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IOGCC Long Beach 2013 EPA's New Oil & Gas Regulations

What the Regulator Needs to Know to Help Small Operators

What Are We Talking About?

- VOCs
  - Green Completions
  - NSPS OOOO (“Quad O”)
  - NESHAP HH (small glycol units, LDAR)
  - NESHAP HHH (small glycol units)

- Greenhouse Gases

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Why Are We Talking About it?

- The O&G industry is the largest industrial source of emissions of volatile organic compounds (VOCs), a group of chemicals that contribute to the formation of ground-level ozone (smog). Exposure to ozone is linked to a wide range of health effects. EPA estimates VOC emission from the oil & natural gas industry at 2.2 million tons a year in 2008.

April 17, 2012 – Green Completions

A key component of the final rules is expected to yield a nearly 95 percent reduction in VOCs emitted from more than 11,000 new hydraulically fractured gas wells each year. This significant reduction would be accomplished primarily through the use of “green completions” to capture natural gas that otherwise escapes to the air.

The New Regs…

- The following new final air regulations were published in the Federal Register on August 16, 2012
- **NSPS Subpart OOOO, Crude Oil and Natural Gas Production, Transmission and Distribution**
  - NSPS = New Source Performance Standards
- NESHAP Subpart HH, Oil and Natural Gas Production
- NESHAP Subpart HHH, Natural Gas Transmission and Storage
  - NESHAP = National Emission Standards for Hazardous Air Pollutants

The more you explain it, the more I don’t understand it.

-Mark Twain

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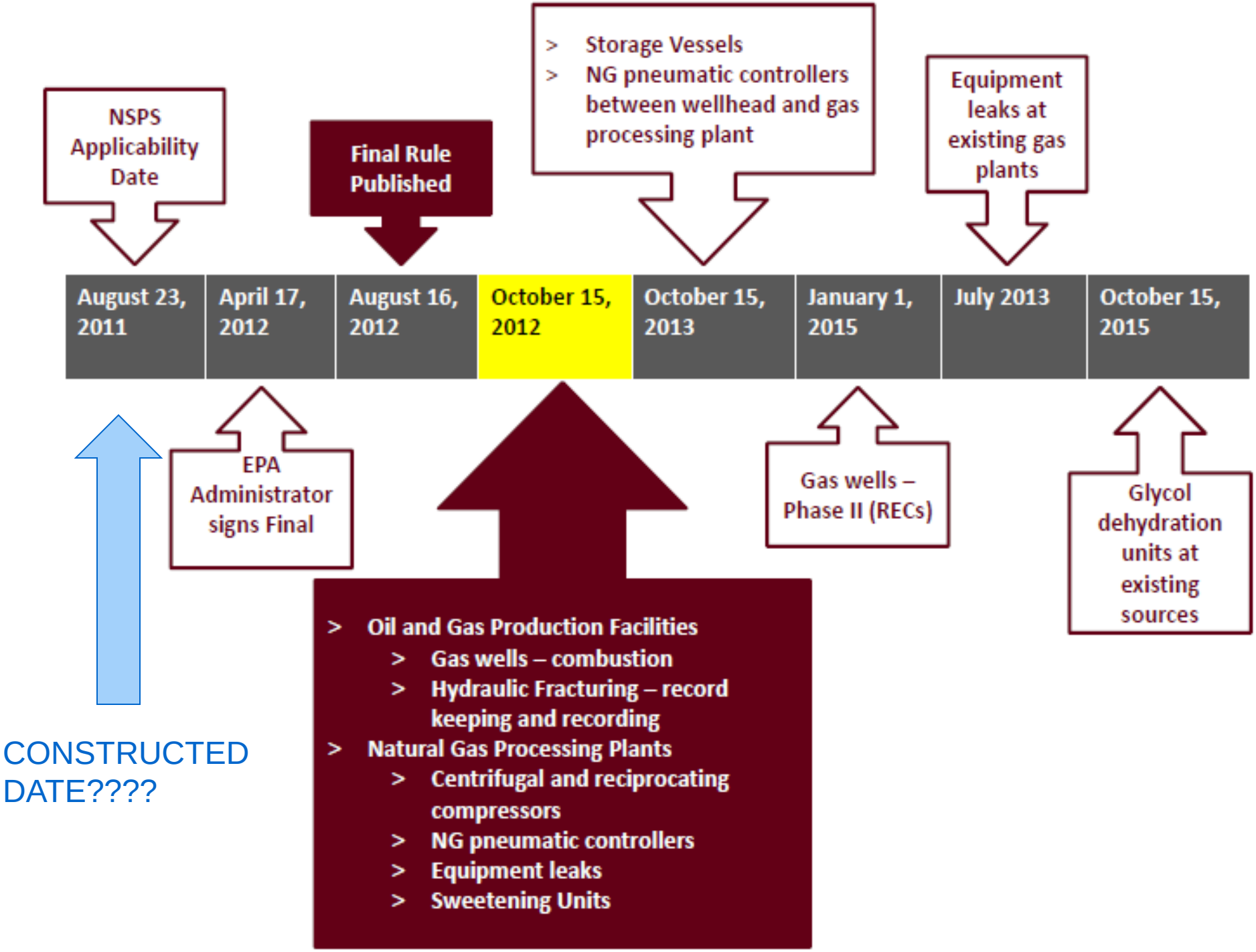
NSPS vs NESHAPS

NSPS: New Source Performance Standard

- Self-implementing – no permit required
- Apply to all **NEW, MODIFIED, and RECONSTRUCTED sources in the** source category
- Require performance tests to verify compliance
- Performance-based standards preferred over technology-based 40 CFR 60 Subpart OOOO

NESHAPS: National Emissions Standards for Hazardous Air Pollutants

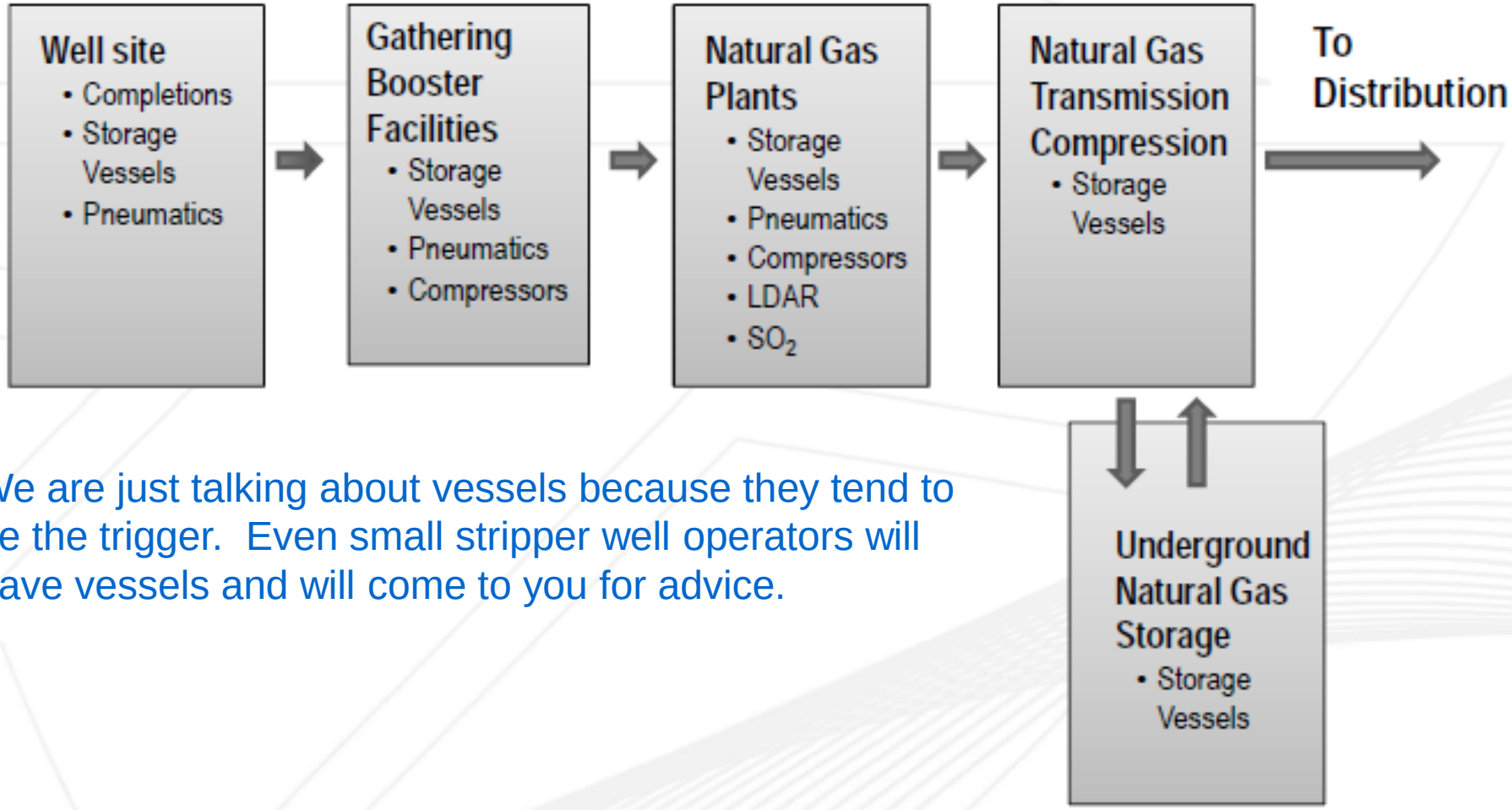
- Self-implementing – no permit required
- Apply to all **MAJOR sources and some AREA sources of HAPS**
- Include **NEW and EXISTING sources**
- Emissions > 10 tpy of a single HAP OR 25 tpy of all HAPS
- 40 CFR 63 Subparts HH (O&G Production) and HHH (Gas Storage and Transmission)


NSPS Applicability Date
Final Rule Published
> Storage Vessels
> NG pneumatic controllers between wellhead and gas processing plant
Equipment leaks at existing gas plants
August 23, 2011
April 17, 2012
August 16, 2012
October 15, 2012
October 15, 2013
January 1, 2015
July 2013
October 15, 2015
EPA Administrator signs Final
Gas wells – Phase II (RECs)
Glycol dehydration units at existing sources
> Oil and Gas Production Facilities
> Gas wells – combustion
> Hydraulic Fracturing – record keeping and recording
> Natural Gas Processing Plants
> Centrifugal and reciprocating compressors
> NG pneumatic controllers
> Equipment leaks
> Sweetening Units
CONSTRUCTED DATE????

NSPS Subpart OOOO

- Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution
- 40 CFR 60.5360 – 60.5430

What is Covered Under NSPS OOOO?



We are just talking about vessels because they tend to be the trigger. Even small stripper well operators will have vessels and will come to you for advice.

General NSPS Triggers

- Commence construction
- Modification
- Reconstruction
- Determines whether a project is subject to new rules

Storage Vessels

- Applies to each new, modified or reconstructed storage vessel in oil & natural gas production, natural gas processing, or natural gas transmission/storage facilities
  - Storage vessel on mobile equipment (e.g., frac tanks) that is intended to be located at a site for at least 180 days is an affected storage vessel
  - Excludes surge control vessels, knockout vessels, and pressure vessels designed to operate without emissions to atmosphere
  - If vessels already subject to NSPS Kb, or MACT G, CC, HH, WW, or HHH, then no additional controls are required

– KEY – ONLY APPLIES TO TANKS BUILT **AFTER AUGUST 23, 2011**

Storage Vessels (con't)

- If VOC emissions >6 tons/year, reduce emissions by 95% - compliance required by October 15, 2013. Controls may be fixed roof with control device or floating roof (meets NSPS Kb).
- Where no existing wells at the well site:
  - 30 days to determine if >6 tons/year VOCs
  - 60 days after startup for controls to be operational
- If existing wells at the well site, controls operational at startup.

NSPS OOOO Recordkeeping/Reporting

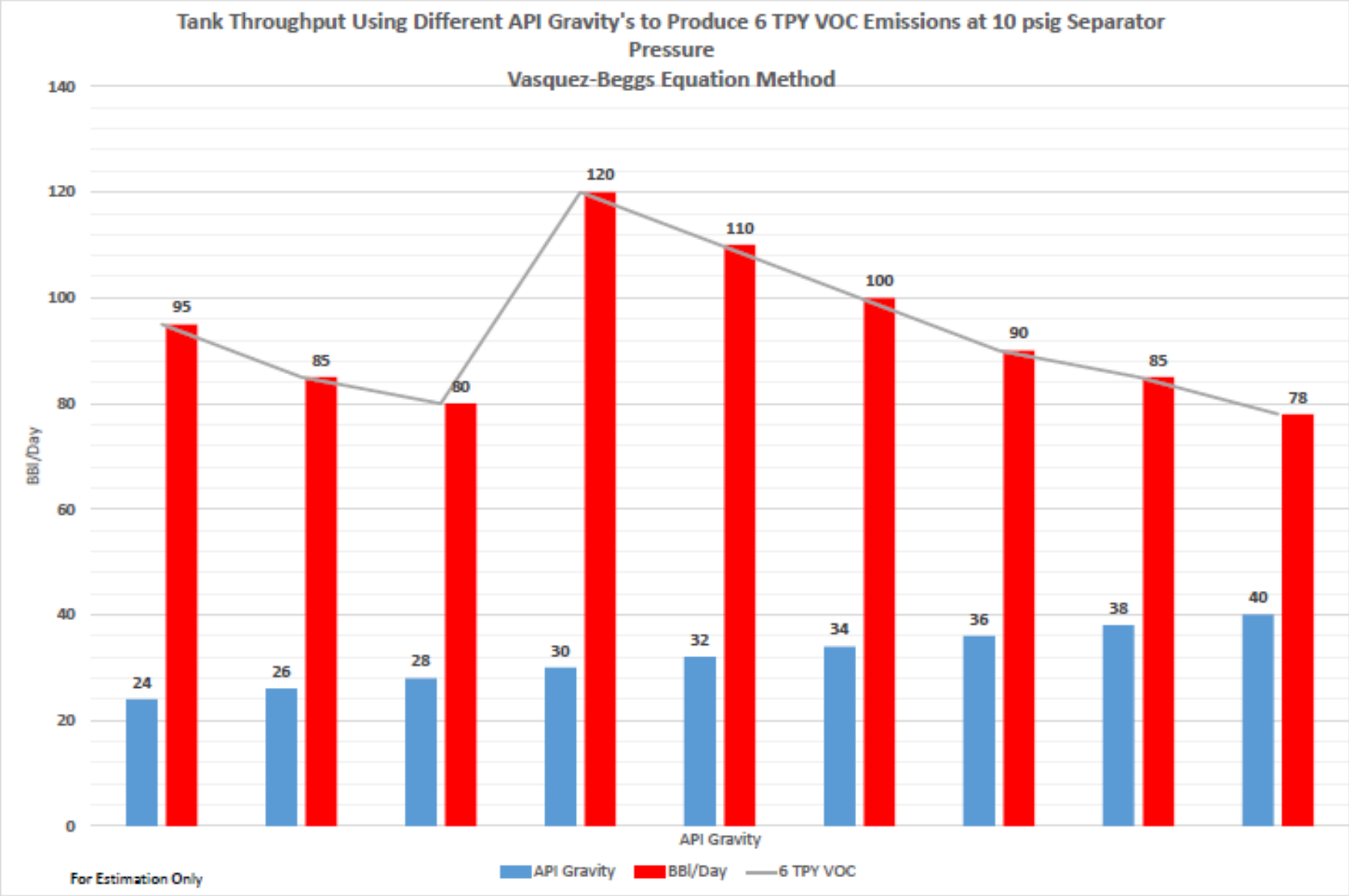
- Specific requirements for each type of equipment
- EPA granted relief from NSPS Subpart A notification provisions for:
  - Well completions
  - Compressors
  - Pneumatic controllers
  - Storage vessels
- Self-certification – senior company official

NSPS OOOO/Title V

- Operating Permits
  - Triggering NSPS OOOO will not, by itself, trigger the need for facilities to obtain a Title V operating permit.

How do you know if it applies to your tank?

- VOCs released from a tank has more to do with the amount of oil that is transferred in and out of the tank (throughput) than it does with the tank size.
- A small tank with the same amount of throughput as a large tank will have more VOC emissions because it is being filled and emptied more often.
- With that said, we performed calculations to estimate maximum throughput in a relatively small tank, as a worst-case scenario.



GSI Engineering
A division of Alt & Witzig Engineering

Overview of GHG Data Reported in 2012

- **Direct emitters**
- Number of facilities - 7,809
- Direct emissions in billion metric tons CO_2e - 3.13

GHG Emissions by Sector

Industry Sector	Number of Reporters	Emissions (Million Metric Tons CO_2e)*
Power Plants	1,611	2,090
Petroleum and Natural Gas Systems	2,058	217
Refineries	144	173
Chemicals	463	170
Waste	1,611	100
Metals	297	107
Minerals	369	107
Pulp and Paper	232	42
Other	1,419	123

GHG Emission from O&G

Industry Sector	2012 Number of Reporters	2012 Emissions (million metric tons CO_2e per year
Onshore Production	497	88
Offshore Production	106	6.5
Natural Gas Processing	394	60
Natural Gas Transmission	462	23
Underground Natural Gas Storage	49	1.3
Natural Gas Distribution	174	13
Liquified Natural Gas (LNG) Import/Export	8	.6
LNG Storage	4	**
Other Petroleum and Natural Gas Systems	381	24