements when developing compliance strategies.



MACT for Coal and Oil-fired Electric Power Plants

- One of several regulations – an integrated strategy
- Not just mercury
 - Other metals
 - Acid gases
 - Organics
- Mercury control has advanced considerably
- First step, collect information.



Mercury Control

- Fueled by State regulation, permits, legal action
- Currently 36 units of coal-fired generation are operating mercury control technology
 - Approaching 12 GW
- 167 units have contracted for the installation of controls
 - 63 GW of total coal-fired generation
 - About 20% of the coal-fired fleet

Data from ICAC 11/10/09



Collecting Information: MACT for Power Plants

- Proposed testing requirements (some units will test for more than one HAP group)
 - 170 coal-fired units for acid gas HAP (e.g. HCl/HF/HCN)
 - Selected as being among the top performing units
 - 170 coal-fired units for non-dioxin/furan organic HAP
 - Selected as being among the top performing units
 - 170 coal-fired units for metallic HAP (e.g., Hg, As, Se, P)
 - Selected as being among the top performing units
 - 50 coal-fired units for dioxin/furan organic HAP
 - Selected at random from the entire coal-fired EGU population
 - 50 coal-fired units for acid gas, non-dioxin/furan organic, and metallic HAP
 - Selected at random from the population of "non-top performing units"
 - 3 coal-fired IGCC units for all HAP (i.e., acid gas, organic, metallic)
 - 100 oil-fired units for all HAP
 - Selected at random from the oil-fired EGU population
 - 16 petroleum coke-fired units for all HAP
 - Data provided within 6 – 8 months of receipt of request
- 1,334 units proposed to provide required information on boiler, fuels, controls, etc. and all available data from past 5 years
 - Data provided within 90 days of receipt of request



International Negotiations

- New position in Nairobi
- Active participation in negotiations and preparation
- Leadership role in applying technology and reducing emissions

