



## COMPLIANCE ADVISORY

# Reduction of Hazardous Waste Air Emissions

April 2018

This advisory is for facilities that are affected by the air emissions requirements under the Resource Conservation and Recovery Act (RCRA). It highlights their responsibilities and recently observed compliance concerns. Hazardous waste air emissions from certain process vents, equipment, and waste storage or treatment are regulated under RCRA. As a result, certain facilities are required to properly identify and control volatile organic hazardous wastes.



Large Quantity Generators (LQGs) and facilities that treat, store or dispose of hazardous waste (*i.e.*, Treatment, Storage, and Disposal Facilities (TSDFs)) are likely to generate or manage some hazardous wastes that contain volatile organic chemicals. If these wastes are not identified, monitored, and managed properly, they pose potential risk to human health and the environment through releases into the air and threats to on-site workers, first responders, and near-by communities. EPA and states regularly conduct compliance review and monitoring activities to identify potential exposure and releases. Facilities identified as not complying with the regulations will be required to address their non-compliance issues.

To learn more about EPA's efforts to address hazardous waste air emissions, visit the [Reducing Hazardous Air Emissions at Hazardous Waste Facilities](#) webpage.

### Who is Potentially Impacted?

Facilities that:

- treat, store, or dispose of organic<sup>1</sup> hazardous wastes; or

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<sup>1</sup> An **organic compound** is any member of a large class of gaseous, liquid, or solid chemical compounds whose molecules

- generate at least 1,000 kilograms of hazardous waste per month and those wastes include organic hazardous wastes (i.e., large quantity generator or LQG); or
- recycle organic hazardous wastes, if a unit at the facility is subject to RCRA permitting requirements,

and meet the applicability criteria for certain process vents, equipment, tanks, containers or surface impoundments containing such organic hazardous wastes as discussed below.

### **What Requirements does this Advisory Highlight?**

This advisory focuses on the RCRA Air Emission Standards of 40 CFR 264/265 Subparts AA, BB & CC summarized as follows:

#### ***Subpart AA - Vents associated with certain processes managing hazardous waste***

This regulation applies to owners/operators of facilities that have process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, and air or steam stripping operations and that manage hazardous wastes with organic concentrations of at least 10 parts per million by weight (ppmw). The owner/operator must reduce total organic emissions released from all affected process vents either to a level below 3 pounds/hour and 3.1 tons/year, or by use of a control device that reduces total organic emissions by 95 percent by weight.

#### ***Subpart BB - Equipment Leaks***

This regulation applies to owners/operators of facilities that handle hazardous wastes with an organic concentration of at least 10 percent by weight and that are contained in or in contact with equipment (e.g., valves, pumps, pressure relief devices, connectors) for 300 or more hours per calendar year. The requirements of this regulation are dependent on the type of equipment in use, but can include, among other things:

- A. monitoring for and repairing leaking equipment (i.e., implementing a leak detection and repair (LDAR) program), or
- B. capturing the emissions in a closed vent system that routes the emissions to a control device (e.g., vapor recovery devices, combustion devices, flares).

Please note: Each piece of equipment regulated under this Subpart must be marked so it can be easily distinguished from other pieces of equipment and monitored.

For more information on LDAR, see [The LDAR Best Practices Guide](#).

#### ***Subpart CC - Waste Storage or Treatment***

This regulation requires owners/operators of facilities to control emissions of volatile organic (VO) hazardous waste that is managed in tanks, containers, and surface impoundments, if the waste has a VO concentration of at least 500 ppmw at the point of generation. The specific control requirements depend on factors such as the size of these units and maximum organic vapor pressure limit of the waste.

In addition to the requirements listed above, Subparts AA, BB & CC also include inspection and monitoring requirements to ensure proper operation and maintenance. These requirements vary depending on type of equipment, waste management unit, and air emission controls used. For example, Subpart BB generally requires Method 21 using monitoring equipment such as Photo Ionization Detectors (PID) and Flame Ionization Detectors

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contain carbon, and **volatile organic compounds** (VOCs) are a subset of organic chemicals that have a high vapor pressure at ordinary, room-temperature conditions.

(FID) to detect air emissions. Some tanks subject to Subpart CC may require visual inspections while others may require Method 21. Recordkeeping and reporting requirements may also be required to demonstrate compliance with the standards.

To learn more about RCRA Subparts AA, BB & CC visit [EPA Region 4's RCRA Information Resource Site for Subparts AA, BB, CC](#) website. You can also read the [RCRA, Superfund & EPCRA Call Center Training Module – Introduction to Air Emission Standards](#) for additional information.

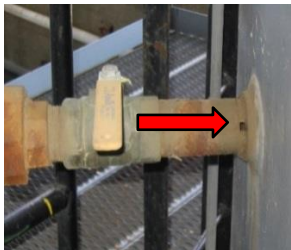
### What are the Compliance Concerns?

During RCRA Subparts AA, BB & CC inspections, EPA inspectors use PIDs and FIDs, as well as use Forward Looking Infrared (FLIR) cameras to screen (i.e., detect emissions that are not visible to the naked eye) tanks and other difficult-to-monitor equipment from a distance. The information from the FLIR camera allows the inspector to focus attention on particular areas of the facility when gathering information on the facility's compliance. Inspections have identified the following compliance concerns at some facilities that manage organic hazardous wastes:

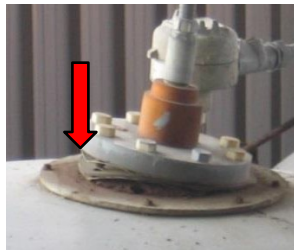
- Failure to identify all regulated units or equipment subject to Subparts AA, BB & CC requirements, due to:
  - Improper hazardous waste stream identification and/or characterization;
  - Improper application of an exclusion or exemption to a hazardous waste stream; and
  - Process and equipment changes in the field that were not communicated to the facility's environmental staff.
- Failure to maintain required records.
- Not properly monitoring for leaks (e.g., holding the monitoring device too far away from the equipment being checked).
- Not properly directing and overseeing a contractor who may be implementing a facility's LDAR program.
- Poor equipment maintenance or running equipment to failure, which results in non-compliant organic air emissions.

Examples of compliance concerns associated with equipment and tanks that EPA inspectors are finding at facilities include:

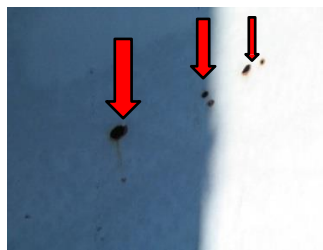
**Leaking Pipes**



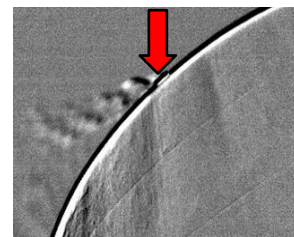
**Leaking Gaskets**



**Holes in Tanks**



**Venting of Large Tanks**  
*(identified with FLIR camera)*



### RCRA Air Emission Standards Relationship to the Clean Air Act (CAA)

RCRA Subparts AA, BB & CC regulate air emissions from certain hazardous waste activities whereas the CAA regulates air emissions more broadly. Because many of the RCRA air emission standards are similar to standards

under the CAA, the RCRA standards include exemptions to avoid overlap with the CAA requirements. Where there is a potential for facility owners/operators to be subject to both the CAA and RCRA requirements, an owner/operator may choose to comply with the CAA requirements in place of the RCRA requirements under certain conditions.

Specifically, for Subparts AA & CC, the RCRA air emission standards exempt any process vent subject to AA and hazardous waste management unit subject to CC that the facility owner or operator certifies as being equipped with and operating air emission controls in accordance with an applicable CAA regulation codified under 40 CFR parts 60, 61, or 63. For Subpart BB, the facility owner or operator elects to determine compliance by documentation in accordance with an applicable CAA regulation codified under 40 CFR parts 60, 61, or 63.

If specific clarification is needed regarding RCRA Subparts AA, BB & CC and the CAA, the owner/operator should contact their state and/or EPA Regional officials.

### **What do I do if I've found a violation? Benefits of EPA's Self-Disclosure Policies**

Regulated entities of any size who voluntarily discover, promptly disclose, expeditiously correct, and take steps to prevent recurrence of potential violations may be eligible for a reduction or elimination of any civil penalties that otherwise might apply. Most violations can be disclosed and processed via EPA's automated online "eDisclosure" system (see <https://www.epa.gov/compliance/epas-edisclosure>). See also [EPA's Audit Policy](#) and [New Owner Audit Policy](#). Many states also offer incentives for self-policing, please check with the appropriate state agency for more information.

### **Disclaimer**

This Compliance Advisory addresses select provisions of EPA regulatory requirements using plain language. Nothing in this Compliance Advisory is meant to replace or revise any EPA regulatory provisions or any other part of the Code of Federal Regulations, the Federal Register, or the Resource Conservation and Recovery Act. Additional information is available on the EPA [RCRA Compliance Monitoring](#) and [enforcement](#) web sites.