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July 19, 2017

Kenneth A. Harris, Jr.,
State Oil & Gas Supervisor
Department of Conservation
801 K Street, MS 18-05
Sacramento, CA 95814**SUBJECT: SB 380 Concurrence Letter - Findings**

Supervisor Harris:

Senate Bill ("SB") 380 (Pavley) (Chapter 14, Statutes of 2016) prohibits Southern California Gas Company from injecting any natural gas into the Aliso Canyon gas storage facility ("Facility") until the completion of a comprehensive review of the safety of the gas storage wells at the facility that determines:

- well integrity has been ensured; and
- risks of failures identified in the review have been addressed.

SB 380 also states that the prohibition on injections remains in effect until the Executive Director of the California Public Utilities Commission ("CPUC") has concurred via letter with the determination of safety. Thus, SB 380 requires the Executive Director of the CPUC to review the work of the Division of Oil, Gas, and Geothermal Resources ("DOGGR") to ensure that the findings regarding the safety of the wells at Aliso Canyon are carefully considered and based on fulfilling the substantive mandates of SB 380, described above. The purpose of this letter is to explain SB 380 requirements for the CPUC's review of DOGGR's work, describe the steps taken to discharge these responsibilities, and to concur with DOGGR's findings that the gas storage well comprehensive safety review required by SB 380 is complete, and that injections can resume at the Facility.

SB 380 requires independent verification and validation of DOGGR's comprehensive review of the safety of the gas storage wells, including verifying that DOGGR complied with statutory requirements to ensure the integrity of the wells through which injections will resume - wells that have completed battery 1 & 2 tests. SB 380 requires verification that the wells that have not passed the battery 2 tests have been isolated from the reservoir and will not be used to inject or withdraw gas. SB 380 also requires validation of the tests that DOGGR conducted on each well.

This letter also addresses independent requirements of SB 380 that pertain to the CPUC's duty to ensure safe and reliable electric and gas service.

Verification Requirements:

SB 380 requires that every well at the Facility must develop and follow a comprehensive safety review methodology, which includes individually inspecting each well. SB 380 also requires DOGGR's comprehensive safety review methodology to be reviewed by independent experts. Before injections can resume at the Facility, each well must either pass all safety tests or be isolated from the field and removed from operation or plugged and abandoned consistent with DOGGR's requirements.

Findings - Verification:

DOGGR developed stringent review standards with experts at the Lawrence Berkeley, Lawrence Livermore, and Sandia National Laboratories, and the entire Facility has been thoroughly tested according to those standards. I have personally toured the Facility with the Supervisor and witnessed DOGGR's activities. All the wells at the Facility have either been tested and have been confirmed to have passed the two batteries of tests, passed the first battery of tests and been safely isolated from the storage reservoir, or been permanently plugged and abandoned.

Validation Requirements:

CPUC staff reviewed DOGGR's testing plans, shared the testing plans with the United States Department of Transportation Pipeline and Hazardous Materials Safety Administration ("PHMSA"), and independently reviewed selected battery 2 well tests and sought clarification from DOGGR regarding the results of the well tests.

Findings - Validation:

CPUC staff noted that DOGGR's well testing plans provided a comprehensive framework to test the integrity of the storage wells at the Facility. CPUC staff's consultation with PHMSA identified some questions with the testing plans, which they shared with DOGGR. All questions posed by CPUC staff to DOGGR about the well testing results have been answered conclusively. CPUC staff found no discrepancies between the well test results and the conclusions reached by DOGGR.

The Executive Director has personally undertaken site inspections and participated in public outreach efforts and assures the public that all reasonable actions have been taken to prevent another well failure and to prepare the facility for injection and withdrawal of

gas. Commission staff continues working and coordinating with DOGGR to ensure compliance with all the measures described in this letter.

ADDITIONAL CPUC STAFF SAFETY WORK

CPUC staff performed the following tasks to ensure safety at the Facility, beyond what is required by SB 380:

- Directed SoCalGas to perform an internal corrosion threat identification and assessment of the flow pipelines and provide the CPUC a threat mitigation plan. CPUC staff have reviewed the report and found the mitigation plan adequate for identifying internal corrosion threats.
- Directed SoCalGas to perform a fitness for service analysis, demonstrating that it is safe to resume injection operations at the Facility prior to completion of the root-cause analysis. My staff has reviewed the analysis and found it adequate.
- Required SoCalGas to conduct a gas leak survey of the entire facility prior to resuming injection operations, and within 72 hours after resuming injection operations - with results reported to the CPUC. CPUC staff will ensure that SoCalGas performs the leak surveys and will review the leak survey results.
- CPUC and DOGGR staff conducted joint Technical Safety Compliance field inspections that included field verifications and function test of critical safety control devices that are associated with the gas injection and withdrawal system.
- CPUC and DOGGR developed a Master List for pre-injection safety assurances. CPUC and DOGGR staff will ensure that SoCalGas complies with the measures contained in the Master List so that wells and pipelines on the site are brought to proper operating pressure in a safe manner.

Soon after injections resume at the Facility, CPUC staff will conduct comprehensive operation and maintenance inspections of the Facility's surface equipment and pipelines.

ADDITIONAL SB 380 REQUIREMENTS RELATED TO COMMISSION WORK

In addition to mandating that the CPUC Executive Director review DOGGR's safety determination as discussed above, SB 380 also enacted unrelated provisions for the CPUC to: determine the range of working gas needed at the field to ensure reliable electric and gas supplies; and open a proceeding to consider minimizing or eliminating the use of the Facility.

Reliability Directive

SB 380 requires that, once the State Oil and Gas Supervisor approves injections to resume at Aliso Canyon, the CPUC Executive Director shall, in consultation with you the State Oil and Gas Supervisor, direct SoCalGas to maintain a range of working gas in the field necessary to “ensure safety and reliability for the region, and just and reasonable rates in California.” Consistent with SB 380, CPUC staff has consulted with the California Energy Commission, the California Independent Systems Operator and the Los Angeles Department of Water and Power and has published a report finding that SoCalGas should manage the facility to target a working gas level of 23.6 Bcf and maintain a level above 14.8 Bcf at all times in order to maintain safe and reliable service.¹ Managing the Facility in this manner will address public safety and reliability needs and provide flexibility to respond to gas market conditions to support just and reasonable rates. The Commission’s report demonstrates a clear and immediate need to resume injections at the Facility in order to ensure public safety and reliability in the Los Angeles Basin.

This letter effectuates the SB 380 requirement to consult with the State Oil and Gas Supervisor before issuing the directive to SoCalGas to manage the facility to maintain a working gas level necessary to ensure public safety and reliability for the region, and just and reasonable rates in California. Since all SB 380 requirements were met and because it is in the public interest, pursuant to SB 380 the Commission’s Executive Director will order SoCalGas to maintain an inventory of working gas within the range of 14.8 Bcf at the low end and to target 23.6 Bcf when the State Oil and Gas Supervisor allows injections to resume at the Facility.

Some members of the public seek to prohibit injections until the completion of the root-cause analysis into the well failure is completed. DOGGR has sufficiently responded to these concerns in finding that completion of the root-cause analysis is not necessary to meet the requirements of SB 380; and that the redundancy of a primary and secondary containment system that are operating with significant safety margins, the ongoing testing regime, continuous monitoring of pressures at the operations center, daily inspections for methane emissions at the well site, production system reconfiguration with tubing-only injection and withdrawal requirements, and a substantially lower operating pressure all add additional layers of operational safety that did not exist when the well failure occurred. These additional safety measures help ensure that the Facility can be operated safely while the root-cause analysis is ongoing.

The root-cause analysis is being conducted by independent experts and may provide information relevant to the Commission’s other obligations mandated by SB 380 - such

¹ The report was first published in summer 2016, updated in winter 2017, and recently updated on July 19, 2017.

as the Commission's consideration of the long-term future of the Facility – and the Commission's independent duty to investigate the cause of the well failure.

Public Safety Responsibilities

Safety is a core part of the CPUC's mission. In recent years the CPUC has taken steps ensure that safety informs all our actions. In the industries the CPUC regulates, risk cannot be completely eliminated and cannot be viewed in a vacuum. Based on CPUC staff's work and expert opinion, delaying the resumption of injections after DOGGR has completed its safety determination may itself pose a continued public safety and reliability risk to the Los Angeles Basin.

SB 380 requires the CPUC's Executive Director to authorize a range of working gas to be maintained at the Facility. This determination was made in reliance on the best data and guided by Public Utilities Code Section 451, which states in part, "...Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities...as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public..." At this time, public health and safety is best served by ensuring that adequate supplies of gas, limited to a working gas level that ensures reliability, are maintained at the Facility to serve the Los Angeles Basin's energy needs.

Commission Proceedings

On February 9, 2017, the CPUC opened a proceeding required by SB 380 to analyze whether it is feasible to reduce or eliminate the use of the Facility while still maintaining electric and gas reliability for the region. In this proceeding, the CPUC will ultimately answer the question of whether to reduce or eliminate the use of the Facility, and if so, under what conditions and parameters and in what time-frame. This includes an assessment of the impact of reducing or eliminating the use of the Facility on customer rates. A final decision in the matter is expected mid-2018, but the CPUC has slated a 24-month timeframe from the opening of the proceeding to complete all work.

CPUC DETERMINATIONS

Based on the findings stated in this letter and the close coordination between CPUC and DOGGR staff, the Executive Director of the CPUC hereby concurs with the determination of the State Oil & Gas Supervisor that all wells ready to return to service have passed well integrity tests; and all wells that have not passed DOGGR's integrity tests have either been temporarily abandoned and isolated from the reservoir or fully plugged and abandoned consistent with DOGGR regulations.

The CPUC will also issue the order described above regarding the working range of gas needed in the field for reliability purposes, and has already begun the hearings to determine the feasibility of minimizing or eliminating use of the Facility.

As we move forward, CPUC staff will continue to work in close coordination with DOGGR to exercise our concurrent safety jurisdiction over natural gas storage facilities – consistent with the December 19, 2016 Memorandum of Understanding between the agencies - and ensure compliance with all the measures described in this letter.

A handwritten signature in blue ink that reads "Timothy J. Sullivan". The signature is written in a cursive style with a horizontal line underneath the name.

Timothy J. Sullivan
Executive Director
California Public Utilities Commission