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## **Chapter 10**

# **Overview of Federal Laws and Regulations Governing Incineration**

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# Overview of Federal Laws and Regulations Governing Incineration

Land-based and ocean incineration are regulated under different primary statutes and regulations. Various additional statutes cover activities (e. g., land transportation) related to both technologies. This chapter provides an overview of the statutory and regulatory framework for land-based and ocean

incineration. Table 25 provides a summary of statutes applicable to land-based or ocean incineration or both, along with a description of the regulated activities. Many of the specific details of existing requirements and provisions are reviewed earlier in other chapters.

**Table 25.—Summary of Federal Regulatory Framework for Incineration**

Statute/regulation	Agency	Activities	
		Ocean incineration	Land-based incineration
Resource Conservation and Recovery Act . . . . .	U.S. Environmental Protection Agency (EPA)	Waste storage Waste content Land transportation Residuals disposal	Waste storage Waste content Land transportation Land-based incineration Residuals disposal
Marine Protection, Research, and Sanctuaries Act . . . . .	EPA Coast Guard	Ocean incineration	—
Toxic Substances Control Act . . . . .	EPA	Incineration of PCBs	Incineration of PCBs
Coastal Zone Management Act. . . . .	States	Activities affecting land or water use in the coastal zone	Activities affecting land or water use in the coastal zone
Hazardous Materials Transportation Act . . . . .	Department of Transportation	Hazardous waste transportation by truck or rail	Hazardous waste transportation by truck or rail
	Coast Guard	Transportation by water	—
Port and Tanker Safety Act . . . . .	Coast Guard	Design, construction, certification, operation of incinerator vessels	—
Port and Waterways Safety Act . . . . .	Coast Guard	Vessel movement through ports; waste storage, transfer at waterfront	—
Endangered Species Act . . . . .	EPA	Compatibility of designated sites with protection of wildlife	—
Clean Water Act . . . . .	EPA Coast Guard	Cleanup of spills in territorial waters	Cleanup of spills in inland waters
Comprehensive Environmental Response, Compensation, and Liability Act (Superfund). . . . .	EPA Coast Guard	National Contingency Plan, cleanup of spills	National Contingency Plan, cleanup of spills

SOURCE: Office of Technology Assessment

## LAND-BASED INCINERATION

Although hazardous waste incineration has been widely used by industry for some time, explicit regulation of the practice was only recently initiated. The 1976 Resource Conservation and Recovery Act (RCRA) provided a mandate to regulate hazardous waste incineration on land, because operations fell under the definition of treatment, storage, and disposal facilities for hazardous waste. Regulations finalized in 1981 (46 FR 7666, Jan. 23, 1981) and amended in 1982 (47 FR 27520, June 24, 1982) established standards for land-based incineration and required that all land-based incineration facilities obtain RCRA operating permits. These regulations specified the basic requirements for land-based incinerator design, performance, permitting, waste analysis, monitoring, and reporting.

Because it is covered under RCRA, hazardous waste incineration on land is effectively exempted from coverage under the Clean Air Act (CAA). Municipal waste incinerators, however, are covered under the CAA. New source performance standards for municipal facilities were promulgated in 1981 but include only a single standard for particulate emissions. A numerically identical standard has been incorporated into the RCRA regulations governing land-based hazardous waste incineration.

The Toxic Substances Control Act, passed in the same year as RCRA, banned the manufacture of PCBs and was followed by regulations governing their treatment and disposal, including the use of incineration (see box B in ch. 3). Under RCRA, an application to incinerate PCBs requires special approval by the EPA Administrator before authorization can be incorporated into a RCRA (for land-based incineration) or MPRSA (for ocean incineration) permit. Currently, only six incinerators are permitted to incinerate PCBs. These are owned and operated by ENSCO (Arkansas); Rollins Environmental Services (Texas); SCA Chemical Services,



*Photo credit: GA Technologies, Inc.*

**A transportable fluidized bed incinerator that was recently granted a permit for PCB incineration.**

owned by Waste Management, Inc. (Illinois); Pyrotech (Tennessee); General Electric (Massachusetts); and EPA (a mobile unit currently stationed in New Jersey). In addition, GA Technologies (California) recently received a permit for a transportable incinerator which, when completed, can be used anywhere in the country for PCB incineration.

## OCEAN INCINERATION

Primary statutory authority for regulating ocean incineration resides in the **Marine Protection, Research, and Sanctuaries Act** (MPRSA). Although EPA initially claimed that its jurisdiction under MPRSA did not extend to ocean incineration,<sup>1</sup> the Agency became persuaded of its authority because of rising concern that failure to regulate ocean incineration might frustrate the purposes of MPRSA.

In 1974, ocean incineration without a Federal permit was prohibited. Initial permits were issued using general administrative and technical criteria from the Ocean Dumping Regulations (40 CFR 220). Also relied on were the London Dumping Convention's regulations and technical guidelines, including a set of standards for destruction and combustion efficiency, operating conditions, and monitoring parameters (see ch. 12).

The Ocean Dumping Regulations include extensive criteria for use in evaluating permit applications to dispose of waste by ocean dumping. These include criteria for evaluating environmental damages; the need for ocean dumping; and the impact of dumping on esthetic, recreational, and economic values and on other uses of the ocean.

Because the Ocean Dumping Regulations do not specifically address ocean incineration, EPA has re-

<sup>1</sup>The basis of EPA's quandary was whether Congress intended MPRSA to cover air pollutants emitted at sea.

cently begun developing an Ocean Incineration Regulation. The proposed regulation, which was issued by EPA's Office of Water (50 FR 8222, Feb. 28, 1985), specifies application procedures for research, trial, and operational permits as well as requirements governing incinerator operation, waste specifications, site designation, and operational and environmental monitoring. Specific provisions of the proposed Regulation are discussed throughout this report.

During the public comment period, five public hearings and several public meetings were held around the country. In September 1985, EPA released a summary of the approximately 4,500 comments received during these sessions (1).

Activities of the London Dumping Convention (LDC) are germane to domestic policy on ocean incineration, as the United States is a signatory to the convention. All U.S. regulations regarding ocean dumping and ocean incineration must be consistent with those of the LDC, and MPRSA serves as the primary statutory instrument for adherence to the LDC. (See ch. 12 for more information on the LDC. )

Amendments to MPRSA also authorize research and monitoring for ocean incineration and for ocean dumping activities in general, to be carried out by EPA, the National Oceanic and Atmospheric Administration, and the U.S. Coast Guard.

## STATUTES GOVERNING RELATED ACTIVITIES

For wastes managed using ocean or land-based incineration, the incineration process itself is the last step, except for disposal of incineration residuals, in the "cradle-to-grave" management of hazardous wastes. For operations on land and at sea, various Federal authorities are involved at different stages; Table 25 summarizes the statutes, agencies, and jurisdictions for all incineration support activities.

Various responsibilities also fall on State and local jurisdictions. These include hazardous waste facility siting, enforcement authority, and emergency response.

### *Designating Ocean Incineration Sites*

The proposed Ocean Incineration Regulation contains detailed procedures for the formal designation of sites for ocean incineration (50 FR 8271, Feb. 28, 1985). EPA proposes using the same site-selection criteria for ocean incineration as those specified in the Ocean Dumping Regulations, with three additions:

1. the effect of incinerator emissions on endangered species in or near the site must be examined;
2. the site's carrying capacity must be calcu-

lated and any requirements that are necessary to ensure that it is not exceeded must be incorporated into individual permits; and

3. a plan to monitor the environmental effects of emissions must be developed for each site.

Before formally proposing an incineration site for designation, EPA would prepare an environmental assessment of the use of the site for inclusion in an Environmental Impact Statement where required by EPA policy. As part of this assessment, the carrying capacity and loading rates at the site would be calculated for acid emissions, 14 metals,

and the most prevalent organic compounds expected to be incinerated.

Although burns occurring under research or emergency permits could occur at undesignated sites, burns occurring under operational permits could only occur in sites designated through the formal rulemaking process. Use of designated sites would be regulated on a permit-by-permit basis, with respect to carrying capacity, and through evaluation of data obtained from the mandatory environmental monitoring plan specified for each site.

## CHAPTER 10 REFERENCES

1. U.S. Environmental Protection Agency, *Incineration-At-Sea Regulation Development Task Force*, Office of Water Regulations, Criteria and Stand-

ards Division, "Summary of Public Comments on the Proposed Ocean Incineration Regulation" (Washington, DC: September 1985).