

# Division of Air Quality Oil & Gas –Permitting & Enforcement Guidance

Office of Oil and Gas (OOG)  
Oil and Natural Gas Industry Workshop

10-9-2014

## PURPOSE

The purpose of this presentation is to assist in understanding State 45CSR13 (Rule 13) and the Federal 40CFR60, Subpart OOOO (NSPS OOOO) regulation for compliance and permitting purposes. The DAQ recommends the following steps to evaluate permitting requirements.

## STEP 1:

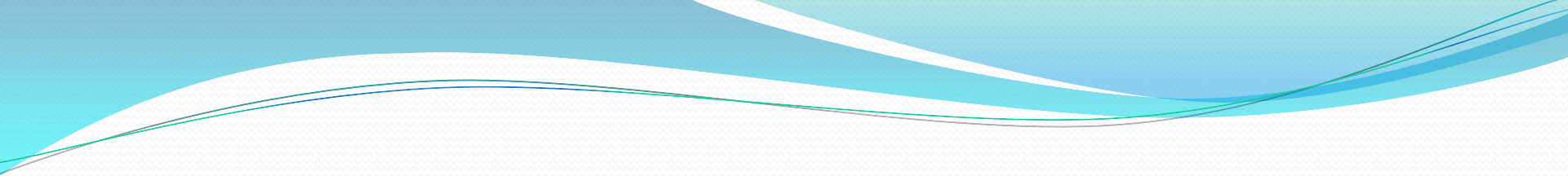
- ❖ **Before you drill** -- Determine if the well will/may produce condensate (Also don't forget two-day flowback notice)
- ❖ For sites not yet in production, this information may come from sister-sites (aka "**Representative**" sites)

## ❖ Rule of Thumb

If the expected condensate production through storage tanks is going to be more than 0.5 bbl (21 gallons)/day, then a 45CSR13 (Rule 13) permit is probably required

❖ Permanent Storage Tanks/Vessels shall obtain a permit **prior** to construction and installation

\*Permanent Storage Tanks are “intended” to be located at a site for 180 consecutive days or more



❖ The potential-to-emit (PTE) for VOC emissions must be calculated using a generally accepted model or calculation methodology (ProMax, HYSYS, E&P Tanks, etc.)

\*Companies must have sample analysis, direct tank vent measurement, or GOR/GWR to input into emission models

- ❖ Permanent flares, enclosed combustors, or other incinerators automatically trigger a Rule 13 permit (other than temporary flowback flares/combustors used for 30 days or less)
- ❖ Rule 13 permitting thresholds are **facility-wide** 6 lbs/hr VOC PTE or if the benzene emissions are greater than or equal to 1,000 lbs/year PTE

❖ Rule 13 permit emission thresholds apply facility-wide and not on an individual storage vessel (different from NSPS 0000 per tank PTE).


**\*Example:** If you have eight (8) tanks with VOC emissions of one (1) pound per hour per tank, then the total tank VOC is eight (8) pounds per hour, which requires a permit

## STEP 2:

- ❖ Submit the Rule 13 permit application **prior to** the construction/installation of permanent storage tanks/vessels or flare/combustor

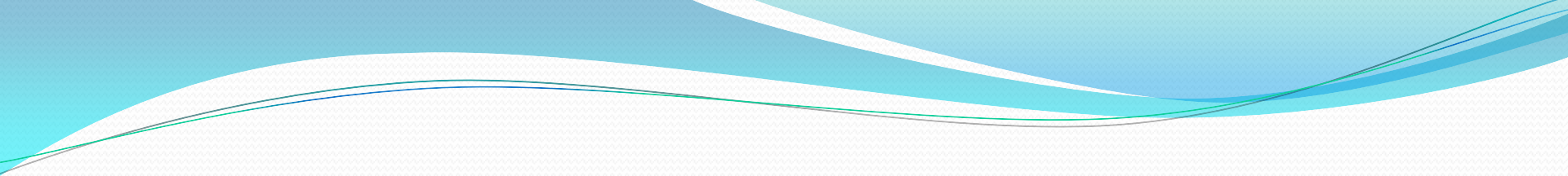
\* The DAQ recommends submitting a permit determination for sites you believe you don't need a Rule 13 permit, so you have written record





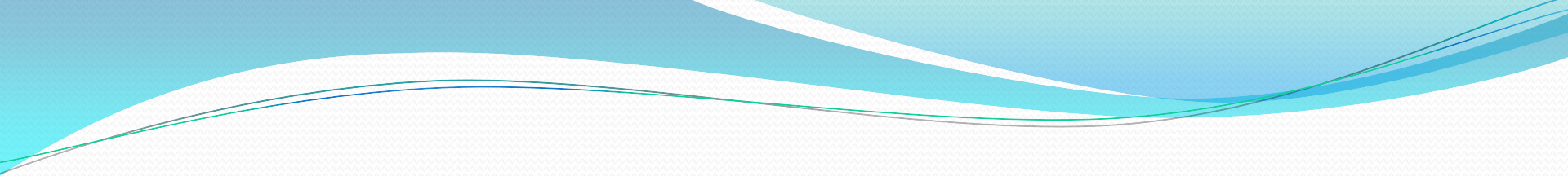
❖ The emission units **cannot** be partially installed or erected. Emission Units must be stored the way they were delivered

\*Emission units may be stored on-site; Permanent storage tanks can be set on their foundations, but no gauges or plumbing can be installed

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- ❖ DAQ recommends you submit federally enforceable requirements in Rule 13 permit application to limit your VOC emissions below 6 tons/year for each individual storage tank/vessel
  - ❖ Vapor Recovery Units (VRUs) can be used to limit VOC PTE for NSPS 0000, but not for Rule 13 Permitting

## **STEP 3:**

- ❖ Once air quality permitting has been determined (which means either a permit has been issued or no permit is required) then determine the date the well is planned to be hydraulically fractured



❖ Once production begins, the DAQ recommends taking a site specific pressurized liquid sample and re-evaluating the initial VOC/HAP emissions estimate

\*If you find that the emissions are greater than what was originally represented, you must revise your Rule 13 permit or permit determination to reflect the increase

- ❖ Wells that are hydraulically fractured on or after 8-23-2011 must submit a flowback notification at least 2 days prior to actual flowback (not hydraulically fractured) per NSPS 0000.

[http://www.dep.wv.gov/daq/publicnoticeandcomment/Documents/well\\_completion\\_notification.pdf](http://www.dep.wv.gov/daq/publicnoticeandcomment/Documents/well_completion_notification.pdf)

\*If a permit is required for permanent equipment, then flowback cannot commenced until the permit has issued.

## **STEP 4:**

Keep a daily log of the duration of flowback; duration of recovery to the flow line; duration of combustion; duration of venting; and specific reasons for venting in lieu of capture or combustion as specified in NSPS 0000

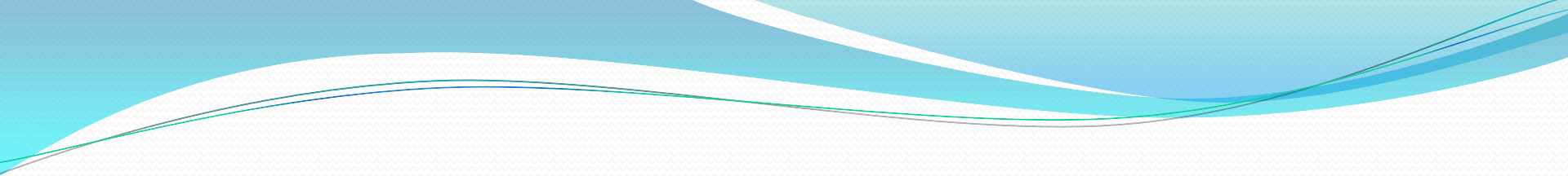
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- ❖ If you are using digital photographs in lieu of the records required in the previous slide, you must retain the records of the digital photograph as specified in NSPS 0000

## STEP 5:

- ❖ If the VOC emission on each tank is  $\geq 6$  TPY PTE and the tank was installed on or after 8-23-2011, then NSPS OOOO requires installation of an emissions control device that reduces the VOC by greater than or equal to 95 percent.



- ❖ Vapor Recovery Units (VRUs) or other federally enforceable control devices can limit the storage tank/vessels PTE for the 6 ton/year VOC trigger, which is required to be practically enforceable by a Rule 13 permit

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- ❖ To claim 95% capture efficiency for a VRU the thief hatch shall be weighted and properly seated; all opening shall be securely closed; no detectable leaks

Other items to consider are:

(1) Is the compressor capable of handling a wide range of volumetric flow rate to accommodate changing characteristics of the each well or multiple wells?

(2) Maintain records that document compliance with the VRU standards

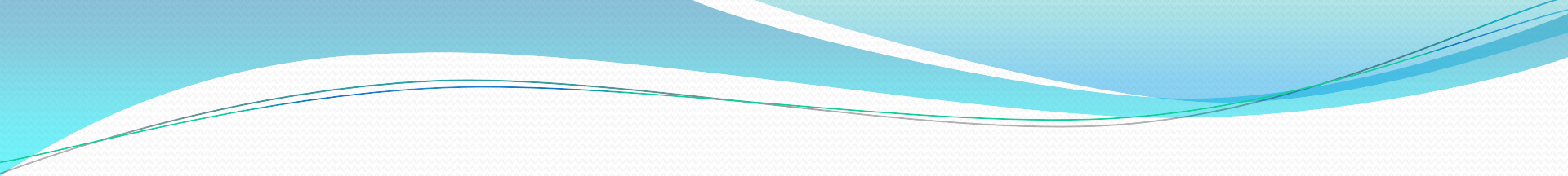
## How to Determine Tank Emissions

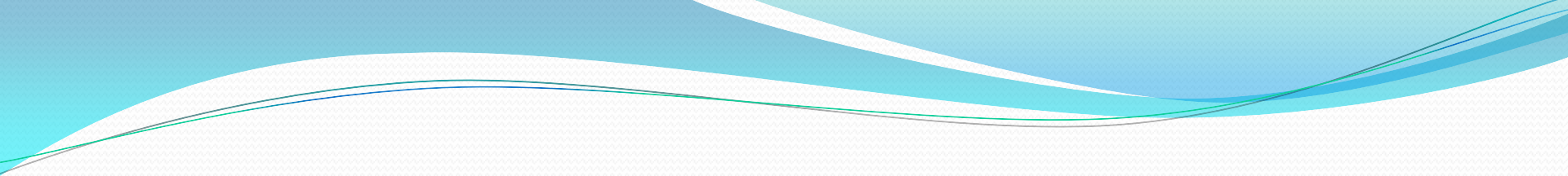
- ❖ Either obtain pressurized liquid sample from the separator for input into a process simulator such as ProMax **–or–** measure the tank vent emissions directly

## Pressurized Liquid Sample

- ❖ If well is at an **existing** production site, the VOC/HAP emission calculations should be determined from a Site-Specific Sample or Representative Sample

\*The DAQ will not accept results from a generic sample.

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- ❖ Whether or not another site would be considered Representative will depend on factors such as distance from actual site, if it draws from the same gas field, formation and depth

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- ❖ Estimate the expected production of condensate and produced fluids based on other wells on the pad or Representative wells in the area in order to determine VOC PTE

## ❖ Summary

You may determine that you are **not** subject to the storage tank emission reductions under Federal NSPS Quad O regulation and **still be** subject to permitting under State Rule 13.

	State Rule 13	Federal NSPS 0000
VOCs	≥6 pounds per hour facility-wide uncontrolled	≥6 tons per year per storage tank
Benzene	≥1,000 pounds per year facility-wide uncontrolled	No specific limit



# Questions??

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