



RCRA AIR EMISSIONS

Tank and equipment requirements

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RCRA AIR EMISSIONS

Per 22 CCR 66265.202

Requires that **Large Quantity Generators** follow Article 27, 28, 28.5 (22 CCR 66265.1030 - 66265.1090)

Article 27 - Air Emission Standards for Process Vents (Also subpart AA - 40 CFR 264/265)

Typically, not found on Hazardous Waste tanks, unless the facility is a TSDF

Fact Sheet From EPA
https://www.epa.gov/system/files/documents/2022-12/RCRA-OAES_Factsheet_Dec_2022_508.pdf



Example of a chemical plant distillation tower. Certain process vents associated with distillation and other processes that manage hazardous waste may be subject to Subpart AA.

RCRA AIR EMISSIONS

Per 22 CCR 66265.202

Article 28 – Air Emission Standards for Equipment Leaks (Also subpart BB – 40 CFR 264/265)

Applicability: Equipment that comes into contact with RCRA Hazardous Waste, with total organic concentrations of 10% by weight (or 100,000 PPMW). Regulated equipment includes (but is not limited to):

Pumps

Compressors

Pressure Relief Valves

Sampling connections

Open ended lines

Connections (threaded joins and flanges)

County Guidance Document for Subpart BB/CC (may be outdated after GIR updates)

[https://www.sandiegocounty.gov/content/dam/sdc/deh/hmd/pdf/Guide%20to%20RCRA%20Emissions%20subparts%20BB%20CC%20\(01-13\).PDF](https://www.sandiegocounty.gov/content/dam/sdc/deh/hmd/pdf/Guide%20to%20RCRA%20Emissions%20subparts%20BB%20CC%20(01-13).PDF)

RCRA AIR EMISSIONS

Per 22 CCR 66265.202

Article 28 – Air Emission Standards for Equipment Leaks (Also subpart BB – 40 CFR 264/265)

Requirements:

- 1) Conduct a waste determination
- 2) Ensure each piece of equipment (tank system appurtenances) is appropriately marked (tags, labels, etc.)
- 3) Conduct monitoring of each piece of associated equipment (EPA Method 21). Examples include:
 - Flame Ionization detector
 - Photo Ionization Detector
 - Catalytic oxidation
 - Infrared Absorption
- 4) Document inspections and repairs for no less than three years



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Inspection schedule quick reference guide for monitoring equipment leaks:



	<u>Light liquid services</u>	<u>Gas/Vapor services</u>	<u>Heavy liquid services</u>
Pumps	Monthly inspection	NA	Monitor within 5 calendar days, if evidence of a <u>potential leak</u> * is found
Compressors	Barrier fluid system must be equipped with sensor which should be checked daily/ if the sensor equipped with audible alarm- check monthly	Same as light liquid	Same as light liquid
Pressure relief devices	Monitor within 5 calendar days, if evidence of a <u>potential leak</u> is found	No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored	Monitor within 5 calendar days, if evidence of a <u>potential leak</u> is found
Waste sampling connection system	Each connection system must be equipped with a <u>closed-purge</u> or <u>closed-vent system</u>	Same as light liquid	Same as light liquid
Flanges and connectors	Monitor within 5 calendar days, if evidence of a <u>potential leak</u> is found	Monitor within 5 calendar days, if evidence of a <u>potential leak</u> is found	Monitor within 5 calendar days, if evidence of a <u>potential leak</u> is found
Valves	Monthly inspection	Monthly inspection	Monitor within 5 calendar days, if evidence of a <u>potential leak</u> is found
Open-ended valves or lines	Monthly inspection	Monthly inspection	Monitor within 5 calendar days, if evidence of a <u>potential leak</u> is found

*Definition of a leak depends on monitoring plan: Standard Leak detection is typically a reading $\geq$ 10,000 ppm for components. If monitoring plan requires a strict "no detectable emissions", then leak is considered reading of 500 ppm above background

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Article 28 – Air Emission Standards for Equipment Leaks (Also subpart BB – 40 CFR 264/265)

Definitions for monitoring requirements:

Light liquid service - any piece of equipment that contacts a waste stream where ≥ 20 wt. % of the waste stream is a combination of components that have a vapor pressure > 0.3 kilopascals (2.25 mm Hg) at 20°C (68°F). Ex: parts cleaning, degreasing and paint wastes often contain xylene, toluene, acetone, chlorinated solvents, or other petroleum distillates.

Gas/vapor service means that the piece of equipment contains process fluid that is in the gaseous state at operating conditions.

Heavy liquid service means that the piece of equipment is not in gas/vapor service nor in light liquid service. *Ex: oils and sludges*

Type of service depends on vapor pressure; *“light liquids” means relatively high vapor pressure.*



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Subpart BB exemptions:

If the equipment contains or contacts HW or HW residues with an organic concentration of at least 10% by weight for **< 300 hours** per calendar year.

If the equipment is in **vacuum service**.

Exempt equipment still requires documentation and identification.



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Article 28 - Air Emission Standards for Tanks, Surface Impoundments, and Containers

(Also subpart CC - 40 CFR 264/265)

Applicability: Tank and containers containing wastes with an average VOC of ≥ 500 PPMW (at point of generation). Dependent on:

- 1) Size of the tank
- 2) Maximum organic vapor pressure of waste
- 3) Whether the tank will be used in waste stabilization process



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Article 28 – Air Emission Standards for Tanks, Surface Impoundments, and Containers

(Also subpart CC – 40 CFR 264/265)

Applicability: Quick Reference guide for determining Tank controls

Tank Design Capacity	Maximum Organic Vapor Pressure of Hazardous Waste in Tank	Does Waste Stabilization Process Occur in the Tank?	Applicable Level of Control
<75 m ³ (19,800 gal)	≤ 76.6 kPa (11.1 psi)	Yes	Tank Level 2 Controls
<75 m ³ (19,800 gal)	≤ 76.6 kPa (11.1 psi)	No	Tank Level 1 Controls
<75 m ³ (19,800 gal)	> 76.6 kPa	Yes	Tank Level 2 Controls
<75 m ³ (19,800 gal)	> 76.6 kPa	No	Tank Level 2 Controls
≥ 75 m ³ (19,800 gal) and < 151 m ³ (39,900 gal)	≤ 27.6 kPa (4.0 psi)	Yes	Tank Level 2 Controls
≥ 75 m ³ (19,800 gal) and < 151 m ³ (39,900 gal)	≤ 27.6 kPa (4.0 psi)	No	Tank Level 1 Controls
≥ 75 m ³ (19,800 gal) and < 151 m ³ (39,900 gal)	> 27.6 kPa	Yes	Tank Level 2 Controls
≥ 75 m ³ (19,800 gal) and < 151 m ³ (39,900 gal)	> 27.6 kPa	No	Tank Level 2 Controls
≥ 151 m ³ (39,000 gal)	≤ 5.2 kPa (0.75 psi)	Yes	Tank Level 2 Controls
≥ 151 m ³ (39,000 gal)	≤ 5.2 kPa (0.75 psi)	No	Tank Level 1 Controls
≥ 151 m ³ (39,000 gal)	> 5.2 kPa	Yes	Tank Level 2 Controls
≥ 151 m ³ (39,000 gal)	> 5.2 kPa	No	Tank Level 2 Controls

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Article 28 - Air Emission Standards for Tanks, Surface Impoundments, and Containers

(Also subpart CC - 40 CFR 264/265)

Requirements: Different level of controls for different tank specifications/uses:

- 1) Level 1 Controls - prevention of VOC emissions
 - Vapor tight with no venting
 - Inspected annually for cracks/holes/etc.
- 2) Level 2 Controls - destruction/removal of organics
 - Vapor tight with closed-vent system
 - Must ensure proper destruction of organics
 - May be pressure tank or permanent total enclosure (all VOCs contained)



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Article 28 – Air Emission Standards for Tanks, Surface Impoundments, and Containers

(Also subpart CC – 40 CFR 264/265)

Requirements: Different level of controls for different tank specifications/uses:

- 3) Conduct inspections and maintain monitoring plan to prevent leaks
 - o Inspection/monitoring plan will vary, depending on tank control
 - o Update monitoring plan if leak or suspected is found
- 4) Document inspections and keep records for at least three years



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Article 28 - Air Emission Standards for Tanks, Surface Impoundments, and Containers

(Also subpart CC - 40 CFR 264/265)

Requirements: Even containers are subject to Control requirements if storing waste with average VOC concentration $\geq$ 500 PPMW:

- 1) Level 1 Controls - DOT containers
- 2) Level 2 Controls - Containers > 121 gallons "in light material service"
- 3) Waste Stabilization Containers

Container Sizes	Container Sizes		
Cubic Meters	Gallons (design cap.)	Container Control Level	
<0.1	<26.4	Exempt from Subpart CC	Not Applicable
>0.1 to $\leq$ 0.46	>26.4 to $\leq$ 122	Light or heavy material service	Container Level 1
> 0.46	> 122	Heavy material service	Container Level 1
> 0.46	> 122	Light material service	Container Level 2
> 0.1	> 26.4	Waste stabilization	Container Level 3

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Subpart CC exemptions:

Waste stream with < 500 ppmw average VO at the point of waste origination

Organic content of waste already reduced by treatment

Container design capacity of < 26.4 gal

Units with certified CAA emission controls

Satellite accumulation

Emergency spill management

The addition of absorbent to waste in a container per 66265.1(d)(13)



QUESTIONS?

