Public Workshop

Draft Regulation Proposal for Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities

California Air Resources Board
Sacramento, California

April 27, 2015
Agenda

- Background
- Draft Regulation Proposal
- Next Steps
Background
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• This proposed regulation addresses fugitive and vented methane emissions from new and existing oil and gas operations.

• ARB working with air districts, US EPA, industry, and environmental groups to evaluate different control strategies, and to estimate emissions and reductions.

• ARB also working with air districts to craft ways to implement and enforce the new standards.
• August 2014 workshop
  – Background
  – Kick off

• December 2014 workshop
  – Source category control concepts
  – Standardized Regulatory Impact Assessment (SRIA)
  – Environmental Analysis (EA)
To obtain the maximum methane emission reductions possible from the oil and gas sectors, in a technically feasible and cost-effective manner.

To promote statewide uniformity of methane emission controls by promulgating a statewide regulation.

To minimize the administrative burden on the local air districts by promulgating a statewide regulation.
Program Goals

- To harmonize state requirements with current local and federal requirements to the extent feasible.
- To achieve co-benefits that protect public health from toxic emissions from well stimulation or other sector sources.
- To support the State Implementation Plan we administer by designing a regulation that attends to criteria pollutant goals.
Methane Update

- Short Lived Climate Pollutant Plan
- US EPA’s Proposed Actions on Methane
- Environmental Defense Fund and Jet Propulsion Laboratory studies
- Super Emitters
Draft Regulation Proposal
Applicability:

- Applies to new and existing facilities.
- Applies to Onshore and Offshore facilities.
  - Crude Oil and Natural Gas Production, Processing, and Storage; and,
  - Natural Gas Underground Storage; and,
  - Natural Gas Transmission Compressor Stations.
Primary & Secondary Vessels:

- Applies to separators and tanks without a vapor collection system.
- Requires annual testing to determine annual methane emissions rate:
  - Annual testing reduced to every 5 years for systems with no change in emissions.
- Testing results submitted to ARB and applicable local air district.
Primary & Secondary Vessels:

- Test results above 10 metric tons/year required to install vapor collection system.

- Required to route gas to an existing fuel gas or sales gas system or underground injection; or route to an existing control device as long as added emissions do not exceed permit limits.

- Facilities unable to route gas to existing system required to apply for a permit to install a new control device according to district NOx requirements.
Flash Test Procedure:

• Requires one crude oil and one produced water sample from a pressurized separator.

• Two sampling methods specified:
  – Seeking comments on techniques, procedures.

• Laboratory method specifies flashing from separator to storage conditions:
  – Seeking comments on lab methods such as constant temperature testing, etc.
Circulation Tanks:

• Applies to tanks used for well stimulation treatments only.

• Requires tanks to be controlled for vapors.

• Several options available for controlling vapors:
  – Existing vapor collection or casing gas system,
  – Compress and transport to processing facility,
  – Combust on site in some cases.
Reciprocating Compressors:

- All units required to install or identify rod packing or seal measurement access ports.
- Units below 500 rated horsepower subject to leak detection and repair testing and 1000 ppmv standard per Method 21.
- Units above 500 rated horsepower must measure annual flow rate and are subject to 2 scfm replacement standard.
Centrifugal Compressors:

- Compressors with wet seals required to collect vented gases and route to existing sales gas or fuel gas system or existing control device; or,
- Install a dry seal system.
Pneumatic Devices and Pumps:

• No bleed or no vent required; or,

• Connect to existing sales gas or fuel gas system or existing control device; or,

• Use compressed air or electricity to operate.

• Subject to leak detection and repair testing with 1000 ppmv standard per Method 21.

• Intermittent leak devices below 1000 ppmv when idle.
Liquids Unloading of Natural Gas Wells:

• Annual reporting required:
  – Measured or calculated volume of gas vented to remove liquids; and,
  – Equipment installed in each well vented.

• In lieu of reporting, collect vented natural gas using a vapor collection system.
Leak Detection and Repair:

- Integrate methane components into existing air district inspection programs for VOCs.
- Applies to all oil and gas facilities regardless of size or annual throughput:
  - Annual Method 21 testing; or,
  - Quarterly Optical Gas Imaging with Method 21 measurements.
- 1000 ppmv minor leak threshold.
Leak Detection and Repair:

• Local air districts may implement lower leak threshold or require more frequent inspections.

• Local air districts with or without existing leak detection and repair programs may choose to adopt proposed program.
Implementation & Enforcement:

- Local air districts provided with flexibility to update existing permits or registrations for specific equipment or entire facilities.
- Permits or registrations to be updated during next permit renewal date or a date to be specified.
- ARB to implement a registration program in lieu of local air district program where appropriate.
Implementation & Enforcement:

- Rules apply to covered sources regardless of permitting or registration status.
- ARB has continuing authority to enforce the standards; air districts may enforce as well. ARB and districts may further define shared enforcement and implementation plans in MOAs, as necessary and appropriate.
Next Steps
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- Requesting feedback on this draft proposal by May 15, 2015.
- 45-day comment period with Staff Report and Environmental Analysis begins August 7, 2015
- Board Meeting September 24, 2015
- Second Board Meeting tentatively March 2016
  - Addresses EA comments
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