



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
RESEARCH TRIANGLE PARK, NC 27711

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OFFICE OF  
AIR QUALITY PLANNING  
AND STANDARDS

**MEMORANDUM**

SUBJECT: Emissions from Large and Small MWC Units at MACT Compliance

FROM: Walt Stevenson *WS*  
OAQPS/SPPD/ESG (D243-01)

TO: Large MWC Docket (EPA-HQ-OAR-2005-0117)

This memorandum presents information on the overall emissions reductions achieved by large and small municipal waste combustion (MWC) units following retrofit of Maximum Achievable Control Technology (MACT). This memorandum is a companion to the memorandum titled "Emissions from Large MWC Units at MACT Compliance (note a). Consistent with Clean Air Act (CAA) section 129, large and small MWC units completed MACT retrofits by December 2000 and December 2005, respectively. The performance of the MACT retrofits has been outstanding. Emission 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 from large and small MWCs have been reduced by more than 99 percent, and mercury emissions have been reduced by more than 96 percent. Dioxin/furan emissions have been reduced to 15 grams per year\* and mercury emissions reduced to 2.3 tons/year.

Emissions From Large and Small MWC Units

<i>Pollutant</i>	<i>1990 Emissions (tpy)</i>	<i>2005 Emissions (tpy)</i>	<i>Percent Reduction</i>
CDD/CDF, TEQ basis*	4400	15	99+ %
Mercury	57	2.3	96 %
Cadmium	9.6	0.4	96 %
Lead	170	5.5	97 %
Particulate Matter	18,600	780	96 %
HCl	57,400	3,200	94 %
SO <sub>2</sub>	38,300	4,600	88 %
NO <sub>x</sub>	64,900	49,500	24 %

(\*) dioxin/furan emissions are in units of grams per year toxic equivalent quantity (TEQ), using 1989 NATO toxicity factors; all other pollutant emissions are in units of tons per year.

The MACT performance data presented above is from the initial MACT compliance tests from all large and small MWC units. The inventory of large MWC units at MACT compliance identifies 167 large MWC units located at 66 MWC plants (note b). The inventory of small MWC units at MACT compliance identifies 60 small MWC units located at 22 MWC plants (note c). The baseline 1990 emissions data are from the large and small MWC emissions trend memo (note d and e). In combination, the above information defines the 1990 and 2005 emissions for large and small MWC units.

notes

(a) see docket A-90-45, item VIII-B-11.

(b) see docket A-90-45, item VIII-B-6

(c) see docket OAR-2004-0312, "National Inventory of Small Municipal Waste Combustor (MWC) Units at MACT Compliance (Year 2005)", dated November 1, 2006.

(d) see docket A-90-45, item VIII-B-7

(e) see docket OAR-2004-0312, "National Emissions Trends for Small Municipal Waste Combustion Units [year 1990 – 2005]", dated June 12, 2002.