

29 April 2020

Mr. George Lew
Mr. Lou Dinkler
California Air Resources Board

Re: Phone Conference with George Lew and Lou Dinkler on Monday 20 April 2020.

Background:

Apparently, CARB is reaching out to approximately 12 Stakeholders regarding proposed changes to Enhanced Vapor Recovery Regulations.

I was quite surprised to learn from Mr. Lew and Mr. Dinkler that CARB is proposing to remove ISD pressure alarms related to Gross Overpressure (7-day interval), and Degradation (30-day interval). The rationale was that ARB has figures which demonstrate that the magnitude of pressure driven fugitive and vent emissions are not significant, citing a statewide annual average of less than 1% of GDF controlled emissions. They propose instead, allowing GDF owner operators, regardless of throughput or location of operation to “upgrade their ISD” software to eliminate the pressure Alarms and instead substitute software which provides for pressure frequency data. This data, from approximately 9,500 sites (if all the CA GDF convert) or 3,600 sites (if all the GDF Healy Sites convert) would be accessible by personnel (CARB and/or District representatives) physically visiting the site to download the data and to ensure that removal of the Alarm Thresholds is not allowing pressure frequency anomalies.

After reviewing the Proposed Preliminary CP-201 Draft Amendments, I provide the following comments.

Apparently, the data collected by the ISD system would be put into six pressure intervals as follows:

$P < 0$

$P > 0$

$0 < P \leq 0.3$

$0.3 < P \leq 1.3$

$1.3 < P \leq 2.5$

$2.5 < P$

The % of time that the pressure falls within these intervals to be recorded by the modified ISD system.

There is no mention in the proposed modified text of CP-201 of using the ISD system to further calculate any metrics, for example a fugitive emission factor, per the procedure described in TP-201.2F, for example.

In our past work, ARID has used the more rigorous methods outlined by CARB in TP-201.2F to calculate fugitive emissions in accordance with Equation 9.2.2 for Q test (Hydrocarbon pressure-related fugitive emissions leak rate), equation 9.3.1 for M (Mass emission rate of pressure-related fugitives), and equation 9.4.1 for E, the mass emission factor for pressure-related fugitive emissions. We have shared

the results of these calculations with ARB Staff relative to testing conducted at specific sites; for example, the Cal Expo Certification site.

The emission factor, E (also referred to as m5) is quite important, as CARB standards do not allow certification of systems that exhibit an emission factor exceeding 50% of the maximum allowable overall site emission factor. (For example, 0.38 lb./1,000-gal emission limit or m5 value of $0.5 \times 0.38 = 0.19$ lb./1,000 gal). This concept appears to be a cornerstone of the EVR Regulations as seen in the following quote, "In developing the EVR Regulations, we strove to structure the regulation to minimize or eliminate pressure-related fugitive emissions, such as those from currently certified systems that sometimes have UST pressures as high as 3 iwc." (Laura McKinney, CARB, January 2002).

It seems reasonable that CARB would seek the derivation of the pressure related fugitive emissions factor from such data. To expect district or ARB personnel, with limited staff posing a significant constraint, to physically download data from thousands of GDF sites seems unrealistic and extremely inefficient. Moreover, even if downloaded data were obtained on a regular basis, what sort of calculations in the saved data are to be performed? What actions are required, if any, based on the findings in the downloaded data?

The proposal to eliminate the ISD pressure alarms and to allow GDF owner/operators to "upgrade" their ISD software represents a large step backwards in Air Quality as GDF owner/operators will be given the right to pollute as they wish. The ISD systems will effectively be "downgraded" or "dumbed down" to not yield pressure alarms which indicate the presence of excessive pressure driven fugitive and/or vent emissions. Before a Certified system was available, these pressure alarms were an indication of a fundamental design problem with existing systems, where specific "repair tasks" were not typically identified nor attempted. However, now with the existence of a robust, commercially proven Certified System, CARB has the ability to significantly reduce or altogether eliminate the ISD pressure alarms and more importantly, to reduce or eliminate the VOC and HAP emissions associated with these alarms.

ARB has deep knowledge on the pressure profiles and emissions magnitudes of California GDF, based on key inputs such as front-end Phase II system type, tank capacities, geographic location, hours of operation and monthly throughput. Clearly, ARB can expend marginal additional effort to apply modified ISD pressure profile criteria to various GDF Categories (For example GDF1 through GDF5) with the goal of optimizing the emissions reductions in terms of effective cost per pound of emissions reduced. Such an effort would simultaneously satisfy both environmental and economic goals and be consistent with other initiatives currently being pursued by the Agency.

The opposite approach, of simply eliminating the ISD pressure alarms is very difficult to understand. Why "throw away" the decades long, hard earned emissions reductions now?

We will provide further comments after the 5 May Workshop, where we anticipate learning more about the ARB proposal.

Sincerely,

Tedmund Tiberi

Ted Tiberi, President & Founder
ARID Technologies, Inc.