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SUBPART CC AIR EMISSION STANDARDS
(40 CFR 264.1080 and 40 CFR 265.1080)

BACKGROUND

Under the authority of the Resource Conservation and Recovery Act (RCRA), as amended, the EPA has published standards (59 FR 62896, December 6, 1996) to reduce organic air emissions from certain hazardous waste management activities to levels that are protective of human health and the environment.

WHO IS SUBJECT TO THESE REGULATIONS?

Application of controls are based on organic content of hazardous waste. Units that manage waste with volatile organic (VO) concentrations at point of origination greater than or equal to 500 ppmw are covered under this subpart. These units can be **permitted TSD's**, **interim status TSD's**, or less-than-90-day **large quantity generators** that manage hazardous waste and are not expressly exempted from the rule. Management under this subpart is applicable from generation through treatment.

WHAT UNITS ARE SUBJECT TO REGULATION?

Subpart CC applies to: **1. Tanks; 2. Containers; 3. Surface impoundment; 4. Certain miscellaneous Subpart X units**

Exemptions- The following units are exempt from Subpart CC standards: 1. Wastewater treatment units;
2. Elementary neutralization units; 3. Emergency or spill management units; 4. Totally enclosed treatment units;
5. Hazardous waste recycling units; 6. Conditionally exempt small quantity generators; 7. Small quantity generators;
8. Satellite accumulation units; 9. RCRA empty containers; 10. Other permitting exemption.

Exclusions- The following units are excluded from Subpart CC standards: 1. Units used on-site for federal or state clean-up; 2. Containers of less than 0.1m³ (approximately 26.4 gallons) ; 3. Mixed radioactive and hazardous waste; 4. Organic peroxide manufacturing waste; 5. Pre-October 6, 1996 units (units that do not manage H.W. received on or after this date). 6. Tanks with process vents that could be manage under Subpart AA; 7. Units in closure; 8. Biological treatment of hazardous waste in accordance with 40 CFR 2664.1082(c)(2)(vi) or 40 CFR 265.1082(c)(2)(vi) in surface impoundments or tanks; 9. Units that manage hazardous waste which meet LDR standards under 40 CFR 268.40 (Treatment Standard for Hazardous waste) that has been treated by the treatment technology established for the waste in 40 CFR 268.42(c), or treated by an equivalent method of treatment approval; 10. Units with Clean Air Act (CAA), National Emission Standard for Hazardous Air Pollutants (NESHAP) or New Source Performance Standard (NSAP) control.

WHAT IS REQUIRED?

Subpart CC includes **recordkeeping requirements** (e.g. waste determination documentation), **inspection requirements**, and the application of **control devices and procedures.** (Please see attached tables)

WHEN DOES IT APPLY?

Subpart CC is a Hazardous and Solid Waste Amendment (HSWA) rule. The effective date is December 6, 1996. Companies were required to be in compliance by December 6, 1996, or have an implementation plan and schedule documented and available at the company. In that instance, compliance must be achieved as soon as possible, but no later than December 8, 1997.

Subpart CC: Tank Inspection and Monitoring Requirements

	Fixed roof 265.1085(C)(4) or 264.1084(C)(4)	External floating roof 265.1085(f)(3) or 264.1084(f)(3)	Pressure tank 265.1085(h)(4) or 264.1084(h)(4)	Fixed roof vented to control device 265.1085(g)(3) or 264.1084(g)(3)	Fixed roof with internal floating roof 265.1085(e)(3) or 264.1084(e)(3)	Enclosure vented to enclosed combustio devices 265.1085(I) or 264.1084(I)(3)
Initial inspections required for all parts of all tanks and closure devices, if applicable	—	—	—	—	—	—
Visually inspect for defects in cover and closure device or "air emission equipment" on or before date tank becomes subject to subpart CC	—	—	—	—		—
After initial check, visually inspect, at least annually, cover and closure device, except when unsafe, and conditions for delay are met. 265.1085(I)(1) & (2)	—	—	—	—		—
If unsafe to monitor cover, record why, and develop and follow plan to inspect as frequently as practicable(265.1085(I)(1) & (2))	—	—	—	—	—	—
Perform all inspection and monitoring requirements according to written plan for fixed roof, vent and closure devices (265.1085(g)(3)(ii))	—	—	—	—	—	—
Keep written plan, schedule and records of inspection plan in General Facility Inspection Plan required in 265.15	—	—		—	—	—
One-year inspection required for above-ground or on-ground portions of partially or fully buried tanks	—	—		—	—	—
Perform initial leak detection monitoring of closed vent system on or before date tank is subject to the Rule				— 265.1088(b)(4)		
Annually visually inspect and monitor, per 265.1033(k), closed vent systems connections for defects. Monitor per 265.1034(b)				—		—
Monitor other closed vent system components annually, or at the Regional Administrator's request				—		—
Visually inspect closed vent system designed to operate below atmospheric pressure per 265.1033(j)(2)				—		
Measure gap between tank wall and seals within 60 days of initial operation or if tank is empty more than 1 year ; then annually for secondary and every 5 years for primary seals		265.1085(f)(1)				
Visually inspect seals, gaskets and membranes after each emptying or degassing; thereafter once every 10 years. If equipped with 2 continuous seals, visually inspect after each emptying or degassing; thereafter once every 5 years					—	
Prepare written notification to Regional Administrator (RA)30 days prior to inspection, unless inspection unplanned		265.1085(f)(3)(III)			265.1085(e)(3)(iv)	
For an unplanned inspection, notify RA as soon as possible, and no later than 7 days prior to refilling the tank		—			—	

: **Tank Recordkeeping Requirements**

	Fixed roof	External floating roof	Pressure tank	Fixed vented to control device	Fixed roof with internal floating roof	Enclosure vented to enclosed combustion devices
Record and maintain unique ID number	—		—	—	—	—
For as long as the tank is in service, maintain records on-site of unit dimensions and analysis of capacity		—			—	
Record and maintain records of inspections, including unit number, inspection date and defects, if any, for 3 years	—	—	—	—	—	—
For closed vent system and control device, maintain records per 265.1088, that unit is designed for the required performance level; either signed certification or performance test results				—		—
For each defect found, maintain records on-site of: -location of problem; description of defect; date it was found; corrective action taken; date of repair or emptying and removal of unit from service; if repair delayed more than 45 days due to lack of alternative tank capacity, reason for delay and expected completion date of repair	—	—	—	—	— Record should also include floating design per 265.1090(b)(2)(ii)	—
Maintain record of maximum organic vapor pressure of hazardous waste in the tank. If testing used, include date and time samples were collected, analysis method and analysis results	—		—			—
Record and maintain semiannual updates for planned routine maintenance operations for 3 years				—		—
Record and maintain unexpected malfunctions, duration and corrective actions for 3 years				—		—
If devices other than thermal vapor indicator, flare, boiler, process heater, condenser or carbon absorber are used to control emissions from the tank, maintain records of how device is operated, including proper use and maintenance of the device				—		
Record and maintain until air emission control equipment is replaced or taken out of service: -description and date of modifications to closed vent system or control device and identification of operating parameters, -description of monitoring device and diagram of continuous monitoring sensor location(s) used				—		
Maintain records of most recent calculations and measurements used to verify enclosure in accordance with Procedure T requirements(265.1088(iv))						—

Level 1	Level 2	Level 3
Larger than 26.4 gallons and less than or equal to 122 gallons, or larger than 122 gallons and do not manage H.W. in light material service	Larger than 122 gallons and manage H.W. "in light material service"_	Larger than 26.4 gallons and treat H.W. by a stabilization _ process
Controls		
One of the following: -Use containers that meet DOT requirements -Use a cover and control with no visible gaps -Use organic vapor suppression on or above the container 40 CFR 264.1086© / 265.1087©	One of the following: -Use containers that meet DOT requirements -Use containers that operate with no detectable emissions (method 21)_ -Use containers that are demonstrated to be vapor-tight within the last 12 months (method 27)_ 40 CFR 264.1086(d) / 265.1087(d)	-Containers used to stabilize H.W. with volatile organics grater than 500 ppm -For waste stabilized in a container either: 1.container must be vented directly to a control device_; or 2.container is vented inside an enclosure which is exhausted through a closed vent_ to a control device -Conservation vents are not allowed 40 CFR 264.1086(b)(2) / 265.1087(b)(2)
Waste transfer requirements		
No waste transfer requirements apply	-Waste transfer requirements apply regardless of container alternative used in level 2 -Transfer waste into or out of a container in such a manner as to minimize exposure of the waste to the atmosphere 40 CFR 264.1086(b)(3)/265.1087(b)(3)	Not applicable
Operating requirements		
The covers, openings, and closure devices should be closed except: 1. When transferring H.W. in and out of the containers 2. between batch transfer not exceeding 15 minutes between transfer 3. While performing sampling and equipment access 4. Conservation vents are allowed 5. Safety vents are allowed 40 CFR 264.1086© / 265.1087©	-All covers and closure devices must be kept closed and secured, except while transferring -Containers may be open while performing sampling or equipment access -Safety valves and conservation vents may be used if normally left in close position -A cover need not to be on a RCRA empty container, as defined in 40 CFR 261.7 40 CFR 264.1086© / 265.1087©	-If the vapors are directly vented to a control device, there are specific design and operating criteria that must be met same as tanks that have closed vent and control device systems -If an enclosure is used, the enclosure must meet the design and operating criteria specified in "Procedure T-Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741 The container, enclosure, control device or closed vent system may have safety relief devices.
Inspection requirements (40 CFR 264.1088 / 265.1089)		
Minimal inspection required: -when transferring waste, check to make sure closure devices are in good condition -if unloading of off-site waste takes longer than 24 hours, then container must be visually checked -repair any noted defects	Same as Level 1 requirements, plus -if wastes are stored greater than a year, then visually inspect once a year	Inspection requirements are the same as for tanks
Repair requirements (40 CFR 264.1088(f)(7) / 265.1089(f)(7))		
When a defect is detected; attempt to repair within 24 hours must be made and: 1. Repair within 5 Callander days or empty and remove the container from service 2. Do not use until defect is repaired	Same as Level 1 requirements	Necessary corrective measures shall be immediately implemented to ensure that the control device is operated in compliance
Reordkeeping requirements (40 CFR 264.1089 / 265.1090)		
-Volatile organic waste determination records -If container exceeds 26.4 gallons and does not meet DOT standards, records indicating that the container is not managing H.W. "in light material service"	Since Level 2 waste is "in light material service", no records need to be kept	Depends upon how the organic emissions are vented: -If an enclosure is used, records must be maintained for the most recent set of calculations and measurements performed to verify that the enclosure meets the criteria of a permanent total enclosure (Procedure T) -Records for the closed vent and control device system are the same for those used on tanks

_- "In light material service": It means that one or more of the organic constituents in the hazardous waste in the container has a vapor pressure greater than 0.3 Kilopascal (kPa) at 20ºC, and total concentration of the pure organic constituents having a vapor pressure greater than 0.3 kPa at 20ºC is equal to or greater than 20% by weight.

_ Waste stabilization: Stabilization involves adding material to waste that render the waste immobile or less mobile through a process of curing (adding absorbent is not stabilization since no curing occurs). Stabilization also involves adding materials to the waste and physically mixing.

_ Method 21: Identifies leaks, does not quantify emissions, and is Published in 40 CFR part 60, Appendix A. Instrument must respond to specific compounds, sample gas flow rate should be between 0.1 and 3.0 liters per minute. The instrument must be intrinsically safe. Flame ionization (FID), catalytic combustion, photoionization (PID), and infrared are the types of portable organic analyzers which could be used for the testing.

_ Method 27: This test defines tank truck or rail car satisfying the control requirements of Subpart CC for a container. It applies to containers and associated pipes and fittings. It involves pressure test, and is appropriate for

use on units not equipped with vapor recovery. This method is an alternative to leak testing container using EPA method 21, and is published in 40 CFR Part 60, Appendix A.

_ Control Devices

A. Vapor recovery/reduction systems: Designed and operated with an organic recovery or reduction efficiency greater than 95% by weight (examples are: Condensers, carbon absorbers).

B. Enclosed combustion devices: Designed and operated with an organic destruction greater than 95% by weight, or residence time greater than 0.5 seconds and temperature of greater than 760ºC (examples are: Incinerators, boilers and process heaters).

C. Flare requirements: It should have no visible emissions and flame must be present at all times. It also requires a net heating value, plus the exit velocity.

_ Closed-vent Systems

A. Designed and operated as specified in Subpart AA, which requires :

1. No detectable emissions, monitored annually

2. No monitoring is necessary if operated below atmospheric pressure (equipped with pressure gauge).

Any by-pass devices capable of diverting vapors and gases must have either a flow indicator (15 minutes intervals), or a car-seal or lock-and-key valve.

TANK LEVEL 1 CONTROLS:

Tank Level 1 Controls apply only to a fixed roof tank that meets the following conditions: maximum organic vapor pressure of waste is less than cutoff for tank design capacity; contents are not heated to temperatures above the temperature of vapor pressure determination; no waste stabilization conducted in tank.

Tank Level 1- Vapor pressure limits

Tank Design Capacity	Waste Maximum Organic Vapor Pressure
Æ151m³	<5.2kPa
Æ75m³ But <151m³	<27.6kPa
<75m³	<76.6kPa

kPa - Kilopascal

REQUIREMENTS: The actual control requirements are found at 40 CFR 264 1084/ 265.1085(c) and include: a continuous barrier over the entire tank; no visible cracks, holes, gaps, or open space on fixed roof or any openings; and fixed roof and openings must be constructed of suitable materials.

TANK LEVEL 2 CONTROLS:

- Tanks that do not exceed the Level 1 vapor pressures and capacities may use Level 2 controls.
- Tanks that exceed the Level 1 criteria MUST use Level 2 controls.
- There are five design options for tanks using Level 2 controls:

TANK — REQUIREMENTS

Fixed roof with internal — Requirements are found at 40 CFR 264.1084(e)/ 265.1085(e) and include: continuous floating roof seals for the floating roof; specifications for each opening and penetration; and filling procedures

External floating roof — Requirements are found at 40 CFR 264.1084(f)/ 265.1085(f) and include: two continuous seals for the floating roof; specifications for each opening and penetration; equipment seals; and operation specifications

Cover vented to control — Requirements are found at 40 CFR 264.1084(g)/ 265.1085(g) and include: a continuous device

Pressure tank — Requirements are found at 40 CFR 264.1084(h)/ 265.1085(h) and include: vent/compression controls; closure device for each opening

Tank in enclosure — Requirements are found at 40 CFR 264.1084(i)/ 265.1085(i) and include: enclosure vented to combustion specifications; vent specifications device

Transfer of hazardous waste among tanks and surface impoundments subject to Subpart CC must be conducted using hard-piping or other closed system that does not allow exposure of the waste to the atmosphere. Waste exempted from Subpart CC controls are exempt from waste transfer requirements of 40 CFR 264.1084(j) or 40 CFR 265.1085(j).

Safety devices that vent directly to the atmosphere may be used on all tank air emission controls required under Subpart CC. Safety devices are to remain in closed position except when needed to prevent physical damage or permanent deformation of the tank or control equipment due to an emergency or unplanned event.