

# EPA 2012 New Source Performance Standards (NSPS)



On Aug. 2, 2013, EPA updated its 2012 performance standards for oil and natural gas to address Volatile Organic Compound (VOC) emissions from storage tanks used by the crude oil and natural gas production industry. Spectra Tech Inc. staff can help clarify the necessary steps to ensure your Oil and Gas Storage Vessels are in compliance with these new EPA regulatory requirements.

## Storage vessel is a tank containing:

- Crude oil,
- Condensate,
- Intermediate hydrocarbon liquids, or
- Produced water

## Storage vessels are not:

- Skid-mounted or permanently attached to something that is mobile and onsite for < 180 consecutive days
- Process vessels
- Pressure vessels

## Group 1 Storage Vessels

- Storage vessel for which construction, modification, or reconstruction commenced after August 23, 2011 and on or before April 12, 2013
- Determine VOC emissions by October 15, 2013
- Comply (install capture and controls) by April 15, 2015
- Compressed Air, Steam Process Heating and Pumping System Design & Optimization

## Group 2 Storage Vessels

- Storage vessel for which construction modification, or reconstruction commenced after April 12, 2013
- Determine VOC emissions by the later of April 15, 2014 or 30 days after start-up
- Comply (install capture and controls) by the later of April 15, 2014 or 60 days after start-up

## Modification

- Any physical change in, or change in the method of operation, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted to the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted. (40 CFR 60.14)
- A modification is NOT a repair, maintenance, and replacement which does not constitute a reconstruction. (40 CFR 60.14(e)(1)).

## Reconstruction

- Reconstruction means the replacement of components of an existing facility to such an extent the fixed capital cost of the new components exceeds 50% of the fixed capital cost that would be required to construct a comparable entirely new facility, and it is technologically and economically feasible to meet applicable standards. An existing unit upon reconstruction, becomes an "affected facility", even if there is no VOC emission rate change. Costs for non-routine renovations must be aggregated over the life of the unit for comparison to the 50 percent level. (ADI Memo #PS41)



## Thinking ahead

Spectra Tech is thinking ahead – designing reliability, quality and value into everything we do. If you are thinking ahead and looking for an oil and gas services partner committed to providing innovative, sustainable solutions, contact Spectra Tech:

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## Calculation Methodology

In order to calculate the VOC emissions of a storage tank, there is a specific protocol that is followed.

First, the maximum average daily throughput of the tank must be determined 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:

- US 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)

Better emission estimates from working losses, breathing losses and flashing may be achieved when site-specific information is used in lieu of default values. It is very beneficial to the VOC emission calculations if the material in the storage vessels was analyzed for its chemical composition and properties.

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.

A facility should know 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.

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.



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