

45CSR25
WV OFFICE OF AIR QUALITY
PART B HAZARDOUS WASTE PERMIT APPLICATION

Miscellaneous Units - 264.601, 270.23

The applicant must provide the following information in accordance with 40 CFR Part 264, Subpart X. [§270.23]

- I. Identify all miscellaneous units that treat, store or dispose of hazardous waste at the facility, but do not fit the current definition of container, tank surface impoundment, waste pile, land treatment unit, landfill, incinerator, boiler, industrial furnace or underground injection well. A miscellaneous unit may include (but is not limited to) any of the following:
- A. Geologic repositories other than injection wells (such as underground salt formations, mines, or caves, either for the purpose of disposal or long-term retrievable storage);
 - B. Deactivated missile silos, other than injection wells or tanks;
 - C. Thermal treatment units other than incinerators, boilers, or industrial furnaces (such as combustion and noncombustion units such as molten salt pyrolysis, calcination, wet-air oxidation, and microwave destruction);
 - D. Units open burning and open detonating (OB/OD) explosive wastes;
 - E. Certain chemical/physical/biological treatment units; and
 - F. Mobile units using technologies that are covered under other subparts of Part 264, such as incineration or treatment in containers, are excluded from this section. However, those units listed above that are mobile, are covered.

Examples of units not defined as miscellaneous units include:

- Treatment, storage, disposal in units currently regulated under Part 264;
- Open burning of nonexplosive hazardous waste;
- Units excluded from permitting under Parts 264 and 270 (such as POTW and ocean disposal activities);
- Placement of hazardous waste underground that is regulated under Part 146 (UIC program); and
- RD&D units covered under 270.65.

II. **Description of Miscellaneous Units: 270.23(a)**

Provide a detailed description of the unit. Include the physical characteristics, materials of construction and dimensions of the unit. Provide the detailed plans and engineering reports that describe how the unit will be located, designed, constructed, operated, maintained, monitored, and inspected. Include also a detailed process description. Provide information on specific design and operating standards that mitigate site-specific risks such as potential releases or potential reactions among wastes or between wastes and containment structures.

III. **Waste Characterization: 264.601(a)(1), 264.601(b)(1), 264.601(c)(1)**

Provide information on the volume and concentration of the waste in order to determine

release potential. Provide the physical and chemical characteristics of the waste in order to determine (1) the toxicity of the waste; (2) the ability of the waste to be contained, immobilized, degraded or attenuated or to migrate in various soils and materials; (3) the probability of reactions taking place among wastes or between wastes and liners or other containment structures; and (4) the potential of the waste to react or evaporate to form gaseous, aerosol, or particulate products that enter the atmosphere.

IV. Treatment Effectiveness: 270.23(d)

- A. For each treatment unit, a report must be submitted demonstrating the effectiveness of the treatment based on laboratory, bench scale, pilot scale, or field data.
- B. If placing ignitable, reactive, or incompatible wastes in the miscellaneous unit, attach an explanation of how the applicant will comply with the requirements of §264.17.

V. Environmental Performance Standards for Miscellaneous Units

- A. Environmental performance standards must be established and maintained to protect human health and the environment. For each media of concern (groundwater and subsurface environment; surface water, wetlands, and soil surface; air), performance standards must be based on the following information and assessments:
 - 1. Assessment of the potential pathways of exposure of humans and environmental receptors to hazardous waste or hazardous constituents and the potential magnitude and nature of such exposures;
 - 2. Evaluation of how the migration of waste constituents in the media is prevented; and
 - 3. Information on the type of waste managed, types of technologies, types and quantities of emissions or releases, and extent of migration or dispersion of the waste in various media.

NOTE: For guidance on conducting an exposure assessment refer to the September 24, 1986 Federal Register notice "Guidelines for Exposure Assessments" and the "RCRA Facility Investigation (RFI) Guidance, Vol. I," Section 8, Health and Environment Assessment.

- B. Submit all additional information the Chief determines to be necessary for evaluation of the unit's compliance with the environmental performance standards of §264.601.

VI. Environmental Assessment: 264.601(c); 270.23(b) and (c)

- A. The applicant must conduct an assessment of the potential for release to the air. This assessment must consider the following factors:
 - 1. Waste characteristics and volume, including potential for emission and dispersal of gases, aerosols, and particulates, (264.601(c)(1));
 - 2. Effectiveness and reliability of systems and structures to reduce or prevent emissions, (264.601(c)(2));
 - 3. Operating characteristics of the unit; (may include restrictions of

- operations during certain weather conditions), (264.601(c)(3));
- 4. Atmospheric, meteorologic, and topographic characteristics of the unit and the surrounding area (should include wind rose, frequency of inversions, evaporation rates, annual and 24-hour rainfall data, and seasonal temperatures), (264.601(c)(4));
- 5. Existing air quality, including other sources of contamination and their cumulative impact on the air, (264.601(c)(5));
- 6. Reasonably foreseeable potential releases from both normal operations and accidents at the unit, including releases associated with transportation to or from the unit.
- 7. .Potential magnitude and nature of exposures of humans or environmental receptors to hazardous waste or hazardous constituents. (270.23(c)
- 8. Potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents, (264.601(c)(7)); and
- 9. Potential for human health risks caused by exposure to waste constituents, (264.601(c)(6));

NOTE: *Based on the information provided, the Chief may require a multipathway risk assessment be performed to quantify the risks. Specific protocol for such an assessment shall be made on a case-by-case basis.*

- B. A recommended air pathway assessment methodology includes the following steps:
 - 1. Obtain source characterization information;
 - 2. Select release constituents;
 - 3. Calculate emission estimates;
 - 4. Calculate concentration estimates at unit boundary using standard dispersion models;
 - 5. Compare concentration results to health-based criteria in RFI Guidance, Vol. I, Section 8; and
 - 6. Conduct monitoring to confirm results.

VII. **Performance Standards: 264.601**

- A. Based on the assessments, performance standards must be developed and maintained. These must include:
 - 1. design and operating requirements;
 - 2. detection and monitoring requirements of 264.602; and
 - 3. requirements for responses to releases of hazardous waste or hazardous constituents from the unit.
- B. Performance standards may include appropriate standards from Part 264 Subparts I through O, Part 270, and Part 146.

VIII **Elements of a Monitoring Program: 264.602**

A monitoring program must include procedures for sampling, analysis, and evaluation

of data, suitable response procedures, and a regular inspection schedule. The following elements must be included:

- Location of monitors;
- Constituents to be monitored and frequency of monitoring;
- Procedures to maintain integrity of monitoring devices;
- Sample collection and preservation;
- Analytical methods;
- Applicable procedures for evaluation of data; and
- Appropriate response procedures.

IX. Air Monitoring Alternatives: 264.602

For situations in which ambient air monitoring would be unsafe or impractical, possible alternatives may include analysis of waste, emissions measurements, and periodic monitoring with portable detectors. Describe in detail any alternatives proposed to meet the air monitoring requirements.

X. Closure and Post Closure

- A. Submit the information described in Part III - B.8 - Closure.
- B. Attach a copy of the closure cost estimate [§270.14(b)(14)] and the post-closure cost estimate (if applicable) [§270.14(b)(15)].