

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).

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## **CHAPTER V**

### **PREPARED SUR-REPLY TESTIMONY OF L. WILLIAM ABEL ON BEHALF OF SOUTHERN CALIFORNIA GAS COMPANY (U 904 G)**

June 30, 2020

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**CHAPTER V**

**PREPARED SUR-REPLY TESTIMONY OF L. WILLIAM ABEL ON BEHALF OF  
SOUTHERN CALIFORNIA GAS COMPANY (U 904 G)**

**I. INTRODUCTION**

The purpose of my prepared sur-reply testimony on behalf of Southern California Gas Company (SoCalGas) is to address the Reply Testimony submitted on behalf of the California Public Utilities Commission’s (Commission) Safety and Enforcement Division (SED) by its witness, Margaret Felts on March 20, 2020 (Reply Testimony). Specifically, I address the statements made by Ms. Felts in Reasons 5, 15, and 17, cited by SED as supporting its argument that SoCalGas has not met its burden to show cause as to why the Commission should not find that SoCalGas violated Public Utilities Code § 451.<sup>1</sup>

**II. DISCUSSION**

A. Reason 5

SED’s Reason 5 alleges that “SoCalGas stated it installed a remote well kill system in testimony but did not explain in response to SED’s discovery why it did not use that remote well kill system to kill well SS-25.”<sup>2</sup> SED further alleges that while SoCalGas used a remote kill system in 1988 to control well Porter 44 (P-44), “SED fails to understand why SoCalGas elected not to use the remote kill system ... when SoCalGas initially attempted to kill Well SS-25.”<sup>3</sup> SED’s assertions display a fundamental misunderstanding of the purpose and use of remote well kill systems.

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<sup>1</sup> SED Reply Testimony (Felts) at 6-7, 16-18, 19-20.

<sup>2</sup> SED Reply Testimony (Felts) at 6.

<sup>3</sup> SED Reply Testimony (Felts) at 7.

1           The purpose of a remote well kill system is to allow the operator to kill the well in the  
2 event the well site is inaccessible. To elaborate, when a well failure requires the well operator or  
3 a well control company to control the well by top kill, the use of an existing remote kill system is  
4 typically not the first option for bringing the well under control. Indeed, while it is prudent for  
5 operators to have in place remote kill systems as a contingency measure, the standard practice is  
6 to bring on site the equipment needed to implement a well control operation, including the kill  
7 lines. There are two principal reasons for this: (1) it is good practice to have in place a second  
8 kill line in the event that the primary line fails, or the wellsite becomes inaccessible and requires  
9 the well control operation to re-locate to a safer location, and (2) professional well control  
10 companies such as Boots & Coots and Halliburton prefer to use pressure control equipment with  
11 which they have greater familiarity, and so they typically request or bring on site the equipment  
12 required to implement the well kill. Thus, a remote kill system is typically employed only when  
13 the well failure is such that well control personnel cannot safely rig-up their equipment at the  
14 well pad.

15           During the period Boots & Coots designed and implemented its well kill attempts, Boots  
16 & Coots regularly assessed whether personnel could safely access the well pad, and implemented  
17 well kills only when it was safe to do so. As detailed in Boots & Coots' Daily Operations  
18 Reports, Boots & Coots personnel regularly measured the Lower Explosive Limit (LEL) at and  
19 around the well pad to determine whether it was safe for its personnel to access the well head.<sup>4</sup>  
20 The LEL represents the minimum concentration of a particular combustible gas (here, methane)  
21 necessary for it to ignite in air. A methane-to-air mixture that includes at least 5% methane by  
22 volume (or 100% LEL) represents the lowest mixture of methane-to-air that would support

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<sup>4</sup> SoCalGas Reply Testimony, Ex. III-3.

1 ignition. Boots & Coots' notes indicate that while on certain days the LEL prevented the use of  
2 equipment around the well pad, Boots & Coots personnel took regular LEL readings, and were  
3 able to safely access the well in connection with the top kill attempts.<sup>5</sup>

4 Further, SED's contention that the SS-25 incident presented a situation similar to the  
5 incident at P-44 in 1988, in which SoCalGas utilized the remote kill system, is incorrect. The  
6 remote kill operation employed on P-44 highlights the precise circumstances where a remote  
7 well kill is appropriate. First, SoCalGas did not implement a kill operation on P-44 in response  
8 to a casing failure.<sup>6</sup> Rather, SoCalGas was in the process of implementing its solvent injection  
9 program when equipment attached to the injection machinery failed and caused SoCalGas to  
10 abort the process. As a result, gas escaped directly from the opening in the wellhead (not 892  
11 feet underground) and, after SoCalGas' contractor failed to manually close the "rams," or gates,  
12 on the Blowout Preventer, SoCalGas was forced to implement a well kill to control the well.  
13 Given the location of the escaping gas—directly at the wellhead—it was apparent that the well  
14 needed to be controlled from a remote location.

15 Where gas emanates directly from the wellhead at high rates, gas would be concentrated  
16 directly around the equipment that well control personnel need to access in a standard top kill  
17 operation. A high volume of gas released from a concentrated area could not only make it  
18 difficult to physically access the wellhead, but the concentrations at or around the wellhead  
19 would create a high risk of ignition, and pose a serious danger to well kill personnel. Thus, for  
20 P-44, there were circumstances that necessitated killing the well from a remote location. The  
21 SS-25 incident, on the other hand, did not present this precise challenge. While the seven inch  
22 production casing failed at a relatively shallow depth (892 feet), the wellhead was intact and

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<sup>5</sup> SoCalGas Reply Testimony, Ex. III-3.

<sup>6</sup> SED Reply Testimony (Felts), Bates SED\_RT\_0112-0113.

1 accessible. Moreover, while every well control operation involves the risk of ignition, here, the  
2 gas was coming up through the ground and dispersing around the well pad. Thus, with the  
3 benefit of the LEL measurements, Boots & Coots was able to determine when it was reasonably  
4 safe to access the wellhead.

5 B. Reason 15

6 SED's Reason 15 alleges that SoCalGas did not adequately demonstrate oversight of the  
7 SS-25 well control operations conducted by its third-party well control specialist.<sup>7</sup> SED  
8 complains that while SoCalGas' witness, Mr. Schwecke, stated in its Opening Testimony that  
9 SoCalGas' reasonably and prudently managed its well kill expert and oversaw the well kills,  
10 "SoCalGas consistently indicated in responses to SED's data requests that once the well kill  
11 operations were turned over to Boots & Coots, well control management was no longer part of  
12 SoCalGas's role."<sup>8</sup> SED further states that it "is left with the impression that SoCalGas did  
13 indeed turn over complete management of the well kill operations to Boots & Coots after the first  
14 well kill attempt, which is contrary to Mr. Schwecke's [*sic*] statement." SED's allegations lack  
15 factual support. Instead, as I described in my Reply Testimony, SED's assertions appear to be  
16 premised on a misunderstanding of a gas operator's role in an emergency well kill scenario.<sup>9</sup>

17 SED's Reason 15 alleges that SoCalGas did not adequately demonstrate oversight of the  
18 SS-25 well control operations conducted by its third-party well control specialist.<sup>10</sup> However,  
19 based on my experience with over 500 well kill operations, I conclude that SoCalGas' oversight  
20 of the SS-25 well control operations were prudent and reasonable. As I previously described,

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<sup>7</sup> SED Reply Testimony (Felts) at 16-18.

<sup>8</sup> SED Reply Testimony (Felts) at 17 (citing SoCalGas' December 6, 2018 Response to SED's October 23, 2018 Data Request (*See*, SED Reply Testimony (Felts), Bates SED\_RT\_0509-526)).

<sup>9</sup> SoCalGas Reply Testimony, Ch. III (Abel) at 1-4.

<sup>10</sup> SED Reply Testimony (Felts) at 16-18.

1 SoCalGas oversaw and approved Boots & Coots’ recommended well control plans, but did not  
2 determine the manner in which Boots & Coots prepared or executed its well kill operations.<sup>11</sup>  
3 This is not to say that SoCalGas exercised no management or oversight of the well control  
4 operations. Indeed, consistent with Mr. Schwecke’s testimony—and counter to SED’s  
5 allegations—testimony provided by Boots & Coots evidences that SoCalGas reasonably and  
6 prudently oversaw and managed Boots & Coots’ operations. As Mr. Walzel testified during his  
7 deposition, SoCalGas had a “clear command structure,” held daily meetings with Boots & Coots,  
8 solicited Boots & Coots’ views, provided the information that Boots & Coots needed, observed  
9 every well kill attempt, brought on the local contractors and suppliers that Boots & Coots  
10 needed, and discussed every kill attempt with Boots & Coots, weighing the “pros and cons” to  
11 come up with an “agreed plan.”<sup>12</sup> As such, SED’s assertions are unsupported by the available  
12 evidence.

13 C. Reason 17

14 SED’s Reason 17 alleges that “SoCalGas did not show that it withdrew gas from Aliso  
15 canyon storage facility as soon as it could have to reduce the reservoir pressure on well SS-25  
16 during the incident.”<sup>13</sup> SED further asserts that it “questions why SoCalGas waited 19 days  
17 before it began withdrawals from the Aliso Canyon storage facility to reduce the reservoir  
18 pressure to support the well kill efforts and to reduce the amount of gas released.”<sup>14</sup> SED  
19 concludes that “[o]ne of the first things SoCalGas should have done in addition to preparing for a  
20 relief well was to begin drawing down gas to relieve the pressure on the reservoir.”<sup>15</sup> Once

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<sup>11</sup> SoCalGas Reply Testimony, Ch. III (Abel) at 3.

<sup>12</sup> SoCalGas Reply Testimony, Ex. III-4 (Danny Walzel Depo. Tr. 237:19-239:4 (Feb. 21, 2020).)

<sup>13</sup> SED Reply Testimony (Felts) at 9.

<sup>14</sup> SED Reply Testimony (Felts) at 19-20.

<sup>15</sup> SED Reply Testimony (Felts) at 20.

1 again, Ms. Felts’ assertions are unsupported by sound logic and, by her own admission, Ms. Felts  
2 has *no* direct well control experience<sup>16</sup> that would qualify her to make such a statement.

3 First, as Mr. Schwecke explained in his Opening Testimony, “in order to decrease the  
4 pressure in the reservoir and potentially enhance the ability to conduct a successful well kill  
5 attempt,” SoCalGas purposefully began to aggressively withdraw gas from the facility on or  
6 about November 11, 2015.<sup>17</sup> What Mr. Schwecke’s testimony demonstrates is that SoCalGas  
7 was considering all possible measures that could have *potentially* aided the success of the well  
8 control efforts. Based on my decades of experience, this measure went beyond what is typically  
9 done by operators facing similar well failures. In fact, considering the over 500 well control  
10 operations that I have participated in, I am not aware of any operator drawing down its reservoir  
11 in order to enhance the chances of success in a well kill operation. Moreover, the reduction in  
12 reservoir pressure would not have a material impact on the well control operations because the  
13 reservoir pressure, whether the higher or lower, could simply be accounted for in the well kill  
14 design.

15 Second, SoCalGas voluntarily began withdrawing gas from the reservoir *before* the  
16 second well kill attempt—and over two months before the CPUC ordered SoCalGas to “take all  
17 reasonable steps to reduce the level of working gas at Aliso Canyon.”<sup>18</sup> Moreover, it is notable  
18 that Ms. Felts fails to identify any consequences of SoCalGas having not drawn down the  
19 reservoir earlier than November 11, 2015—before the second well kill attempt.

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<sup>16</sup> See, SoCalGas Reply Testimony, Ex. I-10 (Margaret Felts Depo. Tr., 68:8-10 [Q: Okay. Finally, Ms. Felts do you have any experience with well-control or well-kill operations? A. No.])

<sup>17</sup> SoCalGas Opening Testimony Ch. II (Schwecke) at 12.

<sup>18</sup> See, Letter from T. Sullivan to J. Cho (Jan. 21, 2016), available at: <https://www.cpuc.ca.gov/aliso/>. While Mr. Sullivan’s letter describes that the purpose of the draw down is to reduce pressure within the Aliso Canyon natural gas storage facility to the greatest extent possible and minimize the rate of the gas leak, it is unclear whether this was intended to support the well kill operations.

1 **III. CONCLUSION**

2 For the foregoing reasons, and based on my experience, knowledge, and expertise gained  
3 from participating in more than 500 well kill operations worldwide, I conclude that SoCalGas'  
4 actions in response to the SS-25 leak were prudent, reasonable, and consistent with industry  
5 standards and practices. Moreover, the assertions made by Ms. Felts in Reasons 5, 15, and 17  
6 continue to demonstrate a misunderstanding of prudent well control operations, and are in my  
7 opinion informed by a lack of experience and expertise in this area.

8 This concludes my prepared sur-reply Testimony.