

# RCRA Covers Air Emissions

## The RCRA-CAA Relationship & EPA's National Focus

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# Presenters



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# Agenda

1. Background on RCRA Air Emissions Standards
2. Subpart BB – Equipment Leaks
3. Subpart CC – Containers & Tanks
4. EPA's National Enforcement Initiative for RCRA Air Emissions
5. Enforcement Cases & Examples
6. Tips & Best Practices



# Background on RCRA Air Emissions Standards

## Why are we talking about this?

“The Agency has found that air emissions violations associated with improper management of hazardous waste remains widespread.”

“Releases from hazardous waste facilities can include releases of constituents known or suspected to cause cancer or birth defects.”

“Organic emission from TSDF managing hazardous wastes contribute to ambient ozone formation and increase cancer and other health risks.”

- Source: *FY2020-FY2023 National Compliance Initiatives June 7, 2019 and 55 FR 25454 Preamble language June 21, 1990*



# RCRA Organic Air Emission Standards

40 CFR 264/265 – Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities

## Subpart AA – Process Vents

- Process vents associated with equipment that manages hazardous waste with organic concentrations of at least 10 ppmw
  - ⑩ Distillation
  - ⑩ Fractionation
  - ⑩ Thin-film evaporation
  - ⑩ Solvent extraction
  - ⑩ Air or steam stripping ops

## Subpart BB – Equipment Leaks

- Equipment that contains or contacts hazardous wastes with organic concentrations of at least 10% by weight for 300 or more hours per calendar year
  - ⑩ Pumps
  - ⑩ Compressors
  - ⑩ Valves
  - ⑩ Flanges and other connectors
  - ⑩ Pressure relief devices
  - ⑩ Sampling connection systems
  - ⑩ Open-ended valves or lines

## Subpart CC - Tanks, Surface Impoundments & Containers

- Applicable if hazardous waste has volatile organics concentration of at least 500 ppmw at the point of generation
  - ⑩ Tanks
  - ⑩ Containers
  - ⑩ Surface Impoundments



# RCRA-CAA Interplay

- “Exemption” or compliance “election” for units if required to comply with 40 CFR Parts 60, 61, or 63
  - 40 CFR 60 – New Source Performance Standards
  - 40 CFR 61 – National Emission Standards for Hazardous Air Pollutants (NESHAP)
  - 40 CFR 63 – NESHAPs, Maximum Achievable Control Technology (MACT)
- RCRA may apply to smaller facilities/units
- NESHAP rules typically have lower leak rate definitions
- Permit conditions do not provide exemption

# Exemption/Election Requirements

To “opt-out” of Subparts AA, BB & CC, sites must have certification and/or records

Subpart	Reference	Exemption/ Election	Certification	Records
AA	40 CFR 264.1030(e)	Exemption	X	X
BB	40 CFR 261.1064(m)	Election		X
CC	264.1080(b)(7) & 264.1089(h) & (j)	Exemption	X	X

- Exemption = certification that complying with control requirements in CAA reg
- Election = compliance with subpart by documenting compliance with CAA reg





# RCRA Air Rules May Go Beyond CAA

If the applicable CAA requirement involves “emission averaging” or “bubbling”, then no air emission control exemption/compliance election permitted under RCRA air rules

If the applicable CAA requirement is no control, then no air emission exemption/compliance election is permitted under RCRA air rules

*Example:* A 40 CFR parts 60, 61, or 63 requirement applies to a tank, but the emissions are below applicable CAA thresholds that require controls



# Subpart BB Equipment Leaks

# Subpart BB – Equipment Leaks

- Regulated “equipment”
  - valves;
  - pumps;
  - compressors;
  - pressure relief devices;
  - sampling connection system;
  - open-ended valve or line;
  - or flange or other connector;
  - and any control devices or systems required by Subpart BB.



# Subpart BB Equipment Leaks

- Key exemptions:
  - Equipment does not contain or contact hazardous wastes with organic concentrations
  - If the organic concentrations in the waste is not at least 10 percent by weight
  - Equipment that contains or contacts hazardous waste for less than 300 hours per calendar year (even if the waste exceeds the organic concentration threshold) is excluded from most Subpart BB requirements; and
  - Equipment that is in vacuum service is excluded from most Subpart BB requirements.
- Can elect to comply with CAA NESHAP/NSPS requirements

# Subpart BB – Equipment Leaks

- Key requirements
  - Each piece of equipment must be marked in such a manner that it can be readily distinguished from other pieces of equipment;
  - Monitoring for and repairing leaking equipment (i.e., LDAR program);
  - Capturing the emissions in a closed vent system and control device;
  - Timely completion of repairs;
  - Recordkeeping; and
  - Reporting



# Subpart CC Tanks, Surface Impoundments & Containers

# Subpart CC – Containers and Tanks

- Regulated “equipment”
  - Tanks, containers & surface impoundments
  - Subject to Part 264/265:
    - Subpart I – Use and Management of Containers,
    - Subpart J – Tank Systems, or
    - Subpart K – Surface Impoundments
- Includes <90-day accumulation tanks/containers at large quantity generators



# Subpart CC – Containers and Tanks

- Key exemptions:
  - Containers < 0.1 m<sup>3</sup> (~26.4 gal)
  - Tank or SI in closure
  - Tank that has process vent
  - Mixed radioactive/haz waste
  - Pre-Dec 6, 1996 units
  - Units used for federal or state remedial activities
  - Units with controls required by CAA NSPS or NESHAP





# Subpart CC – Containers and Tanks

- Key requirements
  - Control emissions of volatile organics (VO) if waste has VO concentration of at least 500 ppmw at the point of generation
  - Specific control requirements depend on size of unit and maximum organic vapor pressure limit of the waste
    - Tanks – 2 levels of controls
    - Containers – 3 levels of controls
    - Surface impoundments – 2 control options



# EPA's National Compliance Initiative

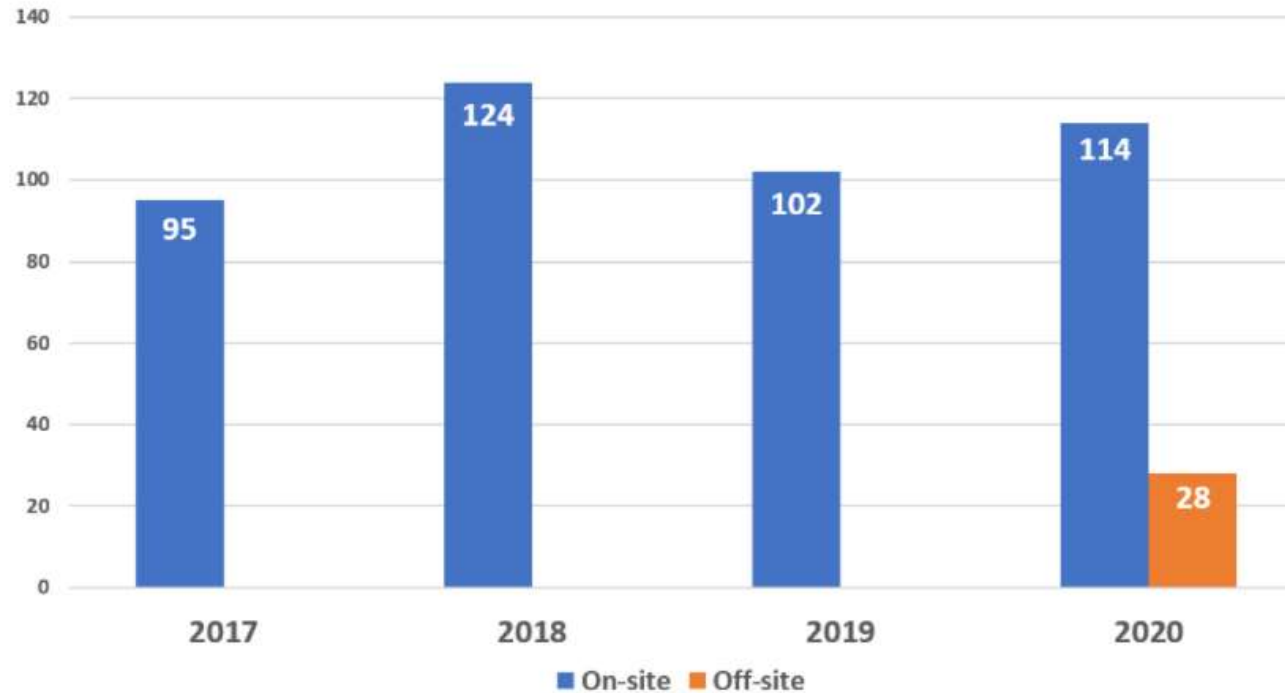
# EPA's National Enforcement Initiative

- Reducing Hazardous Air Toxic Emissions at Hazardous Waste Facilities
  - FY 2020 – 2023
  - Previous NEI from 2017- 2020
  - Over a two-year period, the EPA completed 325 inspections
  - These inspections were at both TSDFs and LQGs that collectively manage over 3.8 million tons of organic hazardous waste annually
  - Observed Compliance issues: failure to monitor for releases, improper use of exemptions, noncompliance related to releases from pressure relief valves and tank closure devices.



# Reducing Hazardous Air Toxic Emissions at Hazardous Waste Facilities

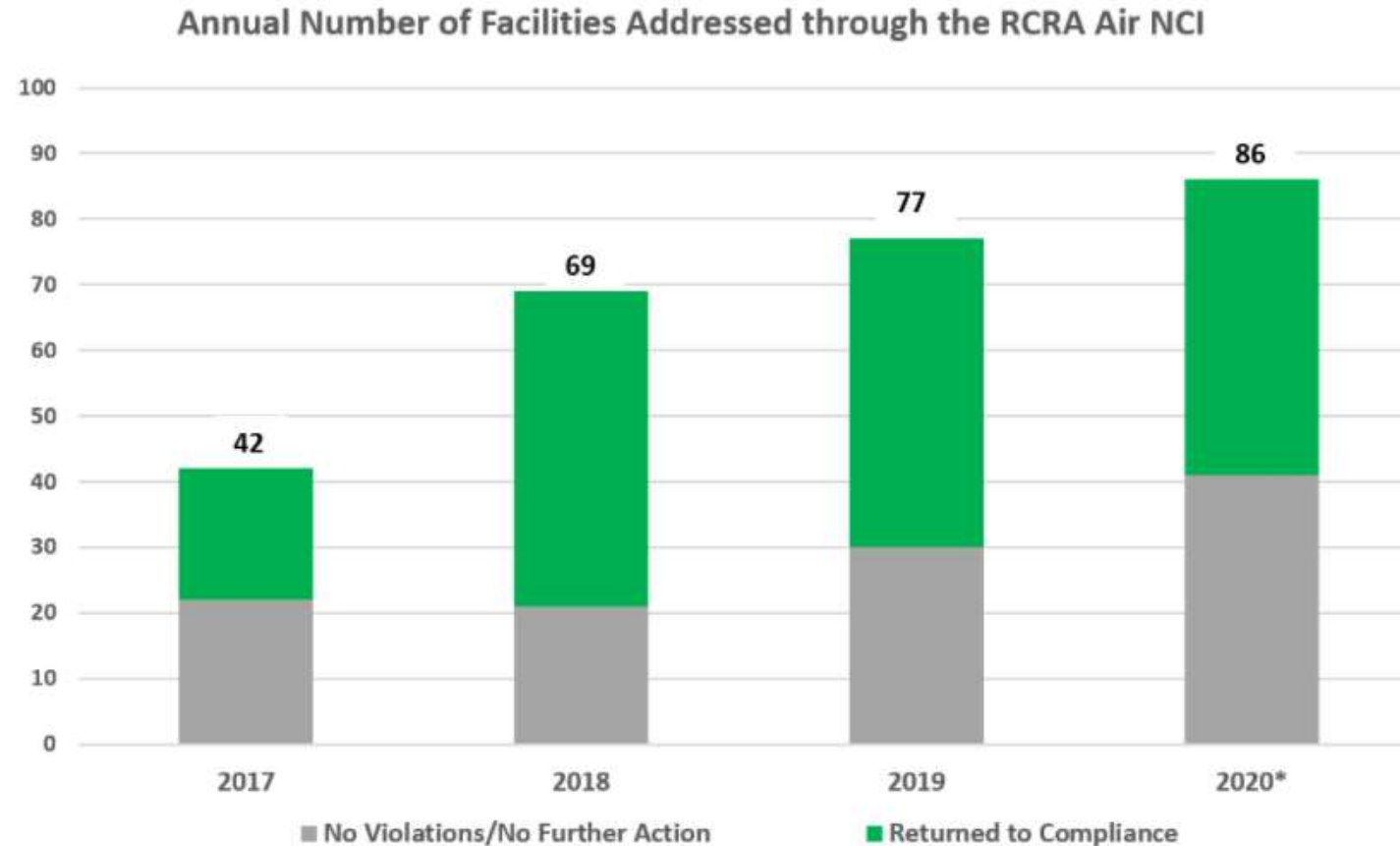
Annual Number of EPA On-Site and Off-site Compliance Evaluations for the RCRA Air NCI



Data Source(s): Totals were calculated based on data found in EPA data systems, ICIS and RCRAInfo.

\*Note: In response to the COVID-19 pandemic in FY20, OECA encouraged greater use and tracking of off-site facility evaluations. "Off-site" evaluations can include detailed record reviews and remote/virtual compliance evaluations that ultimately lead to a compliance determination. During previous years, this activity type was not reported/tracked for this NCI.

# Reducing Hazardous Waste Air Toxic Emissions at Hazardous Waste Facilities



Data Source(s): Totals were calculated based on data found in EPA data systems, ICIS and RCRAInfo.

Note: A facility that is potentially subject to RCRA air regulations is considered "addressed" if it is subject to an enforceable administrative order or civil judicial consent decree and has a return to compliance date, or has been inspected and found to have no significant violations.

\*FY 2020 includes compliance determinations and addressing actions for off-site compliance monitoring activities/evaluations.

# Enforcement Cases & Examples

# EPA Enforcement Cases

- EPA Region 7 (announced July 2021)
  - United Industries Corporation – Vinita Park, Missouri
    - Alleged violations: failure to mark Subpart BB equipment and keep records to determine exemptions, failure to equip tank with fixed roof under Subpart CC
    - \$95,000 civil penalty
  - Fuchs Lubricants Co – Kansas City, Kansas
    - Alleged violations: Include failure to conduct monthly monitoring and weekly visual inspections on pumps in light service & failure to record required information in facility operating record for each piece of Subpart BB equipment
    - \$255,344 civil penalty
  - DCW Casing LLC – Oelwein, Iowa
    - Alleged violations: Failure to mark equipment, record information in facility operating record relating to equipment & keep records to determine exemptions according to Subpart BB
    - \$80,562 civil penalty



# EPA Enforcement Cases

- Other Subpart BB & CC
  - Aerosols Danville – Danville, Illinois (July 2021, EPA Region 5)
    - Alleged violations: failure to monitor valves and pumps for leaks, maintain records and mark equipment as required by Subpart BB, failure to inspect roof closures according to Subpart CC
    - \$175,000 civil penalty
  - Safety-Kleen Systems Inc. – Cook County, Illinois (June 2021, EPA Region 5)
    - Alleged violations: failure to operate 8 tanks with no detectable organic emissions and failure to equipment one tank with closure device secured in closed position (Subpart CC)
    - \$255,344 civil penalty
  - Emerald Kalama Chemical LLC – Kalama, Washington (Feb 2021)
    - Alleged violations associated with Subpart CC standards applicable to storage containers and equipment
    - \$121,478 civil penalty
  - Clean Harbors Environmental Services – Kimball, Nebraska (Aug 2020)
    - Alleged violations: Subpart CC failure to store containers in manner preventing leaks + others (RCRA & EPCRA)
    - \$790,000 civil penalty (includes RCRA & EPCRA)



# Recent Example – EPA Questionnaire

**Resin Manufacturer  
LQG  
Facility is subject to  
MON (40 CFR 63  
Subpart FFFF)  
No prior  
documented  
applicability for  
BB/CC**

## **Facility received a questionnaire re. Subpart BB & CC:**

### *Subpart BB*

- Does facility include equipment that contains or contacts haz wastes with organic conc. of at least 10% by weight?
- Does that equipment do so for less than 300 hours per year? If yes, provide records.
- Is any of that equipment in vacuum service? If yes, provide list of ID numbers for equipment.
- Provide list of each piece of that equipment by type, location and waste stream info, as well as method of compliance.
- List any equipment that is difficult or unsafe to monitor.
- Provide a copy of leak detection and repair records for prior 2 years

### *Subpart CC*

- Provide tank number and control level for each tank used to store hazardous waste that meets applicability conditions covering prior 2-year period
- Provide records for emission control method, if applicable, for prior 2 year period
- If exempt, provide exemption information/documentation

*After review, facility met exemptions for < 300 hr/year and containers were DOT certified*



# Recent Example – Audit

**Flex Printing  
Operation  
Distillation of clean-  
up solvent &  
processing for re-  
use**

## **Compliance issues from prior RCRA inspection**

Settlement with EPA in 2019 – among others, violations included:

- Failure to provide volatile hazardous waste tanks with air emission controls
- Failure to perform required marking, inspections and monitoring of piping and equipment that conveys the volatile waste

Auditor noticed tags on distillation system and associated equipment during “air” inspection, but no requirement in air permits

- **Typical “air” audits may not pick up on RCRA air emissions requirements**



# Tips & Best Practices

# Recordkeeping for CAA Exemption/Election

Subpart AA	Subpart CC	Subpart BB
<ul style="list-style-type: none"><li>• Certification<ul style="list-style-type: none"><li>➢ Unit is equipped with and operating air emission controls in accord w/req'ts of applicable CAA reg</li></ul></li><li>• Document compliance with CAA regulation</li></ul> <p>§264.1030(e)/§265.1030(d)</p>	<p>Subpart CC recordkeeping requirements: §264.1089(j)/§265.1090(j)</p> <ul style="list-style-type: none"><li>• Certification<ul style="list-style-type: none"><li>➢ Unit is equipped with and operating air emission controls in accord w/req'ts of applicable CAA reg</li></ul></li><li>• Identify CAA reg specific requirements with which the unit is in compliance</li><li>• Maintain as long as unit is complying with CAA requirements</li></ul> <p>§264.1089(a)/§265.1090(a)</p>	<ul style="list-style-type: none"><li>• Document compliance with CAA regulation §264.1064(m)/§265.1064(m)</li><li>• Note: For &lt; 300 hr exemption, reg requires ID of equipment §264.1064(i)(6)/§265.1064(i)(6)<ul style="list-style-type: none"><li>➢ <i>EPA recommends including times operated, routine methods of cleaning or flushing, and date/time of cleaning or flushing</i></li></ul><p>(June 2020 EPA Enforcement Alert EPA 300-F-20001)</p></li></ul>



# Common Compliance Failures

- EPA Enforcement Alert: NCI Focus on RCRA Air Emissions\*
  - Failure to maintain properly functioning pressure release valves and tank closure devices
  - Air intake release pressure valves or conservation vents that are stuck open
  - Defects in tank-closure devices from lack of maintenance, being left open, or that are not tightly cinched down
  - Failure to ensure vapor pressure from HW is less than the maximum vapor pressure limit for the tank design capacity or to determine the set pressure for the pressure release valve
  - Failure to ensure both CAA & RCRA requirements are met: maintain records, correctly monitor for emissions, track leaks/repairs, conduct required inspections

\*<https://www.epa.gov/sites/default/files/2020-06/documents/ncircraairenalert060320.pdf>



# Recommendations

- If facility has volatile waste but unsure about RCRA compliance status:
  - Conduct internal review or get 3rd party assistance
  - Document non-applicability/exemption determinations
  - If complying with CAA requirements, check exemption again and document
  - If becoming an area source after being a major source, confirm applicability of RCRA air requirements
- Don't assume air compliance audit will catch RCRA requirements
  - If you are unsure, ask your auditor to include these requirements
- If you find instances of noncompliance, consider disclosure under EPA's Self-Disclosure Policy



# Questions?

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