




UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
RESEARCH TRIANGLE PARK, NC 27711

20 JUN 2002

MEMORANDUM

OFFICE OF  
AIR QUALITY PLANNING  
AND STANDARDS

**SUBJECT:** Emission from Large MWC Units at MACT Compliance

**FROM:** Walt Stevenson, Combustion Group, ESD, OAQPS 

**TO:** Docket A-90-45 (Large MWCs)

This memorandum presents information on the emissions reductions achieved at large municipal waste combustion (MWC) units following retrofit of Maximum Achievable Control Technology (MACT) as required by section 129 of the Clean Air Act (CAA). Consistent with CAA section 129, large MWC units completed MACT retrofits by December 2000. The performance of the MACT retrofits has been outstanding. Emissions reductions achieved for all CAA section 129 pollutants are shown below. Of particular interest are dioxin/furan and mercury emissions. Since 1990 (pre-MACT conditions), dioxin/furan emissions have been reduced by more than 99 percent, and mercury emissions have been reduced by more than 95 percent. Dioxin/furan emissions have been reduced to 12 grams per year\* and mercury emissions reduced to 2.2 tons/year.

<i>Pollutant</i>	<i>1990 Emissions</i>	<i>2000 Emissions</i>	<i>Percent Reduction</i>
CDD/CDF, total mass basis	218,000 g/yr	679 g/yr	99 +
CDD/CDF, TEQ basis *	4,260 g/yr	12.0 g/yr	99 +
Mercury	45.2 tons/yr	2.20 tons/yr	95.1
Cadmium	4.75 tons/yr	0.333 tons/yr	93.0
Lead	52.1 tons/yr	4.76 tons/yr	90.9
Particulate Matter	6,930 tons/yr	707 tons/yr	89.8
HCl	46,900 tons/yr	2,672 tons/yr	94.3
SO <sub>2</sub>	30,700 tons/yr	4,076 tons/yr	86.7
NO <sub>x</sub>	56,400 tons/yr	46,500 tons/yr	17.6

(\*) dioxin/furan emissions in units of toxic equivalent quantity (TEQ), using 1989 NATO toxicity factors.

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The MACT performance data presented above can be found in the two attached memoranda. The first memorandum (Docket A-90-45, Item VIII-B-3) presents year 2000 (post-MACT) emissions for large MWC. As described in the memorandum, stack test data was collected from all 167 MWC large units, located at 66 plants in 24 States, and was used to calculate year 2000 (post-MACT) emissions. The second memorandum (Docket A-90-45, Item VIII-B-7) presents large MWC emissions trends since 1990 and was used to define 1990 (pre-MACT) emissions. In combination, the two memoranda present 1990 and 2000 emissions for large MWC units.

Attachments (2)