

Regulatory history for hazardous waste combustors

Subpart O

On December 18, 1978, EPA published a proposed rule to set standards for owners and operators of hazardous waste management facilities including hazardous waste incinerators (43 FR 58,946). On May 19, 1980, EPA promulgated the first phase of these regulations: administrative standards for hazardous waste facilities and administrative standards and technical standards for interim facilities. As a part of this rulemaking, EPA promulgated interim standards in 40 CFR Part 265, Subpart O for incinerators that did not have RCRA permits. On January 23, 1981, EPA promulgated the administrative and technical standards for incinerators that had permits (40 CFR Parte 264, Subpart O). At that time, hazardous waste incinerators had three air emission standards: a destruction removal efficiency (DRE) of 99.99%; and HCl emissions limit of 1.8 kg/hr (4 lbs/hr); and an particulate matter (PM) emissions limit of 180 mg/dscm (0.08 gr/dscf). It should be noted that a site-specific CO limit was set as a part of the operating parameter limits for the DRE requirement.

The 1981 rule exempted the burning of hazardous waste for energy recovery from regulation as a way to promote recycling. Because of this exemption, a number of boilers and industrial furnaces started burning hazardous waste. The majority of the material burned in these units was high Btu material. However, some units burned lower Btu hazardous waste under the guise of energy recovery. To counter this, EPA developed a "sham recycling" policy in 1983 deciding that hazardous waste with less than 5,000 Btu/lb burned in a boiler or industrial furnace was not being burned for fuel value but for destruction.

On January 4, 1985, EPA promulgated revisions to the definition of solid waste regulations (50 FR 665) making it clear that generators and blenders of hazardous waste-derived fuels were subject to transportation and storage controls. This was followed by a November 29, 1985 (50 FR 49,164), rule setting administrative controls for hazardous waste fuel blenders. This rule also prohibited the burning of hazardous waste-derived fuels in non-industrial boilers unless those boilers followed the requirements in Part 264 Subpart O.

BIF and incinerator rules

On May 6, 1987 (52 FR 16,982), EPA proposed emissions standards for boilers and industrial furnaces (cement kilns and lightweight aggregate kilns). On April 27, 1990 (55 FR 17,862), EPA proposed revised emission standards for hazardous waste incinerators. The rules for boilers and industrial furnaces were finalized on February 21, 1991 (56 FR 7,134) but additional requirements under RCRA for hazardous waste incinerators were never finalized. In the BIF rule, operating requirements included a DRE requirement; CO or total hydrocarbon limits; a PM standard, limits on non-carcinogenic metals (antimony, barium, lead, mercury, thallium, and silver), limits on

carcinogenic metals (arsenic, cadmium, beryllium, and chromium), and limits on HCl and Cl₂ emissions,

At this point in time, incinerators had a DRE requirement and emissions limitation on PM and HCl while BIFs had a DRE requirement and emissions limitations on CO /THC, PM, ten metals, HCl, and Cl₂. EPA started removing this difference by using the RCRA omnibus authority during permitting to require all incinerators to meet similar emissions limitations as the BIFs.

Several environmental groups sued the Agency over this rule. EPA reached a settlement agreement in 1993 to propose additional rules in 1995 under the Clean Air Act for incinerators, cement kilns and lightweight aggregate kilns (Phase I rule). This was to be followed with second phase that included standards for boilers and process heaters and halogen acid furnaces (Phase II rule).

HWC MACT Phase I

The HWC MACT process started in May 18, 1993, when EPA announced their draft Hazardous Waste Minimization and Combustion Strategy. In this document, EPA announced a series of actions directly impacting HWCs. These included:

- Freezing all new permits for incinerators;
- Requiring site-specific risk assessments for all new permits;
- Requiring new permits to include dioxin emissions standards; and
- Requiring new permits to have more stringent metal emission standards.

Industry challenged these requirements arguing that the Agency did not properly go through the rulemaking process. When faced with the challenge, the Agency did not implement these actions. Over the next year, the Agency gathered data on the best operating practices for incinerators and BIFs to identify achievable emission levels of the best controlled units. This was published in May 1994 as a Draft Hazardous Waste Minimization and Combustion Strategy: Announcement and Review of Past Activities (EPA 530-D-94-002). As a part of this document, EPA released the database (Combustion Emissions Technical Resource Document – CETRED, EPA 530-R-94-014, May 1994) used in the first HWC MACT proposed rule. The strategy was made final in November 1994 (Strategy for Hazardous Waste Minimization and Combustion, EPA 530-R-94-044).

On April 19, 1996 (61 FR 17,358), EPA proposed emission standards for Phase I units (incinerators, cement kilns, and lightweight aggregate kilns). This proposed rule would set emission standards for dioxins/furans, particulate matter, mercury, semi-volatile metals (cadmium and lead), low-volatile metals (antimony, arsenic, beryllium, and chromium), total chlorine (HCl + Cl₂), and either carbon monoxide or total hydrocarbons. Before this rule was finalized, the Agency asked for additional comments in five *Federal Register* notices. These were:

- A peer review of the proposed rule (08/23/1996, 61 FR 43,501);
- Revised database (01/07/1997, 62 FR 960);
- Technical feasibility of using PM CEMs (03/21/1997, 62 FR 13,775);
- Revised standards based on the revised database (05/02/97, 62 FR 24,212);
and
- Status report on PM CEMs (12/30/97, 62 FR 67,788).

On June 19, 1998, the Agency published the Fast Track Rule (63 FR 33,782). This final action set up a conditional exclusion from RCRA for fuels produced from hazardous waste that were comparable to fossil fuels, set up a new RCRA permitting modification process to allow the transition from RCRA to CAA, notification requirements for those facilities intending to comply with the final rule, and allowances for extensions to install air pollution control equipment. Two parts of this rule were vacated. The requirement to cease operations within two years if the facility did not intend to comply with the final rule was overturned by the U. S. Court of Appeals for the District of Columbia Circuit on July 25, 2000 (*Chemical Manufacturers Association v. EPA*, 217 F. 3d 861 (D.C. Cir. No. 99-1236)). EPA published a *Federal Register* notice implementing this vacatur on May 14, 2001 (66 FR 24270). The comparable fuels provisions were vacated on June 27, 2014 (*NRDC v. EPA*, U. S. Court of Appeals for the District of Columbia Circuit, Case No 98-1379).

The final rule setting standards for Phase I units was published on September 30, 1999 (64 FR 52,828). While the litigation of the Phase I rule was progressing, the Agency published three technical corrections (November 19, 1999, 64 FR 63,209; July 7, 2000, 65 FR 42,292; and November 9, 2000, 65 FR 67,268) to the rule and a notice of data availability for the Phase II database (June 27, 2000, 65 FR 39,581). Both industry and the environmental groups challenged the Phase I rule. A number of issues were settled and these modifications were implemented in three actions published on July 3, 2001. One was a direct final rule making changes based on issues agreed upon by all parties (66 FR 35,087). The second was the accompanying proposed rule (66 FR 35,124). The third was a request for comments on issues not agreed upon by all parties (66 FR 35,126). EPA received adverse comments on four of the provisions in the July direct final rule and on October 15, 2001, withdrew those provisions (66 FR 52,361).

On July 24, 2001, the U. S. Court of Appeals for the District of Columbia Circuit vacated the 1999 rule (*Cement Kiln Recycling Coalition v. EPA*, 255 F. 3d 855, 857, D.C. Cir. 2001). Petitioners asked the court to delay the mandate to allow for settlement discussion on interim standards. This was granted and the Agency published two notices setting interim standards for Phase I units; one on February 13, 2002 (67 FR 6,792) and the other on February 14, 2002 (67 FR 6,968).

Based on comment received from the 2000 NODA, EPA published a revised database for Phase II units on July 2, 2002 (67 FR 44,452).

HWC MACT Phase II

On April 20, 2004, EPA proposed “Permanent Replacement Standards” for Phase I units and initial standards for Phase II units. EPA sent out an informal request for comments on a number of provisions on February 4, 2005. Revised standards for Phase I units and initial standards for Phase II units were published on October 12, 2005 (70 FR 59,402). Once again, both industry and the environmental groups challenged these standards. In addition, a number of parties filed petitions for reconsideration. EPA granted reconsideration for eight issues in two *Federal Register* notices (March 23, 2006, 71 FR 14,665 and September 6, 2006, 71 FR 52,624). EPA published the final reconsideration rule on October 28, 2008 (73 FR 64,068), making revisions to certain standards. This rule also included a number of technical corrections to the rule.

The litigation of the 2005 final rule became more complicated when the U.S. Court of Appeals for the District of Columbia Circuit released their decision on the challenges to the BRICK MACT rule (*Sierra Club v. EPA*, 479 F.3d 875, March 13, 2007). This decision caused the Agency to reexamine the standards that were finalized in the 2005 rule. This legal analysis was published on September 27, 2007 (72 FR 54,875). In this notice, the Agency examined each standard developed for HWCs to determine if they wanted to defend those standards in light of the BRICK MACT decision. They concluded that several standards could not be defended but that others could be. They asked for comments on this legal analysis. EPA responded to comments in the October 28, 2008, reconsideration final rule. At this time, EPA also released revised technical support documents and revised response to comment documents. The Agency and stakeholders had a number of discussions on which standards to defend and which needed revision. In an August 9, 2008, memo, EPA concluded they could defend 18 of the 29 existing source standards and 16 of 31 new source standards. See Table 1 below for details. At that time, the Agency was prepared to defend certain standards while recognizing that others needed revision.

Table 1. Standards the Agency was willing to defend based on the August 8, 2008, memo.

Existing

Category	Defend	Redo
Solid fuel boilers	6	2 (D/F, CO)
Liquid fuel boilers	2 (D/F dry, HBEL)	11
HAFs	1 (CI SRE)	3
Incinerators	6	2 (D/F wet, PM)
Cement kilns	1 (HBEL)	6
LWAKs	2 (HBEL, CI)	5
Total	18	29

New

Category	Defend	Redo
Solid fuel boilers	6	2 (D/F, CO)
Liquid fuel boilers	1 (HBEL)	12
HAFs	1 (CI SRE)	3
Incinerators	6	2 (D/F wet, PM)
Cement kilns	1 (HBEL)	6
LWAKs	1 (HBEL)	6
Total	16	31

In November 2008, Barack Obama was elected as the next president. The Agency was reluctant to make decisions on partially defending the rule until the new administration was in place to make those decisions. On June 12, 2009, EPA filed a motion with the court asking for a voluntary remand of all HWC MACT standards.

CRWI comments on some of the Agency actions can be found on by clicking on the “CRWI Position of Selected Rules” link on the Home page. Below is a complete list of Federal Register notices for the regulations pertaining to hazardous waste combustors.

Appendix. List of *Federal Register* publications on the HWC MACT rule

Date	FR citation	Description
04/19/96	61 FR 17358	NPRM – Phase I
08/23/96	61 FR 43501	Comments on peer review
01/07/97	62 FR 960	Comments on revised data base
03/21/97	62 FR 13775	Comments on CEMS
05/02/97	62 FR 24212	Comments on standard using revised database
12/30/97	62 FR 67788	Comments on status reports for CEMs
06/19/98	63 FR 33782	Final rule – fast track
09/30/99	64 FR 52828	Final rule – Phase I
11/19/99	64 FR 63209	Technical correction
06/27/00	65 FR 39581	NODA – Phase II database
07/10/00	65 FR 42292	Technical correction
11/09/00	65 FR 67268	Clarification and technical correction
05/14/01	66 FR 24270	Vacating NIC and 2 year closure
07/03/01	66 FR 35087	Direct final rule
07/03/01	66 FR 35124	Parallel proposed rule
07/03/01	66 FR 35126	Proposed rule – litigation
10/15/01	66 FR 52361	Partial withdrawal of the July direct final rule
12/06/01	66 FR 63313	Extension of the final compliance date

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02/13/02	67 FR 6792	Interim standards rule
02/14/02	67 FR 6968	Amendments to final rule
07/02/02	67 FR 44452	Revised database NODA
04/20/04	69 FR 21197	NPRM – Phase I and II
02/04/05		Direct request for comments
10/12/05	70 FR 59402	Phase I replacement standards and Phase II Standards
03/23/06	71 FR 14665	Granted reconsideration for CK PM standard
03/23/06	71 FR 14655	3-month stay CK PM standard
09/06/06	71 FR 52624	Granted reconsideration for seven issues
09/27/07	72 FR 54875	Legal analysis based on BRICK MACT decision
10/28/08	73 FR 64068	Final reconsideration rule