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

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* 22454, 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 *organic air emissions standards* 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 further regulations or guidance as needed. Phase one regulations specifically dealing with *process vents* 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 AA Sections 1030-1036 and 40 CFR Part 265, Sections 1030-1035.**
REFERENCES:	**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, *Hazardous Waste TSDF—Technical Guidance Document for RCRA Air Emission Standards for Process Vents and Equipment Leaks*, EPA-450/3-89-021, 1990.**

Who must comply with these new regulations?

The 40 CFR 264/265 Subpart AA regulations are applicable to 90-day generators/TSDF's that manage hazardous waste with a time-weighted, annual average total organic concentration of 10 parts per million by weight (ppmw) or greater. Specifically, the regulations apply to process vents on distillation, fractionation, thin-film evaporation, solvent extraction, and air or steam stripping equipment, and vents on condensers serving these operations (§264/265.1030).

When an owner/operator does not agree with the Regional Administrator on which of the above processes treats a hazardous waste with organic concentrations of at least 10 ppmw based on knowledge of the waste, the procedures in Method 8260 of SW-846 may be used to resolve the dispute [§§264/265.1034(f)].

How are *process vents* defined?

Process vent means any open-ended pipe or stack that is vented to the atmosphere either directly, through a vacuum-producing system, or through a tank (e.g., distillate receiver, condenser, bottoms receiver, surge control tank, separator tank, or hot well) associated with hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations (§264.1031).

What emission reduction goals must be met?

Total organic emissions from all affected process vents at a facility must be reduced to below 1.4 kg/h (3 lb/h) and 2.8 Mg/yr (3.1 tons/yr); or, total organic emissions from all affected process vents at the facility must be reduced by 95 percent by weight by use of a control device (§§264/265.1032).

How is performance determined?

Determinations of vent emissions and emission reductions or total organic compound concentrations achieved by add-on control devices may be based on engineering calculations or performance tests [§§264/265.1032(c)]. Owners/operators who use closed vent (i.e., systems not open to the atmosphere and that transport gas or vapor from equipment to a control device) and control devices to control process vent systems must comply with the provisions of §§264/265.1033. Performance tests must comply with the methods and procedures specified in §§264/265.1034.

Are specific emissions standards imposed for closed-vent systems and control devices?

Owners and operators of closed vent systems and control devices used to comply with Subpart AA are subject to specific standards for the following:

- Vapor recovery devices (e.g., condenser or absorber) [§§264/265.1033(b)]
- enclosed combustion devices (e.g., vapor incinerator, boiler, or process heater) [§§264/265.1033(c)]
- flares (e.g., steam-assisted, air-assisted, or non-assisted) [§§264/265.1033(d)]
- carbon absorption systems (e.g., fixed-bed carbon absorber or carbon canister) [§§264/265.1033(g)(h)].

In addition, owners/operators are required to monitor, inspect and perform maintenance on the above systems according to the provisions in §§264/265.1033(f). Closed vents systems must be designed for and operated with no detectable emissions and shall be operated at all times when emissions may be vented to them.

Are certain test methods and procedures required?

Yes. Sections 264/265.1034 of the regulations detail the test methods and procedures which owners/operators must use to test for compliance with the no detectable emissions requirement for a closed-vent system.

What if an existing facility cannot meet the effective date of the final rule?

In cases involving a pre-existing operational process vent, the owner/operator may prepare an implementation schedule that includes dates by which the closed vent system and control device will be in place. The schedule may allow up to 30 months after the effective date of this rule for installation and startup. However, process vents that began operation after December 21, 1990, are not allowed this delay and must comply with the rules immediately [§§264/265.1033(a)(2)].

What are the recordkeeping requirements?

The facility's operating record must include: an implementation schedule for compliance with closed-vent system and control device standards; information and data identifying affected process vents; information on annual throughput and operating hours; estimated emission rates, and support for determinations of vent emissions and reductions; plans for and results of all performance tests; descriptions of modifications made to the closed-vent system or control device design, and the date, time, and duration of each period in which the system is out of compliance (§§264/265.1035).

What are the reporting requirements?

If one of the following incidents occurs, a semi-annual report, including the incident's duration, cause and corrective action, must be submitted to the Regional Administrator (§264.1036):

- The control device is operated outside of the design specifications *[see §264.1035(c)]* as indicated by the control device monitoring [§264.1033(f)] and such exceedances were not corrected within 24 hours; and/or
- a flare is operated with visible emissions *[see §264.1033(d)]*.

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.