

Order Instituting Investigation on the Commission's Own Motion into the Operations and Practices of Southern California Gas Company with Respect to the Aliso Canyon storage facility and the release of natural gas, and Order to Show Cause Why Southern California Gas Company Should Not Be Sanctioned for Allowing the Uncontrolled Release of Natural Gas from Its Aliso Canyon Storage Facility. (U904G).

I.19-06-016
(Filed June 27, 2019)

**CHAPTER III
PREPARED OPENING TESTIMONY OF AMY KITSON ON BEHALF OF
SOUTHERN CALIFORNIA GAS COMPANY (U 904 G)**

(BLADE REPORT MITIGATION SOLUTIONS)

November 22, 2019

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CHAPTER III
BLADE REPORT MITIGATION SOLUTIONS

The purpose of my testimony is to describe the steps that SoCalGas has taken to implement each of the applicable mitigation solutions identified in Section 5.3.1 of the Blade Report.

The Blade Report identifies twelve mitigation solutions. Two of the solutions (Solution Nos. 2 and 7) recommend strengthening regulations and, as such, are directed to regulators rather than SoCalGas. With the exception of Solution Nos. 2 and 7, below I note the mitigation measure identified in the Blade Report and then describe steps SoCalGas has taken to address each one, as appropriate. As the Blade Report indicates,¹ SoCalGas has already implemented most of the recommendations that Blade asserts would have mitigated or prevented the SS-25 incident.

Solution 1: Production Casing Should be Cemented to the Surface

This mitigation/solution has already been implemented. Since approximately 1992, SoCalGas has made it a practice to cement production casings to surface for new wells. Today, for existing wells with production casings that are not cemented to surface, SoCalGas inspects production casings for wall loss, consistent with Division of Oil, Gas, and Geothermal Resources (“DOGGR”) Underground Storage (“UGS”) Regulations’ Mechanical Integrity Testing (“MIT”) requirements (14 CCR §1726.6), which detail methods such as magnetic flux or ultrasonic technologies.

Solution 3: Internal Policy Should Require Casing Wall Thickness Inspections

This mitigation/solution has already been implemented. SoCalGas’ internal policies require casing wall thickness inspections to estimate internal and external corrosion consistent with DOGGR UGS regulations’ MIT requirements (14 CCR §1726.6). SoCalGas is following these policies today and already is conducting casing wall thickness inspections. As the Blade Report recognizes, this requirement is incorporated into SoCalGas’ Storage Integrity Management Program (“SIMP”), which includes a Risk Management Plan (“RMP”) SoCalGas submitted to DOGGR that prioritizes interval reassessments based on risk. The SIMP RMP is currently pending approval from DOGGR.

¹ Blade Report at 234 – 237.

1 **Solution 4: A Risk Based Well Integrity Management System Should be Implemented**

2 This mitigation/solution has already been implemented. SoCalGas proposed SIMP—a
3 forward-looking plan to assess and enhance the safety and integrity of SoCalGas’ storage wells.
4 SoCalGas proposed SIMP in 2014, before federal and state underground gas storage regulations
5 were promulgated. SIMP was modeled after successful integrity management programs for
6 SoCalGas’ pipeline system. The Pipeline and Hazardous Materials Safety Administration began
7 requiring transmission companies to develop a Transmission Integrity Management Program and
8 Distribution Integrity Management Program in 2004 and 2006, respectively. SoCalGas
9 identified the potential need for an equivalent program that involved well integrity and
10 proactively proposed SIMP without waiting for regulations to be promulgated. SoCalGas began
11 a SIMP pilot program for well integrity and management work in 2014; its request for SIMP was
12 approved by the CPUC in 2016;² and SoCalGas has implemented SIMP today.

13 SoCalGas has also developed and submitted to DOGGR for review and approval a RMP
14 which sets forth SoCalGas’ approach to threat and risk assessment, threat and risk mitigation,
15 work plans and schedules, and emergency response.

16 **Solution 5: Conduct a Casing Corrosion Study**

17 This mitigation/solution is in the process of being implemented. As part of SIMP,
18 SoCalGas developed a Corrosion Control Manual within its RMP to optimize and inform
19 corrosion control efforts. The Corrosion Control Manual includes corrosion-specific
20 preventative and mitigative activities including the identification of well risks, corrosion rates
21 and field specific trends, and mitigation measures. Further, through ongoing assessments,
22 SoCalGas is gathering and integrating data to evaluate potential threats to production casings,
23 including corrosion.

24 SoCalGas further plans to work with DOGGR and industry experts to develop a
25 corrosion control study that will utilize the findings from ongoing assessments to trend and
26 evaluate the contributing factors that may lead to a higher potential for corrosion related wall
27 loss. Both the Corrosion Control Manual and corrosion control study will be used in concert to
28 mitigate the potential for corrosion related wall loss.

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² CPUC Decision (D.)16-06-054.

1 **Solution 6: Conduct a Casing Failure Analysis**

2 This mitigation/solution has already been implemented. The Blade Report incorrectly
3 asserts that SoCalGas did not investigate the causes of previous casing failures. In order to
4 remediate a leak discovered in any gas storage well, SoCalGas necessarily had to analyze and
5 diagnose the issue first, before repairing it. In describing Solution 6, the Blade Report states that
6 “casing failures need to be formally investigated.”³ The Blade Report fails to recognize,
7 however, that a “formal investigation” of the type Blade appears to envision would likely entail a
8 level of examination that would not be feasible for an active well, nor necessary. While Blade
9 was able to cut, extract, and thoroughly examine the casing at well SS-25 because there were
10 plans to abandon the well, it is not feasible for SoCalGas to perform the same level of failure
11 analysis on active gas storage wells. Further, although the SS-25 failure occurred at a relatively
12 shallow depth, even Blade experienced difficulty cutting and extracting the casing. For casing
13 failures thousands of feet belowground, operational issues may inhibit the cutting and extracting
14 of casing. Nevertheless, even though SoCalGas already had and continues to have a process for
15 conducting casing failure analyses, SoCalGas continues to review its internal failure
16 investigation practices and is currently exploring methods to enhance them.

17 **Solution 8: Well Specific Detailed Well-Control Plan**

18 This mitigation/solution is being reviewed for implementation. From before the incident
19 through today, SoCalGas has implemented numerous practices and procedures to enhance
20 efficient and effective well control. Recently, SoCalGas enhanced its Emergency Response Plan
21 to meet new federal and state regulatory requirements, and prepositioned materials and executed
22 new contracts to have certain materials and contractors available in the event of an occurrence
23 requiring them. SoCalGas is also working with DOGGR to further refine and strengthen its
24 Emergency Response Plan and will incorporate Blade’s well-control recommendations, where
25 appropriate.

26 SoCalGas is also in the process of developing well-specific Inflow Performance
27 Relationship (“IPR”) curves and expects completion in 2020.

28 Notwithstanding undertaking the foregoing efforts, SoCalGas notes that for decades the
29 advanced lateral well-kill systems at its storage fields have provided remote connections to enter

³ Blade Report at p. 232.

1 the wellheads for access to the tubing or annulus flow stream.⁴ SoCalGas also has surface
2 emergency shut down systems on all injection and withdrawal wells, which include surface
3 safety valves—a safety enhancement that is not standard nationwide.

4 **Solution 9: Tubing Packer Completion-Dual Barrier System**

5 This mitigation/solution has already been implemented. Today SoCalGas’ in-service gas
6 storage wells have a tubing packer completion, which provides two barriers, and gas injection
7 and withdrawal is only done through the tubing.

8 **Solution 10: Implement Cathodic Protection as Appropriate**

9 This mitigation/solution is in the process of being analyzed for implementation, as
10 appropriate, on a case-by-case basis. As part of SIMP, SoCalGas has worked with industry
11 experts to develop a Corrosion Control Manual within its RMP to optimize and inform corrosion
12 control efforts, including the suitability of cathodic protection. The Corrosion Control Manual
13 utilizes the identification of wall loss related anomalies discovered through ongoing well
14 assessments, and identifies corrosion-specific preventative and mitigative activities that include
15 the evaluation and application of cathodic protection where necessary. Work to further develop
16 and mature the Corrosion Control Manual and the associated procedures to support its
17 refinement is underway.

18 **Solution 11: Ensure Surface Casings Are Cemented to Surface for New Wells**

19 This mitigation/solution has already been implemented. As the Blade Report recognizes,
20 DOGGR’s UGS regulations require that operators cement surface casing to surface for new
21 wells. SoCalGas has developed a SIMP written plan and Gas Standards to incorporate DOGGR
22 UGS regulations into its practices. SoCalGas submitted its RMP to DOGGR for approval on
23 April 1, 2019 and it is currently under review.

24 **Solution 12: Well Surveillance Through Surface Pressure (Tubing and Annuli)**

25 This mitigation/solution has already been implemented. SoCalGas has installed pressure
26 transmitters on all storage wells at all fields. The pressure transmitters provide around-the-clock
27 pressure monitoring of the tubing and annular spaces of a well.

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⁴ See Chapter I (Neville).

1 **WITNESS QUALIFICATIONS**

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3 My name is Amy C. Kitson. I am employed by SoCalGas as the Director of Integrity
4 Management and Strategic Planning. My business address is 555 West Fifth Street, Los
5 Angeles, California 90013-1011.

6 In my current position, my responsibilities include overseeing Integrity Management
7 practices and related functions for gas storage, distribution, and transmission projects for
8 SoCalGas.

9 I joined SoCalGas in 2005 as an engineer in the Gas Operations organization supporting
10 the Transmission Integrity Management Program. Since that time, I have held numerous
11 positions with increasing levels of responsibility including Project Manager, Technical Services
12 Manager, Storage Engineering Manager, Risk Assessment & Controls Manager, and Director of
13 Storage Risk Management within Storage Operations.

14 Prior to joining SoCalGas, I worked at Consumers Energy in Michigan. There I held
15 several positions including Mechanical Engineer, Employee Development Coordinator, and
16 Engineering Team Leader.

17 I graduated from California State University Northridge in 2009 with a Master of Science
18 degree in Engineering Management and from Michigan State University in 2003 with a Bachelor
19 of Science degree in Mechanical Engineering.

20 I have not previously testified before the Commission.
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