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VIA WEBSITE (COMMENT SUBMITTAL)

Clerk of the Board
California Air Resources Board
1001 "I" Street
Sacramento, CA 95814

Re: Independent Storage Provider Comments Regarding Proposed 15-Day Modifications to Proposed Regulation – Subarticle 3: Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities

Dear Chair Nichols and Members of the Board:

The Independent Storage Providers (Central Valley Gas Storage, LLC, Gill Ranch Storage, LLC, Lodi Gas Storage, L.L.C., and Wild Goose Storage, LLC, collectively the "ISPs") appreciate the opportunity to provide these comments regarding the California Air Resources Board's ("CARB") Proposed 15-Day Modifications to the Proposed Regulation, Subarticle 3: Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities ("Proposed Regulations"). The ISPs support California's ongoing efforts to reduce Greenhouse Gas ("GHG") emissions. Through these comments, the ISPs seek to ensure that the Proposed Regulations facilitate meaningful GHG emission standards, in an efficient, cost-effective manner.

Following are the ISPs' specific comments.

Section 95667. Definitions

- Section 95667(a)(4)

  The definition of "blowout" refers broadly to the "uncontrolled flow of gas, liquids or solids (or a mixture thereof) from a well onto the surface." Because a blowout may give rise to other required action or potentially a violation (*see, e.g.* section 95668(h)(5)(B)5.), it is important to have more clarity regarding what would constitute a blowout versus minor instances of uncontrolled flow (*e.g.*, small leaks). The ISPs believe CARB intends the definition of "blowout" to cover situations like the recent incident at the Aliso Canyon facility, but not leaks from above ground well equipment. Accordingly, the ISPs recommend that the definition of "blowout" be modified to clarify that such leaks do not constitute a "blowout", through establishing a leak threshold that results in an event being

classified as a "blowout", or defining a process for determining a blowout through case-by-case consultation with CARB staff. Alternatively, section 95668(h)(5) could be revised to clarify that the criteria or process for determining a blowout at a particular facility may be set forth in a natural gas underground storage facility monitoring plan.

- Section 95667(a)(66)

The ISPs appreciate the proposed revisions to the definition of "well". The revised definition provides greater consistency between CARB definitions and Public Resource Code definitions, which in turn will provide greater certainty to operators who must implement the CARB regulations.

Section 95668. Standards

- Section 95668(a) Separator and Tank Systems

Section 95668(a)(2)(B) provides that the requirements of section 95668(a) for separator and tank systems do not apply to systems used in non-associated gas production that receive an average of less than 200 barrels[1] of produced water per day. "Non-associated gas" is "natural gas that is not produced as a byproduct of crude oil production but may or may not be produced with condensate." (Section 95667(a)(36).) Wells used in gas storage operations are substantially similar to non-associated gas production. During discussions with CARB staff, the ISPs understood that storage water production would be similarly exempt, however that is not how the Proposed Regulations are drafted. In fact, the ISPs cannot find any section 95668(a)(2) exemption that would clearly apply to an ISP produced water tank, unless the tank contains water for 45 days per year or less. The ISPs recommend that CARB clarify that gas storage wells are included in the exemption for non-associated production, by revising section 95668(a)(2)(B) as follows:

> Separator and tank systems used in non-associated gas production, including production of non-associated gas from underground natural gas storage, that receive less than 200 barrels of produced water per day.

The ISPs also propose revisions to the data to be used to calculate average daily production, based on natural gas storage reporting. Natural gas storage facilities do not file the annual production certified reports which section 95668(a)(2)(B) currently relies on to establish average daily production. Instead, natural gas storage facilities file quarterly SB 1281 reports with the Division of Oil, Gas, and Geothermal Resources ("DOGGR" or the "Division"). To address this fact, the ISPs propose the following revision to section 95668(a)(2)(B):

> The average daily production shall be determined using the annual production certified reports or, for natural gas storage, the SB 1281 quarterly reports submitted to … .

[1] Alternatively, the definition of "non-associated gas" could be similarly modified.

- Section 95668(h) Natural Gas Underground Storage Facility Monitoring Requirements
  - Section 95668(h)(5)(A) should be revised to make clear that one upstream and one downstream monitoring point is the standard for an underground natural gas storage facility. It would be costly and inefficient for facilities with geographically disperse assets, and/or non-contiguous compressor stations, well pads, and other equipment, to install continuous monitoring at each location. Additionally, each storage field is different and, therefore, individual monitoring plans will be tailored to take into account their unique characteristics.
  - The ISPs appreciate the revision to section 95668(h)(5)(A)1.a. to increase the measuring sensitivity of upwind and downwind instruments to a minimum 250 ppb accuracy. However, the ISPs continue to have some concern about the availability of cost-effective, durable, and reliable equipment that will meet even the revised requirement. Accordingly, the ISPs recommend that this requirement be revised to apply when cost-effective, durable, and reliable equipment is available, or that section 95668(h)(2) be revised to provide that the January 1, 2018 monitoring plan submittal deadline is subject to the availability of cost-effective, durable, and reliable equipment capable of achieving the requirements of section 95668(h)(5)(A)1.
  - The ISPs appreciate the revised requirement in section 95668(h)(5)(A)7. to trigger alarms at 4 times baseline; this concept is more realistic than what had appeared in prior versions of the Proposed Regulations. However, because ISP facilities are generally located in rural areas with naturally occurring methane from agricultural sources, development of an understanding of the magnitude of variability in methane levels will occur after monitoring is in place and a baseline is established. Along with adjusting baseline levels to account for local conditions, it may also be necessary to adjust trigger multiples to account for the variability associated with local conditions.
  - Section 95668(h)(5)(B) appears to include requirements for daily or continuous leak screening that substantially overlap the requirements in section 95668(h)(5)(A). As currently drafted, it is unclear what the daily monitoring in subdivision (B) is intended to find. If the purpose is to augment the continuous monitoring required under subdivision (A) with additional screening near the wellheads, then an additional daily monitoring requirement is excessive and unduly burdensome, especially in light of its costs. The ISPs recommend replacing the proposed daily monitoring requirement with a weekly wellhead inspection protocol.

CARB's Revised Cost Estimates for Natural Gas Storage Facility Monitoring Requirements[2] provides a reasonable cost estimate for ambient air monitoring based on the costs that are currently used for existing CARB monitoring stations. This analysis estimates a capital cost of $350,000 and ongoing costs of $179,000 per year. Using CARB's Capital Recovery Factor (as revised in the February 17 Errata to the Proposed Regulations), the combined burden on each ISP would be a minimum of $259,500 per year.

With regard to daily or continuous monitoring, DOGGR prepared a Standardized Regulatory Impact Assessment regarding pending proposed new regulations for underground storage. This Assessment included an estimate of the cost entailed in daily monitoring efforts: "the Division estimates that, on average, each facility will have to hire one to three staff at $80/hr. for approximately 40 hours per week to conduct daily monitoring."[3]

Even if an ISP needs only one additional staff member to conduct this monitoring, requiring extensive daily monitoring would result in substantial costs for the ISPs *(e.g., $80/hr.*40 hrs./week*52 weeks/yr. = $166,400/yr*).*Using the same factors but reducing the monitoring frequency to weekly as the ISPs recommend would reduce the cost of well monitoring to $33,280/yr.* Based on the Division's cost estimates, an ISP would spend more than $130,000 per year on additional (daily vs. weekly) monitoring labor costs that could more effectively be used for other safety and maintenance related items. If daily monitoring has to be done by Method 21 or Optical Gas Imaging ("OGI") equipment, that will further drive up the expense of this monitoring. The same Assessment shows the cost of an OGI instrument to be $95,000, and states that "operators will purchase at least one and up to three units per field for this monitoring activity."

Regarding the possibility of meeting the well monitoring requirement using an automated system, as contemplated by CARB in its Revised Cost Estimates, for even the smallest of the ISP facilities, there is no scenario where the estimated costs (including labor costs and annualized capital costs) for operating the equipment would cost less than $100,000 per year. When the annualized costs for both continuous air monitoring and daily/continuous well monitoring requirements are added, no ISP will be able to comply without incurring annual expenses in excess of $350,000 per year. Notably, unlike the major transmission and distribution utilities, the ISPs do not have monopoly customer bases and do not charge California Public Utilities Commission ("CPUC")-approved cost-of-

[2] CARB, Notice of Public Availability of Modified Text and Availability of Additional Documents and/or Information (February 3, 2017), Attachment 2, page 12.

[3] California Department of Conservation, Division of Oil, Gas and Geothermal Resources Underground Gas Storage Regulations Standardized Regulatory Impact Assessment, Direct Costs to California Businesses, Section d, iii, Leak Detection Protocols, p. 24.

service based rates. This means that they are not assured recovery of the costs to implement these new monitoring requirements.

A properly designed continuous air monitoring system should detect any wellhead leak. Taking this fact into account, and to avoid imposing substantial costs without corresponding benefits, the ISPs propose that section 95668(h)(5)(B) be modified to call for weekly wellhead inspections with portable leak detection equipment, instead of daily monitoring.

- The use of the term "leak" in section 95668(h)(5)(B)3. is unclear. For example, there is no detection level specified for determining when a leak must be measured using EPA Reference Method 21 within 24 hours of detection. The ISPs recommend that CARB revise section 95668(h)(5)(B)3. as follows, to provide further guidance:

  > All leaks <u>with measured total hydrocarbon concentrations above the threshold concentrations specified in section 95669 of this subarticle</u> identified during daily leak screening…

- Section 95669 Leak Detection and Repair
  - As discussed in the ISPs' July 15, 2016 comments (at page 3), the requirements in this section appear duplicative and burdensome considering the extensive monitoring required under section 95668 of the Proposed Regulations. The ISPs reiterate that their facilities are de minimus sources of statewide GHG emissions. In fact, emissions reported to the CPUC for 2015 demonstrate that ISP emissions are less than one-half of one percent of gas utility methane emissions in California, and less than three-hundredths of one percent of all methane emissions in the state.[4] Through the design of their facilities and implementation of various operating measures, the ISPs already are taking action to limit GHG emissions. It is not clear how imposing duplicative, costly, and burdensome leak detection and repair requirements on storage facilities would further California's GHG reduction goals. Given other applicable monitoring requirements, and the de minimus nature of ISP GHG emissions, the ISPs request that CARB revise section 95669 to provide that the additional leak screening contemplated in sections (e) and (g) does not apply to underground natural gas storage facilities subject to monitoring pursuant to section 95668(h)(5).
  - Section 95669(o)(5) provides that "[e]xcept for the fourth ("4th") quarterly inspection of each calendar year, leaks discovered during an operator conducted inspection shall not constitute a violation if the leaking components are repaired

[4] Comments of the ISPs Regarding Administrative Law Judge's Ruling Entering California Air Resources Board and California Public Utilities Commission Joint Staff Annual Report on Analysis of June 17, 2016 Utilities' Reports and Commission Staff Proposal on Best Practices Into the Record and Seeking Comments (R.15-01-008), p. 3.

within the timeframes specified in this subarticle." No explanation is provided as to why leaks discovered during the 4th quarterly inspection constitute "automatic" violations, apparently regardless of whether they are repaired within the timeframes specified in Section 95669, while leaks discovered during other times of the year are not "automatic" violations. Notwithstanding the ISPs' general comment above regarding Section 95669, the ISPs recommend that CARB rectify this discrepancy by eliminating the "automatic" violation for leaks that are discovered in the 4th quarter and repaired within applicable timeframes.

The ISPs appreciate CARB's consideration of these comments, and respectfully request that the recommendations set forth herein be adopted.

Sincerely,

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cc: John Boehme, Central Valley Gas Storage, LLC
Lawna Hurl, Senior Legal Counsel, Lodi Gas Storage, L.L.C.
and Wild Goose Storage, LLC