

Methane Task Force

Q1 Summary of MTF Inquiries

June 27, 2023

Overview

The Methane Task Force updates the summary of public questions and responses document every quarter. We encourage the public, community partners, California Native American tribes, and other interested parties to get involved in our public forums.

Please Note:

- All Methane Task Force meetings are open to the public and accessible virtually. There are updates on future meetings advertised through listserv announcements, web updates, and social media.
 - We invite you to communicate with us via email at: MethaneTaskForce@conservation.ca.gov.
 - Information on current and future updates is provided on the Methane Task Force webpage: <https://www.conservation.ca.gov/calgem/Pages/Methane-Task-Force.aspx>.
 - Receive regular email updates about the Methane Task Force by requesting to be added to the listserv at MethaneTaskForce@conservation.ca.gov.
-

Summary of Public Questions and Responses

Q) To find out who has the oversight of the well, it appears to be difficult to get information from county assessor's office—can CalGEM make all of these agencies help to make that a lot more readily available?

To obtain the operator data in CalGEM's possession, it is best to visit CalGEM's Online Data webpage which contains links to the state's three main databases, WellSTAR, WellSTAR Data Dashboard, and Well Finder. Another option is to email your request to the WellSTAR team WellSTAR@conservation.ca.gov. Once the request is researched, a staff member will follow up with a response.

CalGEM has no authority to require county assessors, which are locally elected officials, to change the way they make data or records publicly available.

Q) Do you have a process of monitoring, from a certain distance, where the gas is going to come up to the surface and its new locations?

We have a variety of testing methods that account for distance. Some of the tools detect gases up to 300' away. If a leak is near residences, we do a thorough sweep with the equipment to confirm there is no gas. In any gas leak scenario, we primarily use Forward Looking InfraRed (FLIR) cameras to evaluate for gas leaks. We do not have any permanent monitoring systems in place. It is anticipated CARB's satellite monitoring program will start collecting data in the next few years.

Q) If an oil company or gas company owns one oil well, they drill for oil. And because they have an oil well, that allows them to have 18 gas wells underneath the permit for an oil well. How do we close that loophole for companies to do that?

CalGEM generally permits the drilling of wells for production of oil or gas per California Public Resources Code section 3203. Under that statute the operator of any well, before commencing the work of drilling the well, shall file a written notice of intention to commence drilling. Drilling shall not commence until approval is given by the supervisor or

the district deputy. A separate permit is needed to drill each oil or gas well. Having an oil well does not authorize a company to drill subsequent gas wells without first obtaining the necessary approvals to drill consistent with the law.

Q) What is CalGEM's approach to enforcement actions for oil and gas wells and parts of the natural gas distribution system that have been found to be leaking methane at high rates?

The California Public Utilities Commission (CPUC) is responsible for regulating and enforcing intrastate gas pipeline transportation and facilities. CalGEM only has jurisdiction of gas pipelines within oil and gas fields.

CalGEM's regulations require that operators maintain production facilities in good condition and in a manner to prevent leakage and to repair leaking equipment. If CalGEM observes or detects methane leaks from equipment or wells, CalGEM will notify the operator through Notice of Violation or other correspondence. Depending on the level of methane detected, CalGEM will direct the operator in the Notice of Violation or other correspondence to take corrective action and promptly address the leak. A Notice of Violation often will be a sufficient enforcement tool to notify the operator and for the operator to take necessary corrective action address the leaks. If the operator does not promptly repair the leak, CalGEM can pursue further enforcement action, such as an order to conduct remedial work (Public Resources Code, section 3224), or an emergency order (Public Resources Code, section 3226). Failure to comply with an order may lead to administrative civil penalties or may result in a criminal referral. CalGEM also has authority under Public Resources Code section 3226 to undertake actions deemed necessary to protect life, health, property or natural resources, which includes an emergency contract to repair the equipment. Finally, CalGEM coordinates closely with CARB, local air districts, and other agencies as appropriate, to address methane leaks.

Q) How does CalGEM prioritize the emissions from the wells that have been identified via satellite?

CARB's satellite program is underway, but it is not yet collecting data. The aim is for this data to allow the state to identify and focus efforts on large sources of methane emissions across different sources. CARB and CalGEM are working together to prepare for how to use the data when it is collected to inform inspection and enforcement activities.

Q) Is there a process of at least prioritizing which ones seem to be larger or more serious emitters?

Yes. CalGEM's inspection program prioritizes conducting follow-up inspections of wells and facilities that have previously been found to be leaking. In addition, the program prioritizes inspections of wells and facilities located near communities and environmentally sensitive sites, in order to minimize any risks posed to communities.

CARB and CalGEM are working together to prepare for how to use satellite data when it is collected to inform inspection and enforcement activities.

Q) Is there an "on the ground" measurement that you intend on employing in order to better quantify the severity of these methane leaks?

The measurement tools used during inspections allow us to quickly identify and address leaks to address any immediate safety concerns with methane explosivity levels. These measurement devices are not able to characterize all the compounds present in the leak. CARB and CalGEM are working with air districts to explore ways to better characterize the

presence of toxic compounds within leaks, including research to characterize air emissions from oil and gas wells. CARB's Oil & Gas regulation, as well as local air district regulations, require that operators inspect their equipment for leaks quarterly and repair any leaks found within a specified amount of time depending on the severity of the leak. These leak detection and repair requirement efforts must also be reported to CARB and either reported to the local air districts or kept on file by operators to be available if requested by the local air districts.

In addition, CARB is carrying out a project to better characterize air quality in communities near oil and gas operations called the Study of Neighborhood Air near Petroleum Sources (SNAPS), which includes limited-term, intensive air quality monitoring in key communities with production facilities. For more information on the program, visit:

<https://ww2.arb.ca.gov/our-work/programs/study-neighborhood-air-near-petroleum-sources>

Q) How can we better understand the severity of each of these leaks?

One indicator of the severity of a leak is the concentration of methane present and how quickly that methane concentration dissipates. Methane can present an explosion hazard at very high concentrations under specific circumstances, such as when it is released in enclosed areas and an ignition source is present. These conditions together were not detected in the recent round of joint inspections conducted by CARB, CalGEM, and San Joaquin Valley Air District. The lower explosive limit for methane is generally considered to be 5% by volume (or 50,000 parts per million)—this is the concentration at which the methane could ignite if there is an ignition source. However, the flammability or explosive properties are significantly minimized as methane dissipates. Methane dissipates quickly from most leaks found in components at oil and gas facilities, including wells. If the concentration of methane is below the lower explosive limit, there is no safety risk. If the concentration of methane dissipates within feet of the source, it means that the emissions dispersed in the air quickly and the equipment cannot detect the leak at all. In these instances, the severity of the leak is very low from a safety perspective.

In terms of health risk, exposure to methane itself, except at very high levels, is not considered a direct health risk. However, methane leaks from oil and gas production facilities can be associated with leaks of toxic compounds. A person's exposure to toxic compounds potentially present in a leak alongside methane is influenced by many factors, including:

- Concentration and presence of toxic compounds within the leak. This can be influenced by many factors, including:
 - components of gas – underground storage facilities and natural gas pipelines contain nearly all methane, while production facilities and associated tanks have the potential to emit toxics in addition to methane.
 - The presence and concentration of toxic compounds can vary based on the oil and gas formation;
- distance from leak (pollutants tend to disperse relatively quickly);
- wind direction and whether sensitive receptors, e.g., homes, schools, hospitals, are downwind of a leak;
- time of day – meteorologic conditions can concentrate pollutants during evening and overnight.

In addition, other emissions sources impact public exposure to toxic compounds as well, e.g., mobile sources, agriculture, other industrial sources. Exposure to any level of carcinogen is associated with cancer risk, and there are known carcinogens like diesel particulate matter from mobile sources operating on the roadway or on the oilfield itself, that may drive most of a person's risk.

Q) What would the lag time be from when a methane leak is detected and when the inspection occurs? Might it be long enough time for the methane to dissipate and become undetectable?

CalGEM responds and inspects any reported incident of a gas leak as soon as possible. If a leak is detected during inspections, CalGEM requests the operator fix it as soon as possible and follows up with re-inspections to ensure the leak is fixed.

Q) Why is CalGEM allowing a lower level of emissions from equipment rather than no emissions?

CalGEM doesn't allow any gas leaks from wells. CalGEM's regulations require the operator to maintain their wells and facilities in a leak-free environment.

Q) How is it possible that companies who created these wells can walk away and leave it to California taxpayers to pay for the cleanup?

California's oil industry is more than 150 years old, with production operations peaking in 1985 and in decline since. This decline has led to more wells being taken out of production. Many wells became idle and remained idle for years. It is not uncommon for wells to become idle once they are no longer financially viable to operate due to market fluctuations, operator resources, or the lack of hydrocarbon resources.

The state has several tools to try to hold companies accountable to pay for cleaning up their operations; however, they are limited. CalGEM has authority to pursue collections from the operator, however, current law does not allow CalGEM to assign liability to surface property owners that did not operate the well and do not own the mineral rights. In addition, there is a limit in how far back in ownership history CalGEM can go to hold past operators liable. CalGEM can look to previous operators until an operator is found that CalGEM determines has the financial resources to cover the cost of plugging and abandoning the well or decommissioning deserted production facilities. However, the supervisor may not hold an operator responsible that made a valid transfer of ownership of the well before January 1, 1996 (Public Resources Code section 3237 (c)(2)).

So, if an operator has no assets, and the wells and production facilities were obtained by that operator before 1996, CalGEM has very limited ability to hold an operator accountable.

Q) Who is responsible for achieving compliance on one of these wells—the landowner, the equipment owner, or CalGEM?

Depending on the specific law, the operator is required to comply with requirements in Public Resources Code (PRC) and Regulations found in California Code of Regulations, title 14. PRC defines the term "operator" to include any "person who, by virtue of ownership, or under the authority of a lease or any other agreement, has the right to drill, operate, maintain, or control a well or production facility." (PRC, § 3009) However, if CalGEM determines that the current operator does not have the financial resources to fully cover the cost of plugging and abandoning the well or the decommissioning of deserted production facilities, the immediately preceding operator is responsible for the cost of plugging and abandoning the well or the decommissioning of deserted production facilities. However, the supervisor may not hold an operator responsible that made a valid transfer of ownership of the well prior to January 1, 1996.

Q) Are there any plans to tighten the regulations on idle wells so that they have to be permanently shut down and stopped from leaking methane instead of being allowed to pump oil from them every few years?

The definition of an idle well (PRC 3008 (d)), and provisions regarding management of idle wells (PRC 3206) are established by statute, and as such, would require the Legislature to pass a law to update the framework for idle well management.

Q) What is the smallest size area that the satellites can measure? Measuring many smaller areas would give more useful results.

The satellite will look for plumes in 'tiles' that will be approximately 18x50 kilometers in size. All plumes within such a tile, above the detection limit of the instrument, will be identified. The number of tiles the state can collect in California on any day depends on the number of satellites and their orbit. Where the satellites look on any given day can be adjusted based on operational needs.

Q) Shouldn't the MTF be expanded in scope to pick up the small number landfills leaking literally MORE than the entire oil and gas sector?

At this time, the Methane Task Force is focused on identifying and addressing methane leaks from oil infrastructure near communities, recognizing the threats these leaks can pose to community health and safety. For information on CARB's work outside the task force to reduce methane emissions from landfills, please visit: <https://ww2.arb.ca.gov/our-work/programs/landfill-methane-regulation>.

Q) How is California trying to understand or quantify methane emissions from orphan wells – and is this a priority or a distant nice-to-have?

Methane emissions are a major priority, which is why CARB is developing a satellite-based program to search for these emissions.

Also, CalGEM is now requiring methane emissions testing before AND after a well is permanently plugged and sealed. In addition, the California Air Resources Board has an active contract with California State Polytechnic University (Cal Poly) to measure emissions from idle and abandoned wells. It is expected that Cal Poly will complete its analysis and release a report in the late Spring of 2024.