CALIFORNIA AIR RESOURCES BOARD

FACT SHEET

CARB's Oil and Gas Methane Regulation

BACKGROUND

- Adopted by the Board in March 2017.

- Reduces fugitive and vented emissions of methane from both new and existing oil and gas facilities, including:
  - Oil and Gas Production, Processing, and Storage Facilities;
  - Natural Gas Gathering and Boosting Stations;
  - Natural Gas Underground Storage Facilities, and
  - Natural Gas Transmission Compressor Stations.

- Regulation includes standards for:
  - Separator and tank systems;
  - Circulation tanks;
  - Leak Detection and Repair (LDAR);
  - Underground natural gas storage monitoring;
  - Natural gas compressors;
  - Pneumatic devices and pumps; and
  - Reporting requirements.

REGULATION STANDARDS

- **Separator and tank systems:**
  - Requires flash testing to determine annual methane emissions.
  - Requires systems with annual emissions above 10 MT methane to install vapor collection.

- **Circulation tanks used in Well Stimulation Treatments:**
  - Operators institute a Best Practices Management Plan, followed by a control equipment technical assessment by January 1, 2019.
  - If technical assessment proves out, tanks controlled for emissions by January 1, 2020.

- **Leak Detection and Repair (LDAR):**
  - Requires daily audio/visual inspections and quarterly leak measurements of components.
  - Builds on current requirements by many districts to control VOCs.
  - Regulation extends testing to methane at natural gas facilities.

- **Underground gas storage monitoring program:**
  - Ambient air monitoring.
  - Daily or continuous leak monitoring at injection/withdrawal wellheads.
  - Operators submit monitoring plans to CARB for approval.

- **Natural gas compressors:**
  - Emission standards for reciprocating compressor rod packings and centrifugal compressor wet seals.
  - Requires either (1) replacement of high-emitting rod packing or wet seal, or (2) collection of leaking gas.
  - All compressors subject to LDAR.

- **Pneumatic devices and pumps:**
  - Continuous bleed to be changed to no-bleed.
  - Air or electricity to operate, or controlled with a vapor collection system.

- **Reporting requirements**:
  - Facility and equipment information;
  - Flash test results;
  - Annual LDAR results;
  - Underground natural gas storage monitoring plan reporting;
  - Annual concentrations or flow rates for compressors and pneumatics; and
  - Additional annual reporting for liquids unloading of natural gas wells, and for well casting vents.

REGULATION IMPACTS

- Overall estimated annualized cost, with natural gas savings, of $27,300,000.
- Estimated continuing reductions of more than 1.4 million MT of CO2 equivalent per year, using a 20 year Global Warming Potential for methane.
- Estimated overall cost-effectiveness of $19 per MT of CO2 equivalent reduced.
- Over 3,600 tons per year (TPY) of VOC reductions statewide.
- Over 100 TPY of reductions statewide of Toxic Air Contaminants, such as Benzene, Toluene, Ethyl-Benzene, and Xylenes.
- Neutral statewide Oxides of Nitrogen (NOx) impact.

IMPLEMENTATION

- Regulation allows both CARB and the districts to implement; district implementation is preferred.

- For most districts, CARB is handling the one-time facility and equipment reporting; districts handling “on the ground” enforcement. For district-specific responsibilites, see Memoranda of Agreements page.

- **January 1, 2018**
  - Leak Detection and Repair (LDAR) begins;
  - Underground natural gas storage facilities’ monitoring plans due; and
  - Equipment reporting and flash testing data due.

- **July 1, 2018**
  - CARB staff will decide to approve or request modifications of underground natural gas storage facilities’ monitoring plans.

- **January 1, 2019**
  - Vapor collection on separator and tank systems installed;
  - Pneumatic devices and compressor seal change-outs required; and
  - Circulation tank technology assessment complete.

- **July 1, 2019**
  - Annual reporting of LDAR results, compressor and pneumatic concentrations or flow rates, and liquids unloading and well casing vent reporting all due.
  - CARB is working with a contractor to develop a web-based tool for this reporting.

- **January 1, 2020**
  - Circulation tank vapor collection installed, pending technology assessment.