Public Workshop

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

California Air Resources Board
Bakersfield, California

April 29, 2015
• Background
• Draft Regulation Proposal
• Next Steps
Background
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
ARB Contacts

Jim Nyarady, Manager, Oil & Gas Section  
(916) 322-8273 or jnyarady@arb.ca.gov

Carolyn Lozo, Manager, Program Assessment Section  
(916) 445-1104 or clozo@arb.ca.gov

Joe Fischer, Project Lead, Oil & Gas Regulation  
(916) 445-0071 or joseph.fischer@arb.ca.gov

Johanna Levine, Lead, Environmental Analysis  
(916) 322-3499 or jlevine@arb.ca.gov

Chris Hurley, Lead, Cost Estimates  
(916) 324-8178 or churley@arb.ca.gov

Web Site: http://www.arb.ca.gov/oil-gas/oil-gas.htm