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Just how much risk is there from hazardous waste combustors (HWC)?

The short answer is not much but that answer needs a great deal of clarification.

When Congress passed the Clean Air Act Amendments of 1990, they instructed EPA to revise air emission standards for hazardous air pollutants for a large number of source categories using a two-step process. The first step was to set emission standards based on what the best sources were capable of achieving at the time – so called MACT or Maximum Achievable Control Technology method. Eight years after the technology standards are developed, the Clean Air Act requires the Agency to determine if additional restrictions are needed "to provide an ample margin of safety" to protect human health and prevent an adverse environmental effect. EPA has labeled this a residual risk determination.

The Clean Air Act Amendments of 1990 did not give clear direction on how this "ample margin of safety" was to be defined but pointed to a recently promulgated benzene NESHAP (National Emissions Standard for Hazardous Air Pollutants) rule (54 FR 38,044, September 14, 1989) as a guide. In the benzene NESHAP, the Agency had determined that if the risk is less than one-in-a-million ($1x10^{-6}$), there is no need for more stringent standards. If the residual risk is greater than 100-in-a-million ($1x10^{-4}$), more stringent standards are required. In the area between 100-in-a-million and 1-in-a-million, the Agency examined other factors that may influence the need for additional regulations (e.g., number of individuals impacted, is the risk closer to 1-in-a-million or closer to 100-in-a-million, are additional control measures available, the cost of additional control devices, etc.) to achieve an ample margin of safety as required by the Clean Air Act. The Agency used this methodology when setting the residual risk standards for the Hazardous Organic NESHAP for the Synthetic Organic Chemical Manufacturing Industry (59 FR 19,402, April 22, 1994). The methodology was challenged in the U.S. Court of Appeals for the District of Columbia Circuit. On June 6, 2008, the court found that EPA had properly followed the requirements in the Clean Air act (*NRDC v. EPA*). The Agency has been using this methodology for all subsequent residual risk rules.

EPA promulgated technology based standards for HWCs on October 12, 2005 (70 FR 59,402). Since this rule is currently under a voluntary remand, the Agency has not yet promulgated residual risk-based standards for this source category. However, this rule is unique in that the Agency suggests (but does not require) a site-specific risk assessment for every facility. See 70 FR 59,504 for details of the site-specific risk assessment policy and http://www.epa.gov/region6/6pd/rcra_c/pd-o/comb_risk.htm for details on how site-specific risk assessments are conducted. This is not a Clean Air Act requirement but a hold-over from the RCRA rules that previously governed air emission limitations for HWCs. While the site-specific risk assessment methodology discussed in the 2005 rule is different from the residual risk determination, they both use the similar thresholds of no action for risk less than one-in-a-million, action for risks greater than 100-in-a-million, and an ample margin of safety determination for risks in between. The majority of HWCs have conducted site-specific risk assessments. Where a site-specific risk assessment has indicated a potential need, additional constraints (often feed rate limits for metals) have been incorporated into that facility's permit. Eventually, the Agency will conduct a residual risk rulemaking for this source category. However, it is likely to have little impact since most HWCs have already been through and are complying with emission limits based on both the Clean Air Act technology requirements and the RCRA risk based emission limits.

While it is impossible to state exactly what the risks are for an individual HWC, if a site-specific risk assessment has been conducted for that facility, one can conclude that the risk to the public and the environment has been demonstrated to be less that 100-in-a-million and most likely below 1-in-a-million.