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ROOT CAUSE ANALYSIS FOR ALISO CANYON FINALIZED; CALIFORNIA TO CONTINUE STRENGTHENING SAFEGUARDS FOR NATURAL GAS STORAGE FACILITIES

SAN FRANCISCO, May 17, 2019 - The California Public Utilities Commission (CPUC) and the Department of Conservation's Division of Oil, Gas, and Geothermal Resources (DOGGR), today announced that Blade Energy Partners has completed its independent root cause analysis of the leak at Southern California Gas Company's (SoCalGas) Aliso Canyon Natural Gas Storage Facility that began on October 23, 2015.

The CPUC, in consultation with DOGGR and the federal Pipeline and Hazardous Materials Safety Administration, [selected](#) Blade Energy Partners in January 2016 to perform an independent analysis of the leak's root cause to inform parallel investigations underway by the CPUC and DOGGR. Blade's report was issued today to the public and is available on the CPUC's Aliso Canyon webpage at www.cpuc.ca.gov/aliso.

Among Blade's findings:

- The leak's direct cause was a rupture of the outer 7-inch well casing due to microbial corrosion from the outside resulting from contact with groundwater.
- SoCalGas did not conduct detailed follow-up inspections or analyses after previous leaks. Blade identified more than 60 casing leaks at Aliso Canyon before the October 2015 incident going back to the 1970s, but no failure investigations were conducted by SoCalGas.

- SoCalGas lacked any form of risk assessment focused on well integrity management and lacked systematic practices of external corrosion protection and a real-time, continuous pressure monitoring system for well surveillance.
- Updated well safety practices and regulations adopted by DOGGR address most of the root causes of the leak identified during Blade's investigation.

While CPUC and DOGGR's initial assessment is that measures taken to date address the Blade report's findings and recommendations, the analysis will be used to further improve regulations and overall gas storage facility oversight practices as appropriate.

Blade's report will also inform parallel investigations being conducted by the CPUC and DOGGR. Those investigations are focusing on overall well and field operations and are expected to be completed later this year. Technical expertise will be provided from the Lawrence Berkeley, Lawrence Livermore, and Sandia National Laboratories (National Labs).

The CPUC will hold a public meeting in Southern California in June or July to provide an opportunity for Blade to present and discuss the report with the public.

Since the leak, the CPUC and DOGGR have taken aggressive steps to prevent a similar leak from occurring again, including DOGGR's [stringent new regulations](#) for all underground natural gas storage reservoirs. Enacted immediately after the leak began and made permanent on October 1, 2018, the regulations ensure that no single point of failure in a well can cause a release of gas into the atmosphere.

The regulations have been cited by the federal Pipelines and Hazard Materials Safety Division as some of the strongest in the nation. Among the requirements are robust well construction standards, mechanical integrity testing to detect a problem before it occurs, real-time pressure monitoring, and a mandate that gas production and withdrawals can only occur through production tubing, rather than through both the tubing and the protective casing.

The CPUC and DOGGR also issued other directives to SoCalGas both immediately after and since the leak. DOGGR and the CPUC required SoCalGas to complete a [rigorous comprehensive safety review](#) before reopening. Each well was required to either pass a battery of tests to potentially be eligible to resume gas injection or be taken out of operation and isolated from the reservoir ([test results](#)). The utility was also ordered to conduct air sampling surveys of the neighborhoods surrounding the storage field, and to equip active wells with real-time air pressure monitors.

The regulatory agencies today sent a joint letter to SoCalGas seeking additional information they believe is relevant to Blade's analysis. The letter, as well as a video from Blade discussing the report, and the report itself, are available at www.cpuc.ca.gov/aliso. Supplemental attachments to Blade's report will be posted to the same webpage on May 31, 2019.

The CPUC also has a proceeding underway to determine the feasibility of minimizing or eliminating the use of Aliso Canyon while still maintaining energy and electric reliability for the Los Angeles region. Subscribe to documents related to the proceeding at <http://subscribecpuc.cpuc.ca.gov/> using proceeding number I.17-02-002, or visit the proceeding webpage at www.cpuc.ca.gov/AlisoOII.

The CPUC regulates services and utilities, safeguards the environment, and assures Californians' access to safe and reliable utility infrastructure and services. For more information, please visit www.cpuc.ca.gov.

DOGGR regulates oil, natural gas, and geothermal production in California under the guiding principles of environmental and public safety. Extensive information about Aliso Canyon regulatory actions, including real-time well testing results, are available at DOGGR's Aliso Canyon webpage, <https://www.conservation.ca.gov/dog/Pages/AlisoCanyon.aspx>.

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