

Testimony: U.S. House Committee on Natural Resources Subcommittee on Energy and Mineral Resources

By Uduak-Joe Ntuk, California State Oil and Gas Supervisor

Chairman Lowenthal, Ranking Member Stauber, and members of the Committee, thank you for the opportunity to testify about California's perspectives on the legacy pollution clean-up programs in the bipartisan Infrastructure Investment and Jobs Act (IIJA) and, in particular, the orphaned well plugging program authorized in the IIJA and how the program may help states like California clean up and remediate thousands of orphaned wells. Thank you for your leadership in advancing the IIJA to benefit California and states across the country in these efforts.

As California's State Oil and Gas Supervisor, I lead the California Geologic Energy Management Division (CalGEM), the state's oil, gas, and geothermal regulatory entity. Under Governor Newsom's leadership, CalGEM prioritizes protecting public health, safety, and the environment in its oversight of the oil, natural gas, and geothermal industries, while working to help California achieve its climate change and clean energy goals. To fulfill these priorities, CalGEM leads efforts to address orphaned wells which are necessary to protect vulnerable communities statewide.

Oil wells and associated facilities that are orphaned can pose significant risks to the environment and public health, primarily because their unmanaged status can lead to hazards. Orphaned wells are idle wells—those that are not being used for production or injection and have not been plugged—for which the operator is unknown or has become insolvent. Such wells may leak oil, injected fluids, or formation water into nearby underground sources of drinking water or surface waters and can release flammable methane, hydrogen sulfide or other gases into groundwater or the atmosphere. The methane emissions can also have a significant negative impact on climate change. The U.S. Environmental Protection Agency estimates more than 7 million metric tons of methane gas were emitted from abandoned oil and gas wells in 2018.¹ When orphaned wells have no responsible operator to manage them, the responsibility for permanently sealing and closing these wells, and remediating the site, may fall to the State.

Additionally, orphaned wells can pose physical hazards. People and animals can fall into well cellars and well casings that lack adequate caps or gates. Open staircases on tanks are often rusted out, unstable, and at risk of collapsing underfoot. Deserted and unsealed storage tanks and open troughs often contain residual fluids that can be hazardous. Deserted production facilities also act as magnets for vandals, who occasionally deface and further damage deteriorating wells and their attendant infrastructure. This can exacerbate existing site hazards and create new hazards.

One example of the critical physical hazards orphan wells can pose to communities can be found in rural San Luis Obispo County, California. Here, local residents raised

¹ Inventory of U.S. Greenhouse Gas Emissions and Sinks." *U.S. Environmental Protection Agency*. 13 April 2020

concerns to CalGEM about an approximately century-old well covered in rubber tires. CalGEM staff responded to investigate the well and site, finding the well to be located among a residential community and adjacent to an area where there was once a playground for children. CalGEM discovered that the well was initially plugged in 1944, but not to current standards; there was not much more than a piece of sheet metal to secure the opening of the well bore. After evaluation, CalGEM worked to coordinate the plugging and permanently sealing the well to today's standards—and in the course of doing so was able to reach agreement with a former operator to take on the project. Today, the well is plugged and permanently sealed.

Another example can be found in downtown urban Los Angeles. Two orphaned wells were discovered in the front yard and backyard of two residences within the boundaries of the former Los Angeles City Oil Field near Dodger Stadium, which is more than 100 years old. In 2015, CalGEM received complaints about a strong odor emitting from the area. CalGEM's investigation led to the identification of the two wells; the first was already known to CalGEM as Patel #1, and the second was buried and discovered by the new property owner. The second well, now known as Rogalske #10, was found to be unsecured and leaking. As a result, CalGEM worked to plug and permanently seal both wells. This project to plug and seal the abandoned wells, given their condition and location in a major urban area, cost more than a million dollars and led to an increase in state funding from \$1 million a year to \$5 million a year.

Orphaned Wells in California and CalGEM's Response

The State has increasingly focused on responsibly managing the decline of oil and gas production in California. California oil production peaked in 1985 and has dropped nearly 2/3rds in the last few decades due to the maturing of century old oil fields and lack of new discoveries. There is concern that desertion of wells and facilities will become increasingly common as oil production continues to decline, the State transitions to renewable energy, and the regulatory burden for smaller and midsized operators reduces profitability. Without a responsible operator, the State would likely be the funding source of last resort for environmental remediation. This could require from tens of millions of dollars to billions of dollars in State costs. In a commissioned report, the California Council on Science and Technology (CCST) estimated the state had at least a \$500 million financial liability, but up to \$9 billion in the worst-case scenario. The analysis included recovering all possible bonding or other financial securities. But this study was conducted prior to our new bonding legislation in 2019.

Currently there are more than 37,000 known idle wells in California, all of which will eventually come to their end of life, and their operators will be required to plug the wells and decommission associated production facilities. The state has documented 17,786 of these as long-term idle wells (idle for 8 years or more), and 5,356 orphan, deserted, and potentially deserted wells.

For decades, CalGEM has carried out state abandonment contracts, which are state-funded activities to permanently plug and seal orphan wells, to the best of its ability

with the available resources. CalGEM's current funding for such work derives from state accounts that are paid into by oil and gas industry operator assessments and fees.

Costs associated with permanently plugging and sealing orphan wells and decommissioning the attendant facilities can be significant—and are highly variable, depending on well and facility condition, location, age, and other factors. Between 2011 to 2019, CalGEM plugged and abandoned 117 wells (and some attendant facilities) across the state at a total cost of over \$13 million. Not reflecting well-specific cost drivers, the average cost to the State to plug and abandon wells over this period has been about \$112,000 per well. Currently, CalGEM is undertaking the largest state abandonment project in state history—56 wells in the Placerita Oil Field near Santa Clarita, CA north of Los Angeles at a cost of more than \$3 million.

California's State Lands Commission also carries out state abandonments of wells on state lands—and waters—that it manages. Since 2018, State Lands Commission has plugged and permanently sealed 74 offshore wells at cost of nearly \$43 million dollars. The high cost of these projects is due in large part to many of them existing offshore and the technical challenges posed by a plugging operation in such an environment, as well as the advanced age of the wells, some of which a more than 100 years old.

Taking their rough locations into account, CalGEM projects the cost to plug and abandon the 5,356 orphan, deserted, and potentially deserted wells in its statewide inventory will cost approximately \$974 million, though the cost could be much more once the wells are evaluated onsite.

While CalGEM and the State Lands Commission are making the most out of its existing resources, at the current pace, it will take several decades to address California's existing inventory of orphan, deserted, and potentially deserted wells. Governor Newsom has prioritized this work and championed \$200 million of state funds to support this work. Additionally, he has proposed \$16 million to create a job training program to expand the state's workforce to perform such work. However, federal support to address state abandonments is necessary to meet the scale of the need across California. The new state funding will allow for maximization of matching funds available from the IJA grant program.

Impact of Federal Funding to Plug and Abandon Orphan Wells

The federal funding made available by the bipartisan infrastructure law will benefit California in several ways.

First, California will be able to expand and accelerate its state abandonment program to plug and permanently seal more wells and reclaim sites for the benefit of the local environment and local communities, especially the State's most vulnerable, frontline communities. Since 2011, California, through CalGEM's state abandonment program, has plugged and permanently sealed less than 200 onshore and offshore wells, while maximizing the available funds. Federal grant funding will enable the State of

California to take on larger projects. For example, California is eligible for up to \$25 million in initial grant funding under the bipartisan infrastructure law; CalGEM intends to carry out the largest state abandonment project in state history with these funds to plug and permanently seal 210 wells in coastal Santa Barbara County.

Second, the State will locate and identify more wells. While CalGEM has more than 5,000 orphan, deserted, or potentially deserted wells in its inventory already, we recognize that this may not constitute the complete universe of such wells in California. We expect many more—potentially thousands more— orphan and deserted wells exist in the state. Additional federal funding will enable CalGEM to pay for a statewide, modern assessments and surveys to locate and identify more wells that can pose a threat to local communities, public health and the environment.

Third, California intends to conduct methane emissions testing, as well as groundwater and surface water contamination monitoring. Orphaned wells pose environmental and climate hazards and collecting data will enable CalGEM and our partner state agencies to better understand the scope of the problem and work to address it.

Fourth, the expanded state abandonment program would lead to employment opportunities for more workers, including some of the thousands of unemployed oil and gas employees resulting from the COVID-19 pandemic. Plugging and permanently sealing oil and gas wells is a complex, technical endeavor that requires specialized skill and expertise. More state abandonments require increased workforce development opportunities, particularly more high-road jobs for workers that may be leaving jobs in the oil and gas production industry.

In summary, federal funding will enable the state to reduce pollution and environmental hazards impacting California's most vulnerable, frontline communities, while also creating thousands of jobs.

Partnership with the U.S. Department of the Interior

To date, CalGEM has benefited from the regular communication between the State and the U.S. Department of the Interior, as facilitated by the Interstate Oil and Gas Compact Commission. They have shared presentations at the 2021 IOGCC Business Meeting and met with us to solicit feedback into the draft guidance. We appreciate the opportunities to receive briefings on the Department's work to implement and administer this program as well as provide feedback. They have been professional and understanding to the various needs of each state.

Recommendations for Managing the Program

Increased Transparency – The sharing of information and state specific data is important to maintain public trust. The disclosure of information should be shared online, transmitted electronically to each state, and be provided in a timely manner to allow for a clear understanding of the grant processes and program.

Labor Standards – Prevailing wage and labor standards need to be required in federal plug and abandonment contracts. The lack of labor standards could mean that the jobs created by the program may not be the middle-class jobs promised in the IJJA.

Future funding allocations should be based on updated data sets as each state fully evaluates its full universe of orphan wells. Many of the state submissions are based on old records or estimates that need to be verified to ensure federal funds are maximized on reducing as many orphan wells as possible, while making the most environmental impact.

Clear Distribution Timelines – It's critical for states to have clear understanding of when formula and performance grant funding will be available. States need specific timelines for legislative budget requests and committee approvals. Unknown future funding amounts and timing creates uncertainty and potential delays in state resources to assist with the startup and implementation of federal grant programs.

Additional Public Engagement – Stakeholders and interested parties would benefit from more public workshops and information sharing related to the new Federal Orphan Well Remediation Program. Particularly in environmental justice communities and communities where English is not the first language. California frequently hosts multi-lingual public workshops to share information and address concerns from the public. It's a best practice to build public confidence and adjust the program to meet community concerns.