July 18, 2016

California Air Resources Board
1001 I Street
Sacramento, CA 95814
Via Electronic Submittal:
http://www.arb.ca.gov/lispub/comm/bcsubform.php?listname=oilandgas2016&comm_period=A

Re: Comments urging strengthening of CARB's Proposed Regulation on Oil & Natural Gas Production, Processing, and Storage

The undersigned environmental health and justice organizations offer comments on the proposed Oil and Natural Gas Production Processing, and Storage (the "Oil & Gas rule") regulation. We appreciate efforts of the California Air Resources Board (CARB) in developing the regulation, and urge the strengthening measures below, to prevent practices leaving communities unprotected.

Our organizations work for Environmental Justice in low-income communities and communities of color heavily impacted by air quality and related public health issues throughout California. We actively participate in local and statewide efforts to prevent and minimize the widespread harms of oil and gas extraction, processing, and storage. Our communities are hard hit by local health impacts of these sources, and are also among the most vulnerable to climate impacts such as heat waves, drought, and increasing smog due to temperature increases. The proposed rule focuses on reduction of the greenhouse gas (GHG) methane, but also identifies sorely needed benefits due to cuts in smog precursor and toxic co-pollutants, since multiple pollutants are emitted simultaneously by these industries. Co-pollutants include toxic BTEX compounds (Benzene, Toluene, Ethylbenzene, and Xylene), other VOCs, hydrogen sulfide, and other pollutants that burden our communities.

The extraction industry has long enjoyed lax or non-existent regulation and primitive control systems as compared to industries such as refining. In many cases, facilities are inherently badly sited, should never have been permitted for operation in residential neighborhoods, and receive many public complaints of severe odors and oil eruptions. Methane can also be emitted during these odor "episodes" reported by communities, so cleaning up odors can also clean up GHGs.

Both ongoing and episodic emissions have been poorly quantified and rarely monitored. With "enhanced" drilling to stimulate wells, many of our communities have seen a boom in extraction operations, sometimes within a few feet of their houses. Facilities all but shut down have drastically expanded operation in recent years, and new operations are springing up regularly all over the state. The volume of oil and gas produced is not necessarily a good indicator of emissions and impacts to local communities, which can be heavily impacted even by a small

nearby facility. For all these reasons and to maximize GHGs and co-pollutant cuts, it is essential that at a minimum, CARB require this industry catch up with best practices and technologies for emission prevention required in other heavy industries such as oil refining. While oil refining pollution prevention is far from ideal, extraction-related industries should at least meet the best standards that have been established by air districts for oil refining, which processes the same chemicals.

I. We urge tighter leak standards, consistent with best oil refinery standards, and speeding up implementation

We urge that leak standards in the regulation be tightened to 100 ppm for valves and connectors, 500 ppm for pumps, compressors, and pressure relief devices, and 100 ppm for any other leaking components (including pneumatic devices), to be minimized in 24 hours and repaired within 7 days. This standard has been required by the Bay Area Air Quality Management District (BAAQMD) for oil refineries for decades. Leaks above these levels should be considered a violation, and inspection and enforcement mechanisms should set in place.

We see no reason for treating oil and gas extraction and handling these leak standards differently from oil refining operations, since they process exactly the same chemicals, and since oil and gas handling operations are much less complex than oil refineries, and in many cases can more easily meet the standards. It is well-established that equipment is available for meeting these leak standards for the pollutants involved. Oil refineries within the BAAQMD District must meet these leak standards for many thousands of valves, connectors, and seals. Thus the Oil & Gas extraction and handling industry, which uses far fewer fugitive leak components, should readily be able to meet the standards. By adopting tighter standards for both methane and co-pollutants, CARB will set strong, consistent statewide requirements for GHGs, criteria pollutants, and toxics.

The final leak standards proposed by CARB are as follows (interim standards are even weaker):

Table 10: Repair Time Periods on or after January 1, 2020

Leak Threshold	Repair Time Period
1,000-9,999 ppmv	14 calendar days
10,000-49,999 ppmv	5 calendar days
50,000 ppmv or greater	2 calendar days
Critical Components	Next shutdown or within 12 months

In the Staff Report for the Oil & Gas rule, staff explains the justification for the standards proposed to be based on the most common standards in the state:[1]

> In the proposed regulation, 1,000 ppmv is the lowest leak threshold defined. Staff chose this threshold to be consistent with the majority of districts with oil and gas LDAR regulations. District regulations vary on the threshold but 1,000 ppmv is the most common across the districts. In addition, staff chose to lower the threshold from 10,000 ppmv after two years to 1,000 ppmv simply to ensure that more leaks are being detected. The thresholds and repair times assure that leaks are repaired once found and that the largest emitting sources are prioritized. The quickest leak repair time period is 2 calendar days for leaks measuring 50,000 ppmv or greater.

While we appreciate tightening from the earlier-proposed 10,000 ppm standard, we do not believe that choosing the standard based on the largest number of Districts is a valid justification. Many of these standards were adopted long ago, and should have been upgraded to meet the best standards in the state. Many of these Districts are smaller, so simply counting them doesn't provide an indicator of their relevance to impacts. **Setting a state-wide standard that meets best practices will ensure that the new rule doesn't follow an arbitrary average, but instead leads the state as a whole forward toward consistent best practices, proven to be readily-available.**

We propose that the leak standard in the proposed Oil & Gas rule be replaced with the following sections from BAAQMD Regulation 8, Rule 18, requiring a leak standard of 100 ppm for valves, and connectors, a 500 ppm standard for pumps, compressors, and pressure relief devices, and 100 ppm for all other devices (including pneumatic devices):[2]

> **8-18-301 General:** Except for valves, pumps and compressors, connections and pressure relief devices subject to the requirements of Sections 8-18-302, 303, 304, 305 and Bay Area Air Quality Management District December 16, 2015 8-18-6 306, **a person shall not use any equipment that leaks total organic compounds in excess of 100 ppm unless the leak has been discovered by the operator, minimized within 24 hours and repaired within 7 days.**
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> **8-18-302 Valves: Except as provided in Section 8-18-306, a person shall not use any valve that leaks total organic compounds in excess of 100 ppm** unless one of the following conditions is met: 302.1 If the leak has been discovered by the operator, minimized within 24 hours and repaired within 7 days; or 302.2 If the leak has been discovered by the APCO, the leak must be repaired within 24 hours.
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> **8-18-303 Pumps and Compressors: Except as provided in Section 8-18-306, a person shall not use any pump or compressor that leaks total organic compounds in excess**

[1] *Staff Report: Initial Statement of Reasons*, (Public Hearing to Consider the Proposed Regulation for Greenhouse Gas Emission Standards for Crude oil and Natural Gas Facilities), Released: May 31, 2016, Scheduled for Consideration: July 21, 2016, at p. 119, available at: http://www.arb.ca.gov/cc/oil-gas/isor.htm

[2] Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/rules-and-regs/reg-08/rg0818.pdf?la=en

of 500 ppm unless one of the following conditions is met: 303.1 If the leak has been discovered by the operator, minimized within 24 hours and repaired within 7 days; or 303.2 If the leak has been discovered by the APCO, the leak must be repaired within 24 hours.

8-18-304 Connections: Except as provided in Section 8-18-306, a person shall not use any connection that leaks total organic compounds in excess of 100 ppm unless one of the following conditions is met: 304.1 If the leak has been discovered by the operator, minimized within 24 hours and repaired within 7 days; or 304.2 If the leak has been discovered by the APCO, the leak must be repaired within 24 hours.

8-18-305 Pressure Relief Devices: Except as provided in Section 8-18-306, a person shall not use any pressure relief device that leaks total organic compounds in excess of 500 ppm unless the leak has been discovered by the operator, minimized within 24 hours and repaired within 15 days; or if the leak has been discovered by the APCO, minimized within 24 hours and repaired within 7 days.

II. Deadlines, exemption allowances, monitoring, and enforcement requirements should be tightened

Again, in an effort to ensure that long-overdue available best practice methods be expeditiously set for all oil & gas extraction, processing, and storage operations, we urge the additional improvements to the regulation:

- **All standards should be met within at longest two years of adoption, rather than post-2020 for final regulation requirements.** Waiting until 2020 to implement the final standards is excessive – facilities which have been leaking and emitting for far too long need to clean up expeditiously to protect public health and the environment, and should be able to meet standards within two years of adoption. If facilities are not leaking or significantly emitting, it should be no problem to meet standards expeditiously.
- **Monitoring step-down to annual inspections should not be allowed, but should continue at least quarterly.** Monitoring practices are an essential part of pollution prevention. Monthly inspections could further increase reductions achieved, but at least quarterly inspections should be required for all components. Continuous monitoring options should be considered. No option to move to annual inspections should be allowed, even if no leaks are detected. This is especially important for the oil & gas production, processing, and storage industry which has previously lacked inspection. Regular inspection should be a basic part of normal business practices.
- **An exemption allowing 12-month leakage for "critical" components is extremely excessive and should be removed, as oil and gas extraction and processing operations can shut down operations much more easily than oil refineries.** The concept of allowing longer leakage for critical or inaccessible components came out of

oil refining regulation. Oil refineries are vastly more complex, and require complicated shutdown procedures. Oil extraction and processing operations are far smaller and less complex, and handle much lower volumes of materials. They can shut down and start up quickly, without the major impacts caused by oil refinery shutdowns. A year-long allowance for so-called "critical" component leakage is extreme, and encourages unnecessary poor practices and chronic health-threatening emissions exposures.

- **The strongest independent Monitoring, Inspection and Enforcement mechanisms should be in place through regulators**. Any leaks or emissions above standards should be defined as a violation of rules, with associated penalties sufficiently harsh to discourage lax operations.
- **Control efficiency at 95% is lower than achievable standards above 99% for vapor recovery.** CARB is well aware of much higher control efficiencies for handling hydrocarbon and sulfur gases. We strongly encourage adoption of best available vapor capture and control, and discourage combustion devices such as flares, especially near communities.
- **Exemptions should generally be removed for lower volume operations, or where lower pollutant concentration are assumed, at least while California gains more site-specific long-term data on this poorly-monitored industry.** Individual operations assumed to have lower emissions as indicated by industry-wide average factors (especially since these factors have been widely questioned in the scientific literature), and that are not monitored onsite, may never be accurately assessed. Smaller operations are not necessarily lower-emitters, and can be especially harmful in close proximity to neighbors. CARB has acknowledged in its staff report that atmospheric monitoring of oil and gas operations have found higher emissions than EPA bottom-up emissions factor assumptions. Given ongoing community complaints about this industry, the proposed Oil & Gas rule could provide a major opportunity to evaluate actual local monitored impacts of <u>all</u> equipment used in <u>all</u> such operations. These operations are not benign, are inherently polluting, and should at minimum meet best practice leak and vapor recovery standards for all equipment.
- **At a minimum, any facility within 1500 feet of a residence should be required to meet tight leak and vapor capture standards, regardless of minimum volume or pollutant concentration thresholds.** It would further be prudent to prohibit such operations near residents, especially since horizontal drilling techniques allow remote access to wells.
- **We request that CARB release an annual report to the legislature with aggregate emissions data from owners and operators collected under this rule and data from CalEnviroScreen,** for the purposes of prioritizing inspection and enforcement of this rule in areas most overburdened by pollution. We request that CARB make this document available to the public in electronic format. *See e.g.* Cal. Health and Safety Code Sec. § 25180.2.

Thank you for your consideration, and for your work developing these regulations.

Sincerely,

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