

Mr. Joseph Fischer
California Air Resources Board
1001 "I" Street
Sacramento, CA 95814

February 18, 2016

Dear Mr. Fischer,

Thank you for CARB's work to develop a regulation putting in place greenhouse gas emission standards for crude oil and natural gas facilities. While we offer a few recommended changes in this letter, ***overall we strongly support the new draft rule*** that was discussed at your February 4th, 2016 workshop. Your new proposed rule advances the state of the art for controlling upstream emissions from the oil and natural gas supply chain. One aspect we particularly support is the coverage of new and existing facilities. CARB has developed a strong set of technological requirements based on careful cost-effectiveness analysis.

This regulation will be a valuable facet of CARB's well-conceived larger strategy to control methane emissions and other Short Lived Climate Forcers. California should make the best of a terrible situation following the catastrophic leak that occurred at the Aliso Canyon natural gas storage facility. By this we mean, hopefully that event will be a boost to good policymaking. Our recommendations for changes to the draft rule are in the area of leak detection and enforcement.

1. Quarterly inspection frequency using instruments is the minimum that should be allowed. Audio-visual inspection as the workhorse method for finding leaks is insufficient.

Section 95669 (b) states: "Beginning January 1, 2017, an owner or operator shall audio-visually (by hearing and by sight) inspect components for leaks..." on a daily basis or weekly for less frequently visited sites. We recognize that the proposal does require the use of Method 21 compliant devices for quarterly inspection, with a pathway available that would reduce the frequency to yearly inspections. We do not support allowing operators to reduce the inspection frequency to annual, as proposed. While the required daily or weekly audio-visual inspections will be much more frequent, they are not a substitute for instrument-based inspections. Methane is a colorless, odorless gas and only the largest leaks produce an audible sound. Therefore, we recommend that the final rule should call for an instrument-based leak survey with a frequency of at least quarterly, with no provision to reduce the frequency to annual.

2. *Optimal gas imaging (OGI) cameras are a low-cost option that should be integrated in the leak detection process.*

Inspection via OGI imaging devices can be accomplished quickly, and allows for easy inspection in places that can otherwise be hard to reach. One [recent study](#) found that leak detection and repair with devices like OGI cameras produce net benefits 97 percent of the time (on a volume basis). Net benefits mean that the monetary value of gas retained in the system instead of leaking exceeds the cost of detection and repair.

3. *There is a need for stronger enforcement. We recommend the inclusion of inspections that are not scheduled in advance to ensure compliance.*

In the wake of the VW incident, there is new awareness of the potential for cheating, and that should inform this proceeding. The current draft rule involves significant reliance on industry to self-inspect and keep records. If we are reading the proposal properly, the main enforcement mechanism would be quarterly or annual inspections that would be scheduled ahead of time. For enforcement to be effective, there must be periodic unscheduled inspections and there must be a significant monetary penalty for failure to comply.

Inspections could be carried out either by CARB personnel or local air district staff. However, if local air district rules are weaker than state requirements, the CARB rules should supersede local policy. The current rule relies significantly on local air district involvement, and that makes sense. We understand that local air districts have the authority to do inspections, but we are not aware of any mandated unscheduled checks of the type we are recommending. This must not become a loophole that weakens enforcement.

Thank you for your public service, and for considering this input.

Sincerely,



Chris Busch

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