



ENVIRONMENTAL LEGISLATION REPORT

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J. Craddock

FEDERAL LEVEL

Marine Protection, Research and Sanctuaries Act

Section 102--Environmental Protection Agency Permits

Incineration of Polychlorinated Biphenyls (PCBs)

According to an Environmental Protection Agency report made available May 10 (Federal Register, May 10, 1983, p.20984), no apparent environmental effects resulted from the ocean incineration of polychlorinated biphenyls on the Vulcanus I in the Gulf of Mexico during 1981 and 1982.

The agency said operational and performance requirements in the research permit were met or exceeded.

The report outlined the monitoring and environmental results of two trial burns of PCBs by the incinerator vessel, Vulcanus I, owned by Chemical Waste Management Inc. and Ocean Combustion Service. The trial burns were conducted in the Gulf of Mexico under a research permit issued under Section 102 of the Marine Protection, Research, and Sanctuaries Act.

EPA said the purposes of the trial burns was to determine the "incinerability" of PCBs by calculating the destruction efficiency of the substance and observing incinerator operating conditions.

Monitoring the trial burns of 698,500 gallons of PCB-laden wastes between December 22, 1981, and January 2, 1982, showed that overall waste combustion efficiency varied between 99.16 percent and 99.999 percent, compared to the permit requirement for 99.9 percent efficiency. A destruction efficiency for PCBs of greater than 99.92 percent was determined, according to EPA. Monitoring data showed the permit requirements for wall temperatures, carbon monoxide, excess oxygen, and residence time met or exceeded, the agency noted.

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Between August 15 and 31, 1982, an additional 800,000 gallons of PCB-laden liquid wastes were incinerated with a 99.99 percent combustion efficiency, again exceeding the permit requirement, according to EPA. The agency said it monitored for PCBs, chlorobenzenes, tetrachlorodibenzofurans (TCDF), and dioxin in the incinerator stack gas and in the raw wastes.

Because none of the first two compounds was found in stack gas concentrations above detectable limits of the analytical method, EPA said the destruction efficiency was calculated to be greater than 99.9906 percent and greater than 99.996 percent, respectively. TCDFs were found in some but not all of the stack gases, so destruction efficiency was calculated to be greater than 99.93 percent. Trace amounts of 2,3,7,8-TCDD (dioxin) were found in one of the incinerator stack gas samples, but the maximum concentration was about 2.6 percent of the concentration found acceptable for emissions from land-based municipal waste resource recovery incinerators, EPA stated.

Environmental monitoring in the vicinity around the Vulcanus showed no impact, with no effect on water chemistry or biota, according to the agency. Increases of organochlorines in ambient water and air were not detected, EPA said.

For more information contact Alan B. Rubin, Criteria and Standards Division (WH-585), EPA, 401 M St. S.W., Washington, D.C. 20460; (202) 245-3030.

Copies of the report are available for inspection from Mr. Rubin, the EPA library at the above address, the EPA regional office in Dallas, or the Army Corps of Engineers office in Brownsville, Texas. A report on the testing performed during the incineration (No.600/7-83-024) may be ordered from the National Technical Information Service, 5285 Port Royal Rd., Springfield, Va. 22161.

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