

# Oh, Oh, Oh, Oh, Those Storage Tank Blues

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Anyone would be depressed trying to apply some structure to the Standards of Performance for New Stationary Sources (i.e., the NSPS) for the Crude Oil and Natural Gas Production, Transmission and Distribution (40 CFR Part 60 Subpart OOOO). It would have been nice if the September 23, 2013 updates to Subpart OOOO produced an easier way to navigate the regulation. But no, and so whether you are an experienced air quality professional or a novice, following Subpart OOOO as it jumps from section to section is a challenge. Your depression could be especially deep if you are unfamiliar with U.S. EPA air regulations and yet you still have responsibility for understanding the Subpart OOOO requirements, especially as they related to storage tanks. So to lighten your mood this article may be just what you need. Specifically, this article will identify key regulatory items that you should be addressing now for your regulated storage tanks.

You are potentially affected by Subpart OOOO if you have a storage tank that stores crude oil, condensate, intermediate hydrocarbon liquids, and produced water. You are exempt from Subpart OOOO if your storage tank has an air permit issued by your state or local air agency, and the maximum annual emissions of volatile organic compounds (VOCs) are less than six (6) tons per year (tpy). Storage tanks constructed after August 23, 2011 and that are located anywhere along the crude oil and natural gas production process are potentially affected by Subpart OOOO rules. For crude oil, storage tanks from the well head to just before the refinery are regulated, while for natural gas, it is from the well head to the beginning of the gas distribution center. Fuel tanks (e.g., diesel fuel, gasoline, propane) are your locations are not regulated as part of this rule.

Storage tanks that have been put in place (i.e. constructed) or modified/reconstructed after August 23, 2011 up and to April 12, 2013 are referred to as Group 1 storage vessels. Tanks that have been put in place after April 12, 2013 are referred to as Group 2 storage vessels. Group 1 or Group 2 vessels that have potential to emit (PTE) VOC emissions greater than six (6) tpy are Group 1 storage vessel affected facilities or Group 2 storage vessel affected facilities. These Group 1 and Group 2 storage vessel affected facilities are regulated by Subpart OOOO. The Group 1 storage vessels have a pending deadline to determine the PTE emissions by October 15, 2013, and to ascertain whether they are Group 1 storage vessel affected facilities [i.e., their potential emissions are greater than six (6) tpy on an individual storage tank basis]. While this determination is supposed to be made by October 15, 2013, the reporting of the determination is not required until January 12, 2014 as part of the initial annual report.

To calculate the PTE of a storage tank, there are specific steps that must be followed. First, the maximum average daily throughput of the tank must be used and annualized. For Group 1 storage vessels, a consecutive 30-day period prior to October 15, 2013 must be used to determine the maximum daily average processing rate. A “generally accepted model or calculation methodology” must then be used to calculate the annual VOC PTE emissions. There are several sources of accepted model/calculation approaches including:



- U.S. EPA Tanks program from AP-42
- API's E&P TANK software
- Vasquez-Beggs Equation
- Emission protocols developed by various states (e.g., California, Wyoming, and Texas air quality control agencies)

There is a moderate level of experience required to implement these various models/calculation approaches. Additionally, better emission estimates from working losses, breathing losses and flashing may be achieved when site-specific information is used in lieu of default values. Thus it may be worthwhile to analyze the material in the storage vessels for its chemical composition and properties. If there is some type of vapor recovery utilized or if there is emissions limit that is legally or practically enforceable then the PTE emissions should reflect the control efficiency or emission limit.

For Group 2 storage vessels the determination concerning whether they are "affected facilities" is required by April 15, 2014 or 30 days after startup, whichever is later. However, on a practical note, a facility should know well in advance where it stands with respect to the 6 tpy threshold since a Group 2 storage vessel affected facility must also demonstrate its compliance with VOC emission reductions on that date or 60 days after its startup, whichever is later. Thus, waiting until the last minute will not allow much time for the installation of control/vapor recovery, if needed to reduce emissions below six (6) tpy. If a determination is made prior to October 15, 2013 that a Group 2 storage vessel is a Group 2 storage vessel affected facility, it could be necessary to include these sources in the initial annual report due January 12, 2014.

The annual reports that will be submitted by January 12, 2014 need to include specific information regarding the storage vessel affected facility. The information should include:

- An ID for the storage vessel.
- The latitude and longitude to five (5) decimals of the storage vessel. North American Datum (NAD) 1983 coordinates must be used.
- Calculations related to the documentation of the VOC emission rate.
- Records of deviations when the storage vessel was not operated in compliance with specific requirements of Subpart OOOO and that occurred during the annual reporting period.
- Statements that VOC emissions have been reduced (as applicable) and that you are in compliance with the applicable control device requirements.



- Identify if any of the storage vessel affected facilities are removed from service during the reporting period.
- Identify which storage vessel affected facilities are re-integrated into service during the reporting period.

This article has only addressed the immediate items that should be considered with respect to storage tanks. Other processes and equipment in the oil and natural gas sector are regulated under Subpart OOOO and specific monitoring, recordkeeping, and reporting requirements exist for these processes and equipment. If your tanks are determined to be a “storage vessel affected facility,” compliance with all of the Subpart OOOO requirements will represent a significant investment in time and money. Consultation with a knowledgeable and experienced Subpart OOOO source is highly recommended.

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