

US EPA ARCHIVE DOCUMENT

Office of Solid Waste (5305W)

**Hazardous Waste Combustion (HWC) National
Emission Standards for Hazardous Air Pollutants
(NESHAP) Final Rule Fact Sheet:**



**RESOURCE CONSERVATION AND RECOVERY
ACT SITE-SPECIFIC RISK ASSESSMENT
POLICY FOR HAZARDOUS WASTE COMBUSTION FACILITIES**

EPA promulgated Maximum Achievable Control Technology (MACT) standards, also called the National Emission Standards for Hazardous Air Pollutants (NESHAP), for hazardous waste burning incinerators, cement kilns, and lightweight aggregate kilns (64 FR 52828, September 30, 1999). These standards are promulgated under joint authority of the Clean Air Act (CAA) and Resource Conservation and Recovery Act (RCRA). This fact sheet summarizes, for the convenience of all interested stakeholders, regulators, and industry, the RCRA Site-Specific Risk Assessment Policy for hazardous waste combustion facilities as articulated in the preamble to the final MACT standards. This fact sheet does not provide guidance on risk assessment methodology or articulate new policy.

Background

Sections 3004(a) and (q) of the Resource Conservation and Recovery Act (RCRA) require EPA to develop national standards for hazardous waste combustion facilities that are protective of human health and the environment. In addition, section 3005(c)(3) of RCRA, which we commonly refer to as the “omnibus authority” or “omnibus provision,” gives EPA both the authority and responsibility to include additional terms and conditions in each RCRA facility permit, as necessary, to protect human health and the environment.

In 1981 and 1991, respectively, we issued RCRA combustion standards for incinerators (40 CFR part 264, subpart O) and boilers and industrial furnaces (40 CFR part 266, subpart H). Since that time, however, additional information became available which suggested that the standards may not have fully addressed the potential risk to humans from indirect exposures. Indirect exposures can occur as a result of contact with contaminated soil, plants, water or food. Because of our concern regarding indirect exposures, we strongly recommended in the 1994 *Hazardous Waste Minimization and Combustion Strategy* that site-specific risk assessments (SSRA) be conducted for each combustion facility seeking a RCRA permit. Permitting authorities could then use the results of the SSRAs to

determine, on a case-by-case basis, whether the operation of the combustors in accordance with the standards would be protective of human health and the environment. In those cases where a RCRA permitting authority identified a potentially significant risk, it could invoke the “omnibus authority” and augment the RCRA permit with additional conditions to those required under 40 CFR part 264 and part 266.

On September 30, 1999, we revised and updated our national standards for incinerators, cement kilns and light-weight aggregate kilns (64 **FR** 52828). We based the revised standards on the Maximum Achievable Control Technology (MACT) approach required under the Clean Air Act (CAA). This approach represented the maximum degree of hazardous air pollution reduction achievable through currently available emission control technologies.

Since the MACT standards are technology-based, we performed a national risk assessment to determine if they satisfied the RCRA mandate to protect human health and the environment. This national assessment was a multimedia, multipathway analysis addressing both human health and ecological risk. The assessment was predicated on the assumption that sources whose emissions are currently above the MACT standards will reduce their emissions to MACT levels and that sources whose emissions currently are below the standards will maintain their emissions at current levels. Based on this national assessment, we determined that sources complying with the MACT standards *generally* are not anticipated to pose an unacceptable risk to human health and the environment under RCRA. Thus, we concluded that the technology-based MACT standards met the protectiveness requirement of RCRA sections 3004(a) and (q).

Although comprehensive, the national risk assessment did contain several uncertainties and limitations. As a result, we could not conclude that the MACT standards would be protective of human health and the environment in all cases, i.e., that it would never be necessary to include additional permit conditions in a specific facility’s permit pursuant to the omnibus provision of §3005(c)(3). For example, the national risk assessment did not include an evaluation of the potential risk posed by nondioxin products of incomplete combustion. In addition, the uncertainties associated with the mercury portion of the assessment were significant and limited the use of the analysis for drawing quantitative conclusions regarding the risk associated with the mercury MACT standard. Finally, the national risk assessment utilized generalized assumptions which may not be reflective of unique, site-specific considerations.¹ Thus, in some cases an SSRA may be necessary to confirm whether operation of a particular hazardous waste combustor in accordance with the MACT standards will be protective of human health and the environment under RCRA.

¹The human health and ecological combustion risk assessment guidance documents referenced at the end of this fact sheet contain our current recommendations of the methodology and assumptions that you should consider when conducting hazardous waste combustion SSRAs.

Revised Policy

As explained above, in the 1994 *Hazardous Waste Minimization and Combustion Strategy* we strongly recommended that an SSRA be considered for each combustion facility seeking a RCRA permit. In the preamble to the final hazardous waste combustion MACT standards, we articulated a revised policy for incinerators, cement kilns and light-weight aggregate kilns. Under the revised policy, we are recommending that permitting authorities evaluate the need for an SSRA on a case-by-case basis.

If an SSRA does demonstrate that operation in accordance with the MACT standards may not be protective of human health and the environment, permitting authorities may require additional conditions in the RCRA permit, pursuant to the omnibus authority. As with the original policy, permitting authorities must provide the justification for any omnibus-based permit conditions in the facility's administrative record. For hazardous waste combustors not subject to the September 1999 MACT standards, we continue to recommend that SSRAs be conducted as part of the RCRA permitting process.

For More Information

HWC NESHAP Final Rule - *Final Standards for Hazardous Air Pollutants for Hazardous Waste Combustors* (64 FR 52828, September 30, 1999). See Part Three, Section IV: *How Is RCRA's Site-Specific Risk Assessment Decision Process Impacted by this Rule?* Internet Address: <http://www.epa.gov/hwcmact/preamble.htm>

HWC NESHAP Background Document: *Human Health and Ecological Risk Assessment Support to the Development of Technical Standards for Emissions from Combustion Units Burning Hazardous Wastes*. July 1999. EPA F-1999-RC2F-S0014 and S0015. Internet Address: <http://www.epa.gov/hwcmact/riskdocs.htm>

Combustion Strategy: *Strategy for Hazardous Waste Minimization and Combustion*. November 1994. Internet Address: <http://www.epa.gov/epaoswer/hazwaste/combust/general/strat-2.txt>

Human Health Combustion Risk Assessment Guidance: *Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities, Volumes I - III*. July 1998. EPA530-D-98-001 A, B, and C. Internet Address: <http://www.epa.gov/epaoswer/hazwaste/combust/risk.htm>

Ecological Combustion Risk Assessment Guidance: *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities, Volumes I - III*. November 1999. EPA530-D-99-001 A, B, and C. Internet Address: <http://www.epa.gov/epaoswer/hazwaste/combust/ecorisk.htm>