



RCRA Air Emission Standards for Hazardous Waste Treatment, Storage, and Disposal Facility (TSDF) Equipment Leaks

BACKGROUND:	In 1984, Congress passed the Hazardous and Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA). Section 3004(n) of HSWA directed EPA to promulgate regulations for monitoring and control of air emissions from hazardous waste treatment, storage, and disposal facilities (TSDFs). EPA is addressing TSDF air emissions by implementing 3004(n) in a phased approach. The first of three phases was completed with the promulgation of final RCRA standards (55 FR 25454, June 21, 1990) to reduce organic emissions from vents associated with hazardous waste treatment technologies (i.e., distillation, fractionation, thin-film evaporation, solvent extraction, steam and air stripping equipment) as well as from leaks in piping and equipment used for hazardous waste management processes. The second phase, which broadened the scope of affected units to include 90-day units, involved final <i>organic air emission standards</i> for tanks, surface impoundments, containers, and misc. units [59 FR 62896, Dec. 6, 1994, as amended (e.g., 61 FR 59932, Nov. 25, 1996; 62 FR 64636, Dec. 8, 1997)]. The last phase will involve an assessment of the first two phases and publication of further regulations or guidance as needed. Phase one regulations specifically dealing with <i>equipment leaks</i> are the subject of this Information Brief.
STATUTES:	Resource Conservation and Recovery Act (RCRA) and Hazardous and Solid Waste Amendments (HSWA) of 1984.
REGULATIONS:	40 CFR Part 264, Subpart BB, Sections 1050-1065 and 40 CFR Part 265, Sections 1050-1064.
REFERENCES:	<ol style="list-style-type: none">1. Final Rule: 55 FR 25454, June 21, 1990, "Hazardous Waste Treatment, Storage, and Disposal Facilities—Organic Air Emission Standards for Process Vents."2. Final Rule Amendment: 56 FR 19290, April 26, 1991, "Hazardous Waste Treatment, Storage, and Disposal Facilities—Organic Air Emission Standards for Process Vents and Equipment Leaks; Technical Amendment."3. U.S. Environmental Protection Agency, <i>Hazardous Waste TSDF—Technical Guidance Document for RCRA Air Emission Standards for Process Vents and Equipment Leaks</i>, EPA-450/3-89-021, 1990.

Who must comply with these regulations?

TSDFs/90-day generators must comply with the equipment leak regulations of 40 CFR 264/265 Subpart BB if equipment contains or contacts hazardous wastes with organic concentrations of at least 10 percent by weight for at least 300 hours/calendar year, provided they are being managed in hazardous waste management or recycling units subject to either 40 CFR 262.34 or Part 270 [§264/265.1050(b)].

How is *equipment* defined?

Equipment means each valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, or flange or other connector, and any control devices or systems required by Subparts AA and BB (§264.1031).

What emissions standards are defined and for what types of equipment?

The following equipment are subject to the emissions standards as detailed in the referenced sections:

- Pumps in light liquid service (§264.1052);
- compressors (§264.1053);
- pressure relief devices in gas/vapor service (§264.1054);
- sampling connection systems (§264.1055);
- open-ended valves or lines (§264.1056);

- ❑ valves in gas/vapor service or in light liquid service (§264.1057); and
- ❑ pumps and valves in heavy liquid service, pressure relief devices in light or heavy liquid service, and flanges and other connectors (§264.1058).

How are *equipment leaks* defined?

- ❑ **Compressors:** A leak occurs when a design-specific sensor indicates a failure of seal or barrier fluid systems [§264.1053(f)].
- ❑ **Pumps in light liquid service:** A leak is detected if emissions containing 10,000 ppm or greater organic compounds are measured or there are indications of liquids dripping from the pump seal [§264.1052(b)].
- ❑ **Valves in gas/vapor service or in light liquid service:** A leak is detected if an instrument reading of 10,000 ppm or greater organic compounds is measured [§264.1057(b)].
- ❑ **Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors:** A leak is detected if an instrument reading of 10,000 ppm or greater organic compounds is measured [§264.1058(b)].

Monitoring and leak detection instruments must meet the performance criteria of Reference Method 21 set forth in 40 CFR Part 60.

How are repair schedules and procedures defined?

Repair schedules and procedures are specific to each type of equipment listed above. In general, attempts at repair must be made within five days of detection of a leak, and must be completed within 15 days of leak detection. (*see* §§264.1052, 264.1053, 264.1057, 264.1058)

When is a delay of repair allowed?

If the repair is technically infeasible without a hazardous waste management unit shutdown, or if the equipment in need of repair is isolated from the unit and does not continue to contain or contact hazardous waste with organic concentrations of at least 10 percent by weight, a delay is permissible (§264.1059).

Is there flexibility in applying equipment standards?

There are two alternative standards for valves in gas/vapor service or in light liquid service. One

allows an owner/operator to apply a standard that allows no greater than two percent of valves to leak to all valves within the hazardous waste management unit. A second standard allows a facility to skip one quarterly leak detection period if it has, for two consecutive quarterly leak detection periods, shown the percentage of valves leaking is equal to or less than two percent of the total. For compliance in five consecutive periods, an owner/operator may skip three detection periods. (*see* §§264.1061-1062)

Are certain test methods and procedures required?

Yes. Section 264/265.1063 establishes test methods and procedures for leak detection monitoring, detectable emissions review, and a determination of the extent of equipment contact with wastes having organic concentrations equal to or higher than 10 percent by weight.

What are recordkeeping requirements?

Information identifying each piece of equipment by number, type and location must be recorded in the operating record as well as data on the amount of organics in the waste stream at the equipment, hazardous waste state (gas/vapor or liquid), and method of compliance with the standard. Implementation schedules and performance plans are required in some circumstances [§264.1033(a)(2)]. Dates of leak detection and repair and documentation supporting any decision to delay repair must be included in the record of operation (§264.1064).

What are the reporting requirements?

A semiannual report must be submitted to the Regional Administrator regarding hazardous waste management unit shutdown if a shutdown occurs during the six month reporting period. The report shall include the date(s) of unit shutdown(s) and identification numbers of valves, pumps, and compressors which were not repaired as required (§264.1065).

Questions of policy or questions requiring policy decisions will not be dealt with in EH-413 Information Briefs unless that policy has already been established through appropriate documentation. Please refer any questions concerning the subject material covered in this Information Brief to Jerry Coalgate, RCRA/CERCLA Division, EH-413, 202-586-6075.

