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Comment Letter Re:

2024 OOOOc Rulemaking and State Plan for Existing Crude Oil and Natural Gas Facilities

Stakeholder Comments on 2024-027-113-AI

Summary

Bridger Photonics, Inc. ("Bridger") appreciates the opportunity to comment on TCEQ's "2024 OOOOc Rulemaking and State Plan for Existing Crude Oil and Natural Gas Facilities" ("Rulemaking"). Bridger is the technical and market leader in the detection, localization, and quantification of methane emissions. Our advanced methane detection technology, Gas Mapping LiDAR™, was the first technology to be submitted for approval as an alternative test method under the US EPA's Methane Rule.[1] These alternative test methods can be used in the place of optical gas imaging (OGI) and EPA Method 21 for fugitive emissions components and covers and closed vent system monitoring for OOOOb affected facilities, and for fugitive emissions components monitoring at OOOOa affected facilities. Likewise, alternative test methods can now be implemented within state plans following the OOOOc model rule, which makes Bridger a key stakeholder in TCEQ's Rulemaking.

Bridger provides three comments:

(1) The State Plan should clearly spell out that alternative test methods are an emissions monitoring option to make sure operators have access to state-of-the-art methane detection technologies for compliance.

(2) The State Plan should designate covers and closed vent systems monitoring as a work practice standard (similar to fugitive emissions components monitoring) to avoid disincentivizing emissions detection.

(3) The State Plan should provide the interim periodic screening matrix for emissions monitoring (i.e., quarterly monitoring at 3 kg/hr 90% probability of detection) as a long-term compliance option.

[1] 89 FR 16820

Background on Bridger Photonics, Inc.

Bridger serves oil and gas operators throughout North America with Gas Mapping LiDAR™ (GML) emissions monitoring. This technology comprehensively detects, localizes, and quantifies methane emissions from an aerial platform. GML was developed with support from the US Department of Energy's Advanced Research Projects Agency – Energy and it was commercialized in 2019 as a data product offering. The efficiency of GML's aerial deployment, the reliability of GML methane detection performance, and the actionability of GML data has led to rapid and broad adoption by industry. To date, Bridger has detected over 11 million methane emission events. Using GML data, 20 of Bridger's largest clients have been able to measure an average 18% year-over-year reduction in methane emissions.

Comment 1: TCEQ should ensure that operators can easily use alternative test methods for emissions monitoring compliance.

Within 40 CFR Part 60, subparts NSPS OOOOb and EG OOOOc, there is an alternative VOC and methane standard for well sites, centralized production facilities, and compressor stations for (1) fugitive emissions components monitoring and (2) covers and closed vent system emissions monitoring (§ 60.5398b, 60.5398c). This standard lets operators use advanced methane detection technologies that are approved as alternative test methods. Bridger urges TCEQ to implement the alternative standard within the OOOOc Texas State Plan so that operators have access to cutting edge compliance tools.

Comment 2: The State Plan should implement cover and closed vent system monitoring as a work practice standard.

The required emissions monitoring/inspection procedures for covers and closed vent systems within § 60.5398c includes verification of a "no identifiable emissions" numerical standard [40 CFR 60.5416c(b)]. Identification of emissions from these systems results in a deviation of that standard. Bridger recommends against this regulatory approach because it disincentivizes improved emissions detection: i.e., using better performing technology (or more diligent monitoring in the case of OGI/Method 21) will results in more detection events and more deviations. Using better performing technology and working harder to detect emissions should not be penalized with more deviations.

Instead of a numerical standard, Bridger recommends a work practice standard for covers and closed vent system emissions similar to that for fugitive emissions components. For these components, when an emission is detected, the OOOOc model rule does not create a deviation from the standard: the emission/failure is simply addressed on a defined timeline. We urge TCEQ to implement a work practice standard for covers and closed vent systems that is similar to the work practice standard for fugitive emissions components. Doing so will allow operators to perform better emissions monitoring without unnecessary reputational and financial risks.

Comment 3: The State Plan should allow quarterly emissions monitoring with a 3 kg/hr detection sensitivity threshold at all applicable site types.

Within 40 CFR 60.5398b(b)(1)(ii), there is a temporary option to scan facilities with a detection sensitivity of 3 kg/hr (with a 90% probability of detection) no more than quarterly.[2] This is referred to as the "interim periodic screening matrix", for which the 3 kg/hr option replaces the 1 kg/hr option during a 2-year period. We urge TCEQ to implement the interim periodic screening matrix as a long-term option within the State Plan due to the facts that:

1) Only a marginal fraction of additional emissions is detected transitioning from 3 kg/hr to 1 kg/hr detection sensitivity thresholds, and modeling work suggests that a sensitivity threshold of 4 kg/h (with 90% probability of detection) achieves equivalent mitigation to optical gas imaging surveys.

2) Scanning sites at 3 kg/hr improves operational efficiency.

A plot of how emission events of a given rate contribute to overall emissions is presented by Williams et al. (see Figure 5 in the referenced manuscript).[3] While these data indicate that emissions with rates down to 5 kg/hr contribute significantly to overall emissions, events in the rate range of 1 to 3 kg/hr can be seen to contribute only marginally. This result is based primarily on a large dataset of comprehensive measurements and it is compared against other notable direct measurement datasets. Meanwhile, modeling work performed by Highwood Emissions management, reported within Chevron's Methane Rule comment,[4] indicates that a detection sensitivity threshold of 4 kg/hr (with 90% probability of detection) provides equivalent emissions mitigation to optical gas imaging surveys on a scan-by-scan basis. Together, these points of reference show that is reasonable for TCEQ to enable operators to monitor for emissions with a detection sensitivity threshold of 3 kg/hr.

Scanning infrastructure for methane emissions with a detection sensitivity threshold of 3 kg/hr (90% probability of detection) improves operational efficiency while maintaining mitigation potential. At this threshold, sizeable emissions are detectable while operators are not burdened by having to dedicate resources to immaterial emissions. In addition, this threshold allows emissions screening to be performed under a wider array of environmental and deployment conditions, thereby increasing monitoring cost efficiency.

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Thank you for considering Bridger's comments. If you have any questions, please contact Asa Carre-Burritt (asa.carreburritt@bridgerphotonics.com).

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[2] This directly impacts sites covered by OOOOb Table 1 (https://www.ecfr.gov/current/title-40/part-60/appendix-Table%201%20to%20Subpart%20OOOOb%20of%20Part%2060). Sites covered by OOOOb Table 2 can already be monitored quarterly using a test method providing a detection sensitivity of ≤ 5 kg/hr (https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/subpart-OOOOb/appendix-Table%202%20to%20Subpart%20OOOOb%20of%20Part%2060).

[3] Williams, J. P.; Omara, M.; Himmelberger, A.; Zavala-Araiza, D.; MacKay, K.; Benmergui, J.; Sargent, M.; Wofsy, S. C.; Hamburg, S. P.; Gautam, R. Small Emission Sources Disproportionately Account for a Large Majority of Total Methane Emissions from the US Oil and Gas Sector. May 22, 2024. https://doi.org/10.5194/egusphere-2024-1402.

[4] Comment ID: EPA-HQ-OAR-2021-0317-2176. https://www.regulations.gov/comment/EPA-HQ-OAR-2021-0317-2176