

New Source Performance Standards (NSPS) 40 CFR 60 Subpart OOOO for Storage Tanks (Part 2)



APPLICABILITY AND COMPLIANCE



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Options for VOC Recovery



- **Activated Carbon**
- **Flaring**
- **Vapor Recovery Unit**

Existing Tank Setup Before VOC System Upgrade





Re-plumb tank
vents

Thief hatch seal

Control Options: Activated Carbon



PROS	CONS
Costs	Viable for less than 1,000 ppm vapor streams.
Safety	Creates a waste product that must be disposed of.
Better public perception	

- We are working on developing a “standard” application for pricing purposes.
- Contact at Calgon Carbon Corporation:

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Information Needed for Standard Application



STREAM PROPERTIES			
Property	Units	Average	Design
Temperature	<input type="checkbox"/> °F or <input type="checkbox"/> °C		
Flowrate	<input type="checkbox"/> Acfm or <input type="checkbox"/> Scfm or <input type="checkbox"/> gpm		
Pressure	<input type="checkbox"/> psig or <input type="checkbox"/> inches w.c.		
Total Suspended Solids	mg/l		
Density	g/cc		
pH	-		
Relative Humidity (RH)	%		
Component	Concentration	Treatment Objective	Units
			<input type="checkbox"/> lb/hr <input type="checkbox"/> lb/day <input type="checkbox"/> ppmV <input type="checkbox"/> ppmW <input type="checkbox"/> mg/L
Is there a pH maximum limitation for liquid phase effluent?	<input type="checkbox"/> Yes: pH _{max} =		<input type="checkbox"/> No

Control Options: Flaring/Combustion



PROS	CONS
Available for large producers	Safety
Relatively easy operation	Permit may be required
Can handle fluctuations in concentration, flow rate, heating value, etc.	May cause loss of product
Efficient (approx. 95% efficient)	Public perception – environmental issues
Less expensive than VRU	Creates secondary pollutants

Performance Testing Combustion Control Devices – Manufacturers' Performance Test NSPS OOOO and MACT HH/HHH



Manufacturer	Model Number	Date of Performance Test Submittal	Control Device Demonstrates Performance Requirements (Y/N) ³	Maximum Inlet Flow Rate ⁴
Abutec	SCUF MTF 0.7	02/12/2013	*	*
	SCUF MTF 2.7	02/13/2013	*	*
COMM Engineering	COMM OOOO Combustor 200	03/06/2013	*	*
Cimmaron	CEI 1-24	05/08/2013	*	*
	CEI 1-30	05/08/2013	*	*
	CEI 1-48	05/08/2013	*	*
	CEI 1-60	05/08/2013	*	*
Leed Fabrication	LDF3096 24"	7/22/2013	*	*
	LDF3096 36"	7/22/2013	*	*
	LDF3096 48"	7/22/2013	*	*

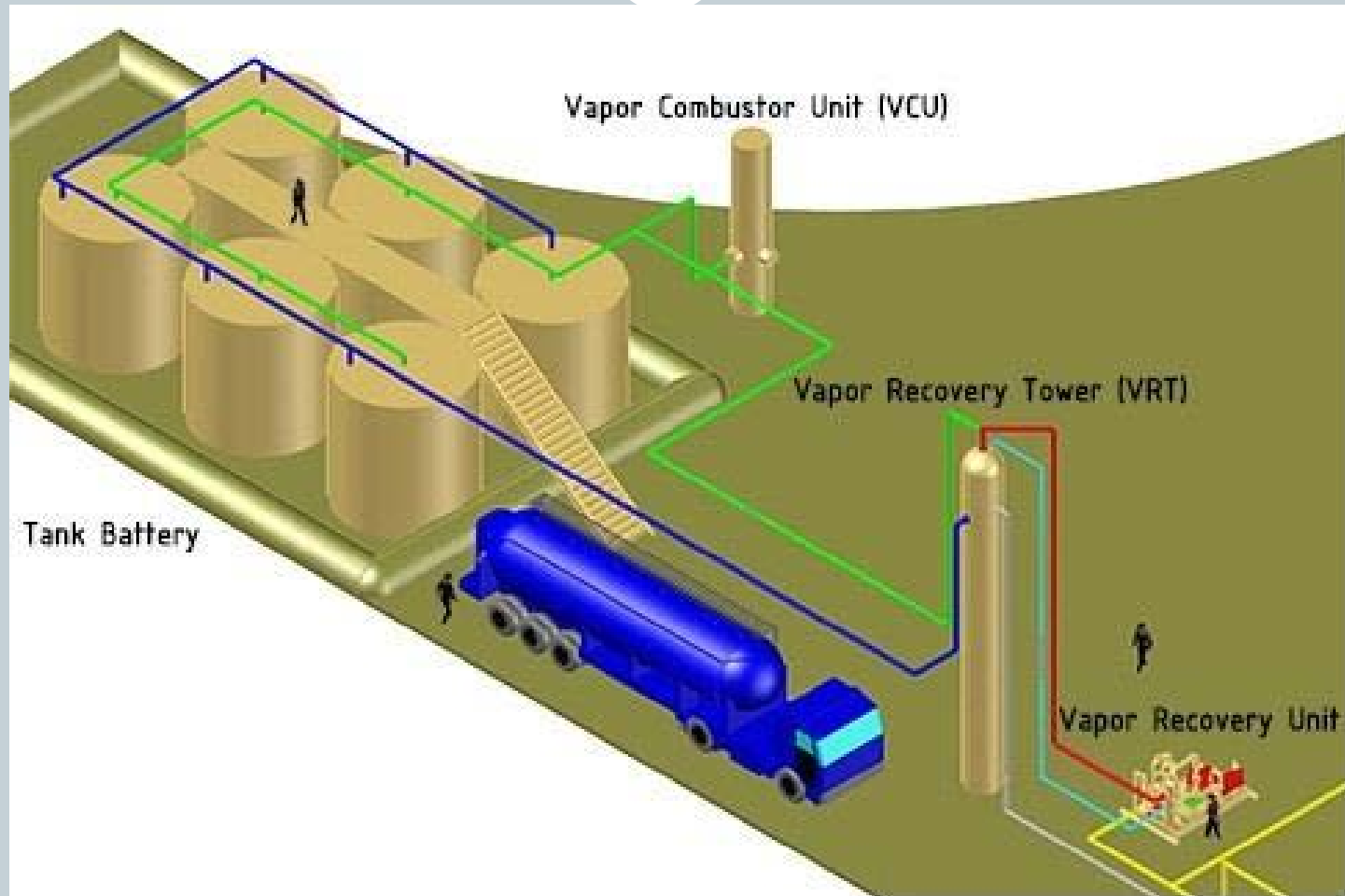
* Blank cells indicate that a decision has yet to be made on the status of the performance test.

Control Options: Vapor Recovery



PROS	CONS
Environmental perception	May cause fluctuations in vapor loading
Effective (approx. 95% reduction in VOC emissions)	Expensive
Salable gas product	May still need to flare or vent
	Operator must provide evidence of compliance
	Must have sufficient electrical service
	Safety concerns
	Must have storage tank and/ or gathering line available

VRU Installation – Typical Layout



Vapor Recovery Unit



Large Vapor Combustor



Courtesy: Country Mark

Optional
Emergency
Flare



Recordkeeping



- VOC PTE determination for each storage vessel with calculation methodology and/or calculation model used
- Deviations from requirements
- Mobile vessel consecutive days on site
 - If removed and returned or replaced within 30 days, entire period will count as consecutive days
- Closed vent system inspections and results
- Control devices:
 - Minimum and maximum operating parameter values
 - Continuous parameter monitoring data
 - Results of all compliance calculations
 - Results of all inspections

Reporting



- Initial annual report due January 15, 2014 (Group 1)
- Future annual reports due on the same date each year
- Annual report may coincide with Title V report if all elements of annual report are included
- A common schedule for reports may be submitted provided the schedule does not extend the reporting period

Reporting



- **Report must contain Storage vessel information such as**
 - ✦ Identification and location of each storage vessel affected facility constructed, modified, or reconstructed during the period
 - ✦ Documentation of VOC emission rates
 - ✦ Records of deviations that occurred during the reporting period
 - ✦ Identification of each Group 1 storage vessel with location coordinates
 - ✦ Compliance statement regarding initial compliance requirements
 - ✦ Storage vessel affected facilities removed from service*
 - ✦ Storage vessel affected facilities returned to service*
 - ✦ Results of Performance Test if using control devices

Reporting



- **Storage vessels removed from service**
 - Submit notification in annual report identifying all affected vessels that are removed from service during the period
- **Storage vessels returning to service**
 - If returning to service and associated with fracturing
 - ✦ Comply with control requirement options immediately
 - ✦ Submit notification in annual report
 - If returning to service and not associated with fracturing
 - ✦ Determine VOC emissions within 30 days
 - ✦ If uncontrolled VOC emissions > 4 TPY must comply with control requirements within 60 days of return to service
 - ✦ Submit notification in annual report

Summary: Demonstrate Initial Compliance



- Determine potential VOC emission rate
- Reduce VOC emissions as required
- Meet control requirements
- Submit required notification information
- Maintain required records
- Submit Group 1 notifications

Demonstrate Continuous Compliance



- Reduce VOC emissions by 95%
- Maintain uncontrolled VOC to < 4 TPY
- If storage vessels have controls, they must
 - Reduce emissions by 95%
 - Be covered, and have closed vent system
 - Meet prescriptive performance testing requirements
 - Meet prescriptive continuous monitoring requirements

Best Option to Avoid Subpart OOOO



!! This is important specifically for facilities on the borderline of 6 TPY limit (between 5-8 TPY)

- Prior to calculation determination date (October 15, 2013 for Group 1 and April 15, 2014 for Group 2),
 - ✦ “Permitting out” of NSPS Subpart OOOO for storage tanks by limiting PTE to <6 TPY with federally enforceable limits or
 - ✦ Accept restrictions in state-issued permits to keep VOC < 6 TPY or limit on production or
 - ✦ Install VRUs or control devices and follow monitoring, recordkeeping and reporting requirements in the state issued permits

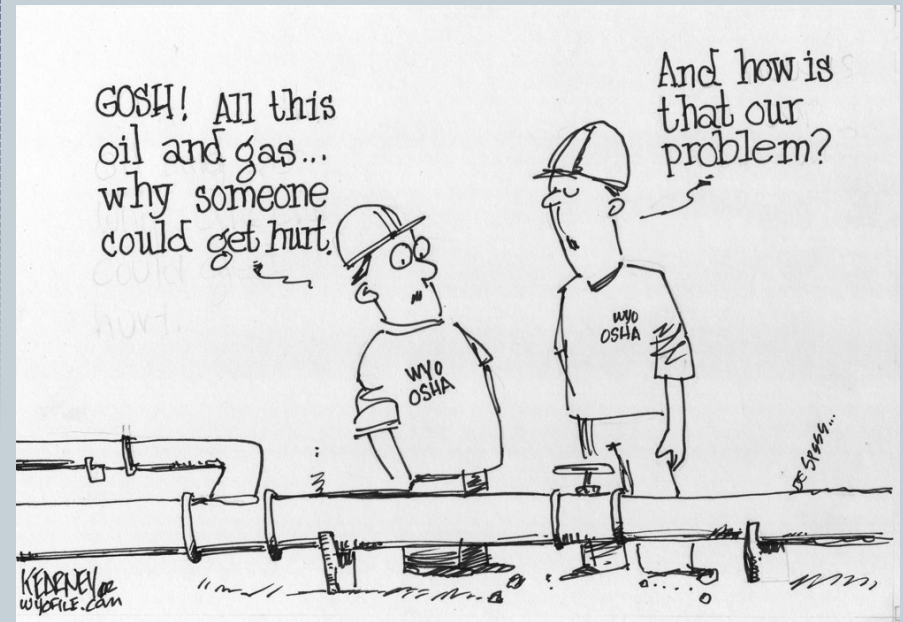
Deadlines to Remember



- **October 15, 2013: Group 1 Storage Vessels PTE Determination**
- **January 15, 2014: First annual report**
 - **Include Group 1 storage vessels**
- **April 15, 2014: PTE and compliance for Group 2 storage tanks**
- **April 15, 2015: Compliance for Group 1 storage tanks**

OSHA & The Oil Patch

- U.S. OSHA is paying attention to EPA's rules.
- Kentucky's wells are regulated by KY OSHA.
- KY OSHA gets involved when there are fatalities, increases in accidents and injuries.



What to Do to Avoid OSHA Violations



- Review applicable standards, Health & Safety Plans and employee training.
 - Management of gases from oil and gas operations
 - Flares and other emission management techniques
- Oil & Gas Well drilling and Servicing eTool:
<https://www.osha.gov/SLTC/etools/oilandgas/index.html>

Questions



- SMG has created a checklist for determining applicability

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