

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

ENERGY DIVISION

**AGENDA ID: 16855
RESOLUTION G-3541
October 25, 2018**

R E S O L U T I O N

Resolution G-3541. Southern California Gas Company requests \$5.9 million to operate a 2018-2019 winter season smart thermostat load control demand response program.

PROPOSED OUTCOME:

- Approves \$5,870,000 for Southern California Gas Company (SoCalGas) to reduce natural gas heating load during periods of system constraint by controlling residential thermostats.

SAFETY CONSIDERATIONS:

- Approval of a budget for a winter season 2018-2019 natural gas demand response program is in response to ongoing unexpected operational limitations on SoCalGas' system stemming from the 2015 Aliso Canyon gas leak and include continuing outages on several key natural gas pipelines.

ESTIMATED COST:

- This program will cost SoCalGas ratepayers up to \$5,870,000 depending on enrollment.

By Advice Letter 5303, Filed on May 31, 2018.

SUMMARY

SoCalGas filed Advice Letter (AL) 5303 on May 31, 2018 in response to an April 12, 2018 letter from the Energy Division Director requesting SoCalGas continue its 2017-2018 device-based winter demand response program (submitted in AL 5223) in order to "address the ongoing reliability concerns related to Aliso Canyon during the winter of 2018-2019."

SoCalGas filed Advice Letter 5223, on November 28, 2017, also at the request of the Energy Division Director. AL 5223 requested approval to implement a thermostat-based load control Demand Response program for the winter seasons of both 2017-2018 and 2018-2019. AL 5223 requested a budget only for the winter of 2017-2018, noting that SoCalGas could better determine a budget amount for the 2018-2019 winter season after learning more about the ongoing expansion of smart thermostat adoption by customers. Energy Division approved AL 5223 on December 21, 2017.

This resolution approves a budget of \$5,870,000 for SoCalGas to operate the thermostat-based natural gas demand response program approved on December 21, 2017, to support natural gas reliability in Southern California.

We direct SoCalGas to ensure that the evaluation for the 2018-2019 winter program identifies, as possible, additional metrics for measuring program success and value, and applies those as part of its evaluation to support learning for potential future seasons.

BACKGROUND

On October 25, 2015, SoCalGas notified the California Public Utilities Commission (Commission) of a natural gas leak at the Aliso Canyon gas storage facility. In response, on January 6, 2016, Governor Brown proclaimed a state of emergency for Los Angeles County. The proclamation directed all agencies of state government to “ensure a continuous and thorough response to this incident”¹ and further directed the Commission to “take all actions necessary to ensure the continued reliability of natural gas and electricity supplies in the coming months.”²

SoCalGas’ storage facility at Aliso Canyon is the second largest natural gas storage facility in the western United States with a capacity of 86.2 billion cubic feet (Bcf) of natural gas. In addition to the size of the Aliso Canyon facility, the facility is also of critical importance because of its location near and ability to serve the Los Angeles County Basin.

¹ Governor Edmund G. Brown Jr., *Proclamation of State of Emergency*, issued January 6, 2016, Order #1, available at <https://www.gov.ca.gov/2016/01/06/news19264/>

² *Ibid*, Order #10

Though the leak was sealed on February 17, 2016, reliability concerns persisted, and remain in the summer of 2018. According to the joint agency “Aliso Canyon Risk Assessment Technical Report” produced May 7, 2018 by experts and staff (collectively “Joint Staff”) of the Commission, the California Energy Commission, the California Independent System Operator, and the Los Angeles Department of Water and Power (collectively “Joint Agencies”):

“The Southern California Gas system continues to operate at less than full capacity due to a significant number of pipeline outages and continuing restrictions on use of the Aliso Canyon natural gas storage facility. This reduction in capacity creates a moderate threat to electric reliability this summer. The more serious threat lies ahead. With so many pipeline outages, it will be difficult for SoCalGas to fill storage to a level sufficient to ensure energy reliability throughout the coming winter.”

The report goes on to say that summer 2018 challenges stem primarily from continuing outages on four key natural gas pipelines.

“Last winter, the SoCalGas system avoided serious problems primarily because of unusually warm weather. The February cold snap sharply illustrated how fast storage inventories can dwindle and how quickly storage withdrawal capacity declines. With these lessons in mind, looking beyond summer to the upcoming winter is critically important. Without sufficient storage inventory in November, Southern California could see a repetition of last winter, with energy reliability hinging on the vagaries of the weather. Measures to reduce the risk therefore remain necessary.”³

The Joint Staff suggest continuing most of the current mitigation measures – including the SoCalGas thermostat control demand response program⁴ - and exploring several additional measures. The additional measures include ensuring that should Congress approve the “Energy Infrastructure Demand Response Act of 2018,” program administrators consider California as a site for natural gas demand response pilot projects that result from the Act.⁵

³ “Aliso Canyon Risk Assessment Technical Report Summer 2018,” issued May 7, 2018, Joint Agencies, pages 3-4

⁴ Ibid, Page 50

⁵ Ibid, Page 5

The SoCalGas thermostat program is one of the first, if not the first, natural gas based demand response programs in the county, according to a July 30, 2018 impact evaluation of the program's 2018 performance by Nexant.⁶

History of SoCalGas' Device-based Natural Gas Demand Response

In accordance with the Governor's emergency proclamation, the Commission on November 10, 2016 approved Resolution G-3522. That Resolution adopted a suite of winter natural gas conservation outreach efforts and demand response programs; including a version of the thermostat-control program, the budget of which is approved here. SoCalGas filed this suite of programs in AL 5035 on September 27, 2016, shortly after a letter from the Energy Division Director directed them to do so. These actions complied with the Joint Agency Aliso Canyon Gas and Electric Reliability Winter Action Plan, which recommended development and implementation of gas demand response programs.⁷

The next year, on November 16, 2017, the Energy Division Director again directed SoCalGas to file a Tier 2 AL by November 28, 2017, to continue the residential thermostat control program approved in Resolution G-3522 for the winters of 2017-2018 and 2018-2019. His letter cited concerns including that SoCalGas would not be able to meet demand for core customers if there were high demand days in December 2017 or January 2018. Energy Division approved AL 5223 for a winter natural gas thermostat program for the winters of 2017-2018 and 2018-2019, on December 21, 2017.

On April 12, 2018, the Energy Division Director requested SoCalGas to submit an advice letter to continue the thermostat control program from AL 5223 for the winter of 2018-2019. SoCalGas filed AL 5303 on May 31, 2018, asking for budget approval for the winter 2018-2019 program. On June 20, 2018, the Office of Ratepayer Advocates protested the advice letter.

⁶SoCalGas Demand Response: 2017/2018 Winter Load Impact Evaluation, Nexant, Inc., July 30, 2018, Page 2, available on CALMAC, Study ID SCG0220.01
<http://calmac.org/>

⁷ *Aliso Canyon Gas and Electric Reliability Winter Action Plan*, Joint Agencies, August 22, 2016

SoCalGas Smart Savings Program

In AL 5303, SoCalGas requests \$5,870,000 to operate during the winter of 2018-2019 a program that will provide incentives to residential customers for their help in reducing natural gas heating load during natural gas conservation events when the system is constrained.⁸ SoCalGas proposes to partner with thermostat vendors to continue a program that adjusts participants' thermostats to a lower temperature by no more than four degrees during peak events. The event windows are 5 a.m. to 9 a.m. and 5 p.m. to 9 p.m. on non-holiday weekdays between December 2018 and March 2019.

SoCalGas will initiate natural gas conservation events by dispatching commands to its thermostat partners. The thermostat partners then trigger their customers via messaging on the smart thermostat, vendor mobile applications, email, and/or text messages, etc., to alert participants of a pending event. The thermostat partners will also schedule the thermostat for the event periods. Thermostats will automatically lower temperature set points by no more than four degrees during the event period. At the conclusion of the event, the participants smart thermostats will automatically be adjusted back to their original set point.

The program will provide a \$50 enrollment incentive to new participants. All participants who stay in the program until the end of March 2019 will gain an additional \$25.

SoCalGas proposes to target enrollment of 50,000 thermostats in their service territory that use Open Automated Demand Response communications technology, including the roughly 9,000 who participated in the 2017-2018 program. SoCalGas expects to partner with Nest, ecobee, Honeywell, Alarm.com, Vivint, Carrier, Lux, and Radio Thermostat. There are approximately 310,000 eligible customers from all the vendors combined. The budget request, including \$4.7 million earmarked for incentives, is based on this target enrollment.

In AL 5303, SoCalGas also requests approval to:

⁸ AL 5303, and an August 16, 2018 data response from SoCalGas, attached to this Resolution

- Spend \$150,000 of the total budget to hire a contractor to perform an ex post impact evaluation that would use advanced meter and smart thermostat data to determine the load reduction during events from participating customers.
- Modify Preliminary Statement Part VI of the Winter Demand Response Memorandum Account (WDRMA) approved as part of AL 5223 to create a Long-term Winter Demand Response Program Subaccount. SoCalGas proposes to use this for recording the costs associated with the filing of a demand response application and development of a suite of demand response programs beyond the 2018-2019 winter season. This subaccount, like the WDRMA, would be addressed in SoCalGas' next general rate case or other future proceeding.

In AL 5223, SoCalGas announced plans for a 2018 gas demand response program application that would include a suite of demand response programs. In his April 12, 2018 letter to SoCalGas, the Energy Division Director requested the utility file the application for a long-term winter demand response program by November 2018.

NOTICE

Notice of AL 5305 was made by publication in the Commission's Daily Calendar. SoCalGas states that a copy of the Advice Letter was mailed and distributed in accordance with Section 4 of General Order 96-B.

PROTESTS

SoCalGas's Advice Letter 5303 was timely protested by the Office of Ratepayer Advocates (ORA) on June 20, 2018. SoCalGas replied to the protest on June 27, 2018.

ORA's protest centers on two objections: 1) the Commission has not authorized the natural gas demand response program and budget that is the subject of AL 5303, and 2) it is unreasonable for the AL process to be used to authorize SoCalGas's budget as a response to "extraordinary circumstances" that have existed three years in a row. ORA's explanation of these points is below.

No Commission Authorization

ORA asserts that SoCalGas should withdraw AL 5303 and seek authorization via an application or the Commission's authority to address emergency conditions via an expedited process. There is no standing Commission order that authorizes the funding requested in the AL. Any requests for ratepayer funding that have not first been considered through the Commission's formal process, ORA asserts, are inappropriate for the advice letter process. The formal process affords stakeholders and the public an opportunity to thoroughly examine utility funding requests, conduct discovery, and comment on the proposal - steps which, ORA notes, are not provided through the informal AL process.

ORA noted that it raised this objection in its December 5, 2017 protest of AL 5223, which requested approval for a thermostat-based program and funding for the 2017-2018 winter season. At that time ORA pointed out that Resolution G-3522 (November 10, 2016) which authorized winter demand response programs in response to the closing of Aliso Canyon, did not authorize funding for demand response beyond the 2016-2017 winter.

ORA's protest also quotes Energy Division's (ED) December 21, 2017 non-standard disposition letter approving AL 5223 as acknowledging the merit of ORA's protest: "Under normal circumstances, ORA's point is valid and should be followed, but in this case ED concludes that an advice letter process provides the best chance for the program to launch before there is an anticipated shortage of gas service."

No Extraordinary Circumstances

ORA asserts that it is unreasonable to continue to treat what is now a well-documented potential gas shortage in SoCalGas' service territory as an extraordinary circumstance that allows Energy Division to circumvent Commission practice and procedure. ORA goes on to point out that SoCalGas has now had two winters to understand and design appropriate responses to the potential shortages created by lowered capacity at Aliso Canyon and issues with Lines 4000, 3000, and 235-2. Further, SoCalGas' November 28, 2017 AL 5223 acknowledged this fact when it stated its intention for demand response programs for the winter of 2018-2019. When ED sent its April 12, 2018 letter requesting SoCalGas file an AL - some seven months remained before any capacity issue related to winter cold weather would be likely to occur.

SoCalGas' Reply to the ORA Protest

SoCalGas points out that AL 5303 does not seek approval of a new set of demand response programs – but rather seeks to transparently establish a budget for the 2018-2019 winter demand response program that ED approved in AL 5223.

SoCalGas submitted AL 5223 on November 28, 2017 requesting approval of the winter smart thermostat program for the winters of 2017-2018 and 2018-2019, based on direction from the ED Director's November 16, 2017 letter. In AL 5223, SoCalGas noted that it could not forecast at that time a specific budget for the 2018-2019 winter program because of uncertainties related to ongoing expansion of smart thermostat adoption by customers, etc. Energy Division approved AL 5223 on December 21, 2017 by a non-standard disposition letter that addressed ORA's protest, and agreed with SoCalGas that its program proposal was largely the same as one of the programs approved by the Commission in Resolution G-3522 for the winter of 2016-2017.

In sum, SoCalGas states that it is only requesting budget approval for a program that ED already authorized in December of 2017.

DISCUSSION

Energy Division has reviewed ORA's protest and SoCalGas' reply.

We disagree with ORA assertions that there is no backdrop of urgency or extraordinary circumstance related to approval of this budget request given the ongoing nature of the gas shortage threats in Southern California. The status of the natural gas storage and transmission infrastructure in Southern California is dynamic and unfolding as evidenced by the May 7, 2018 "Aliso Canyon Risk Assessment Technical Report" which notes that reliability concerns persist even through this summer and next winter, in part due to the continued outages of four key natural gas pipelines – and projected uncertainties for this winter.

"Without sufficient storage inventory in November, Southern California could see a repetition of last winter, with energy reliability hinging on the vagaries of the weather. Measures to reduce the risk therefore remain necessary."⁹

⁹ "Aliso Canyon Risk Assessment Technical Report Summer 2018," issued May 7, 2018, Joint Agencies, Pages 3-4

The Joint Staff who wrote the report suggest continuing most of the current mitigation measures – including the SoCalGas thermostat control demand response program.¹⁰ Hence, the urgency of the situation in southern California for this coming winter is real and remains a concern.

As Nexant notes in its impact evaluation, this is either the first, or one of the first, winter natural gas demand response programs in the nation. During the winter of 2017-2018, Nexant found that participants used 16-25% less energy during the morning event period, and 10.7-15.6% less during the evening event period. Hence, the program reached its goal of deferring gas usage during peak periods.

SoCalGas' winter 2017-2018 enrollment was about 9,000, while SoCalGas proposes to enroll as many as 50,000 thermostats in the coming winter. Further, in their attached data response, SoCalGas refers to plans to modify the program for future seasons, through its pending demand response natural gas application.

“SoCalGas believes that several more seasons of testing and learning will ultimately lead to the program strategy that is the most suitable for the gas system and for participants. SoCalGas plans to test different strategies in future winter seasons and plans to propose some of these ideas in its anticipated application filing.”

We agree that more testing of this nascent approach is needed during the coming season, and in future seasons if SoCalGas' application is approved.

We, therefore, approve SoCalGas' proposal to operate its winter demand response program for the 2018-19 winter season, as well as the \$5.9 million budget. As described above, the anticipated gas reliability question for this winter in southern California is real and remains a concern. SoCalGas' winter demand response program demonstrated reductions in gas usage during peak periods last winter, and if it can expand (possibly up to 50,000 customers) this winter, it could help mitigate potential gas reliability concerns in southern California. Additionally, the opportunity to further test the program this winter could lead to a more effective program design for future winters. While it is our preference and practice to approve ratepayer funding through formal proceedings, we take that action in this resolution to ensure the program is

¹⁰ Ibid, Page 50

operational by this winter. A formal proceeding at this juncture would not be able to authorize a demand response program in time for the coming winter.

We also approve SoCalGas' request to create a Long-term Winter Demand Response Program Subaccount. SoCalGas proposes to use this account for recording the costs associated with the filing of a demand response application and development of a suite of demand response programs beyond the 2018-2019 winter season. Per direction from the Energy Division Director, we expect SoCalGas to file this application in November 2018, and for it to formally handle all future winter demand response efforts in the manner that ORA requests.

COMMENTS

Public Utilities Code section 311(g)(1) provides that this resolution must be served on all parties and subject to at least 30 days public review. Please note that comments are due 20 days from the mailing date of this resolution. Section 311(g)(2) provides that this 30-day review period and 20-day comment period may be reduced or waived upon the stipulation of all parties in the proceeding.

The 30-day review and 20-day comment period for the draft of this resolution was neither waived nor reduced. Accordingly, this draft resolution was mailed to parties for comments, and will be placed on the Commission's agenda no earlier than 30 days from today.

FINDINGS

1. The May 7, 2018 "Aliso Canyon Risk Assessment Technical Report" forecasts natural gas reliability concerns for Southern California during the winter of 2018-2019.
2. The joint staff who wrote the report suggest continuing most of the current mitigation measures - including the SoCalGas thermostat control demand response program.¹¹
3. A July 2018 impact evaluation by Nexant of the 2017-2018 winter demand response program found participants used up to 25% less energy during the morning event periods and up to 15.6% less during the evening event periods.

¹¹ Ibid, Page 50

4. A formal proceeding at this juncture would not be able to authorize a demand response program in time for the coming winter.
5. The ED director requested in an April 12, 2018 letter to SoCalGas that it file an application for a long-term winter demand response program by November 2018.
6. The SoCalGas application will provide a formal process for stakeholder consideration of and Commission action on natural gas demand response activities after the winter of 2018-2019.
7. The timing of the application proceeding will be determined by the Administrative Law Judge division.

THEREFORE IT IS ORDERED THAT:

1. The request of the Southern California Gas Company for approval of a budget of \$5,870,000 for the 2018-2019 winter demand response program as requested in Advice Letter 5305 is approved.
2. SoCalGas requests to modify the Winter Demand Response Memorandum Account per AL 5303 are approved.

This Resolution is effective today.

I certify that the foregoing resolution was duly introduced, passed and adopted at a conference of the Public Utilities Commission of the State of California held on October 25, 2018; the following Commissioners voting favorably thereon:

ALICE STEBBINS
Executive Director

ATTACHMENT A

**SOUTHERN CALIFORNIA GAS COMPANY
2018-2019 WINTERTIME DEMAND RESPONSE PROGRAM
ADVICE LETTER 5303**

(DATA REQUEST FROM THE CPUC)

August 16, 2018

SoCalGas, please provide the following information to provide a more complete picture of the winter natural gas demand response program that Advice Letter 5303 requests funding for.

1. What sector or class of customers does the program target when it refers to recruiting 50,000 participants?

SoCalGas Response: The SoCalGas 2018-2019 Wintertime Demand Response (DR) Program will target residential customers within SoCalGas service territory.

2. What are the names of the vendor companies that SoCalGas expects to partner with in this program for the 2018-2019 winter, and is it possible any additional vendors will join?
 - a. What is the total number of eligible customers of the participating vendors?

SoCalGas Response: The list of vendors that SoCalGas expects to partner with are Nest, ecobee, Honeywell, Alarm.com, Vivint, Carrier, Lux, and Radio Thermostat. There are approximately 310,000 eligible customers for all the vendors combined.

3. Who sends the notifications of a pending event to participants via email, text, mobile application, or a message on the thermostat?

SoCalGas Response: The thermostat vendors will notify all participating customers through messaging on their smart thermostat, the vendor's mobile applications, email, and/or text message of a pending event.

4. Please explain your process calling an event from beginning to end including who is involved?

SoCalGas Response: The SoCalGas System Operator determines the need for a demand response event. When conditions warrant an event on

the natural gas system as determined by the SoCalGas' System Operator, SoCalGas will schedule and call a natural gas conservation event via a web portal which will then send dispatch and notification commands to thermostat partners via an API. Thermostat partners then trigger their customer notification channels to alert participants of a pending event and schedules the thermostat for the event period. The thermostats will automatically lower temperature setpoints by no more than four degrees during the event period. At the conclusion of the event, the thermostats will automatically have their smart thermostats adjusted back to their original setpoint.

5. Are customers eligible for the \$25 end-of-season incentive if they opt out of an event?

SoCalGas Response: Yes, customers are eligible for the \$25 end-of-season incentive if they opt-out or adjust out of an event. A customer is ineligible for the end-of-season incentive only if they un-enroll from the program before the end of the winter season.

6. How does SoCalGas plan to change the program given the findings of Nexant's 2018 impact evaluation? If there are no planned changes, explain why.

SoCalGas Response: SoCalGas intends to work with the thermostat vendors to implement strategies to improve upon the results of the 2018 impact evaluation. Several areas include improving upon the gas savings from vendor 1 to produce similar results as vendor 2, reducing the impact of the setback usage if possible, and finding solutions to decrease the opt-out and "failed to receive signal" percentages. Some of these changes could be implemented by the start of the next winter season while others may take longer to implement.

7. Given the Nexant report raised the question of whether the program created value from a reliability perspective given there are no statistically

significant net daily therm savings¹² – what are SoCalGas' reasons for continuing the program?

SoCalGas Response: The Nexant report illustrates the success of the program by reducing energy usage during the morning and evening event periods which were structured around SoCalGas' system peak periods. The report states that participants in the program used 16-25% less energy during the morning event period and 10.7-15.6% less energy during the evening event period. The results show that the program successfully deferred gas usage during peak periods which is the goal of demand response programs.

SoCalGas believes that several more seasons of testing and learning will ultimately lead to the program strategy that is the most suitable for the gas system and for participants. SoCalGas plans to test different strategies in future winter seasons and plans to propose some these ideas in its anticipated application filing.

1. ¹² SoCalGas Demand Response: 2017/2018 Winter Load Impact Evaluation, Nexant, Inc., July 30, 2018, Page 2