

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



September 5, 2018

Rodger R. Schwecke
Senior Vice President
Gas Transmission, Storage and System Operations
Southern California Gas Company
555 W. Fifth Street, M.L. GT-21C3
Los Angeles, CA 90013-1011

Re: Aliso Canyon Withdrawal Protocol

Dear Mr. Schwecke:

Over the course of winter 2017-18, the Aliso Canyon Withdrawal Protocol was clarified through communications between the Southern California Gas Company (SoCalGas) and Energy Division. These communications are assembled here to provide clarity going forward.

- [November 2, 2017, Aliso Canyon Withdrawal Protocol](#)
- [November 29, 2017, SoCalGas Request for Clarification of the Withdrawal Protocol](#)
 - [December 21, 2017, Energy Division Clarification of the Withdrawal Protocol](#)
- [March 2, 2018, SoCalGas Request to Use Aliso to Preserve Inventory at the Non-Aliso Fields](#)
 - [March 3, 2018, Energy Division Authorization Allowing SoCalGas to Use Aliso to Preserve Inventory at the Non-Aliso Fields](#)

These documents can also be found in chronological order on the California Public Utilities Commission's Aliso Canyon Well Failure web page: <http://www.cpuc.ca.gov/aliso/>.

I expect SoCalGas to continue to follow the November 2, 2017 Withdrawal Protocol, as clarified by my December 21, 2017 email, and to continue to provide the Energy Division of the California Public Utilities Commission daily updates on inventory levels at all storage fields so that the Commission can monitor your company's ability to provide reliable gas service to all customers in Southern California while operating Aliso Canyon under the guidelines established by statute and the regulatory agencies.

Sincerely,

Handwritten signature of Edward Randolph in cursive.

Edward Randolph
Director, Energy Division
California Public Utilities Commission

cc: Brian Prusnek, Sempra Utilities
Dorothy Duda, CPUC
Jean Spencer, CPUC

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Aliso Canyon Withdrawal Protocol

11.2.17

Introduction

Southern California Gas Company (SoCalGas) may withdraw gas from the Aliso Canyon natural gas storage facility (Aliso Canyon) consistent with the protocol defined below. The protocol implements the following principles:

- Aliso Canyon will be treated as the “asset of last resort” used for withdrawals after all other alternatives have been exhausted as defined by the protocol and consistent with items 1.A. and 1.B, below;
- The priority of service under Southern California Gas Company Rule No. 23 shall remain in place should curtailments be required;
- If curtailments are required, SoCalGas shall consult with the applicable Balancing Authorities (the California Independent System Operator [CAISO] and the Los Angeles Department of Water and Power [LADWP]) before and during any curtailment;
- Should curtailments to electric generation create a risk to electric load that is critical to health and safety, withdrawals may be made consistent with the protocol; and
- Withdrawals will be made in a manner that ensures safety, maintains the integrity of the wells and storage facility, and is consistent with all rules and regulations concerning the safe use of Aliso Canyon.

Aliso Canyon Withdrawal Protocol

1. Withdrawals from Aliso Canyon. Withdrawals from Aliso Canyon will be based on forecasted and known conditions including but not limited to weather, overall gas demand, electric generation gas demand, and the current and anticipated operating condition of the SoCalGas system. Withdrawals will be made when, in coordination with the Balancing Authorities, it is determined that withdrawals are necessary to maintain reliability overall, to respond to a risk to electric system reliability, and/or to avoid or to limit curtailments to core and noncore customers. In all cases, withdrawals may only be made consistent with safe operation of the field and the system and in compliance with any mandated protocols for production from the field.

Within this context, withdrawals will be made if the circumstances described in A or B, below, occur:

A. The following three conditions exist:

- (1) SoCalGas has taken all appropriate actions it deems available and necessary to meet demand and to avoid curtailment of electric load and/or gas curtailments to core and noncore, non-electric generation customers. Such actions include the use of operational and emergency flow orders and coordination with Balancing Authorities to limit and/or reduce demand in effected areas; and
- (2) To avoid curtailments of electric load, the CAISO and/or LADWP, in coordination with SoCalGas, have activated their appropriate capacity emergency plans based on the existing and forecast conditions; and
- (3) There remains an imminent risk that curtailments of electric load will occur without additional gas supply.

B. There is an imminent and identifiable risk of gas curtailments created by an emergency condition that would impact public health and safety or result in curtailments of electric load that could be mitigated by withdrawals from Aliso Canyon. Such risk could arise due to emergencies on the gas pipeline system or because conditions require additional gas supply otherwise unavailable. Under such circumstances, when reliability is at risk and curtailment is imminent, SoCalGas may, at its sole discretion, execute a withdrawal from Aliso Canyon.

2. Readiness of the Aliso Canyon Field. SoCalGas shall take all actions necessary to allow for timely withdrawals and shall maintain the Aliso Canyon field on a standby basis as warranted by forecasted conditions/ risks to system reliability. Further, if at any time the CAISO declares a Flex Alert, SoCalGas shall coordinate with the CAISO and LADWP and make any preparations necessary to allow for a timely withdrawal.

3. Executing a Withdrawal Under Conditions Defined in 1.A. As operator of the Aliso Canyon storage facility, SoCalGas has the obligation to make an informed decision to withdraw gas from Aliso Canyon under the conditions defined in 1.A. above. In confirmation that those conditions have been met, SoCalGas shall contact the Balancing Authorities and confirm that they (the Balancing Authorities) have met the conditions in number 1.A. For information purposes, the California Public Utilities Commission (CPUC) shall be included in such contacts and may participate as appropriate.

Communications may be made using any method acceptable to SoCalGas, the CPUC, and the Balancing Authorities. SoCalGas, the Balancing Authorities, and the CPUC shall make all arrangements for the required communications and confirmations necessary with executing a withdrawal.

4. Noticing and Reporting. SoCalGas shall immediately notify the CPUC Energy Division (Energy Division) of the following: issuance of a Stage 4 or 5 Operational Flow Order or an Emergency Flow Order; in the event of an emergency that threatens system reliability and may require electric curtailments; and at the initiation of withdrawals from Aliso Canyon.

Within 24 hours of the cessation of a withdrawal from Aliso Canyon, SoCalGas shall provide the Energy Division with the following:

- the total and hourly withdrawals from the field;
- the number of wells used for making withdrawals and the SoCalGas identifier for each well used;
- the pre- and post-withdrawal Aliso working gas inventory;
- the hourly pipeline receipts for the calendar day(s) on which a withdrawal was made and the day immediately preceding the withdrawal;
- the hourly withdrawals by field from non-Aliso storage facilities for the calendar day(s) on which a withdrawal was made and the day immediately preceding the withdrawal;
- information concerning any anomalies experienced during the operation of the field;
- any repairs or mitigation required as a result of the withdrawal, including the time necessary to make them before another withdrawal could be made and the impact on the field's injection and withdrawal capacity; and
- whether the withdrawal was made under conditions identified in 1. B.

Within 30 days after a withdrawal, SoCalGas shall provide the Energy Division with a full description of the events and conditions leading up to the withdrawal, all actions taken prior to the withdrawal, and any observations or recommendations concerning the execution of future withdrawals. Further, SoCalGas shall identify and describe any steps or actions not taken that could have diminished or eliminated the need for a withdrawal and make comments and/or recommendations for future consideration.

If a withdrawal from Aliso Canyon was due to an activation of the CAISO or LADWP emergency plans as described in Section 1.A., the Balancing Authorities agree to submit a description of the event that includes forecast demand, operating reserve requirements, and anticipated capacity deficiencies based on the requested gas curtailments for the impacted hours. The CAISO and/or LADWP may also:

- a) identify and describe any steps or actions not taken that could have diminished or eliminated the need for a withdrawal, and
- b) make comments and/or recommendations for future consideration.

5. Effective Date. This protocol shall become effective November 1, 2017. The protocol shall remain in effect, subject to modification through the completion of the CPUC Investigation (I.)17-02-002, or such time as determined based on conditions.

Email from Devin Zornizer, Southern California Gas Company
To: Jean Spencer, California Public Utilities Commission
Date: 11/29/2017

CC: Lana Wong, CEC; Brad Bouillon, CAISO; Franz Cheng, CPUC; Donald Sievertson, LADWP; Greg Reisinger, CPUC; Abishek Hundiwale, CAISO; Majed Ibrahim, CPUC; Brad Packer, LADWP; Dennis Peters, CAISO; Mark Rothleder, CAISO; Dede Subakti, CAISO; Nancy Traweek, CAISO; Rodger Schwecke, SoCalGas; Jason Egan, SoCalGas; Sabina Clorfeine, SoCalGas; David Bisi, SoCalGas; Beth Musich, SoCalGas; Catherine Elder, Aspen Environmental Group

Per our 11/13/2017 meeting, SoCalGas would like clarification from the Energy Division regarding the conflicts between SoCalGas Rule 23 and the Aliso Canyon Withdrawal Protocol.

Specifically, SoCalGas and Energy Division agreed there are conflicts between Rule 23 and the Aliso Withdrawal Protocol when SoCalGas needs to curtail noncore - EG customers beyond 60% of their forecasted burns, as required per Rule 23, to reduce EG demand to the "min-generation" levels acknowledge by the Balancing Authorities in their winter reliability assessment. As a reminder, the Balancing Authorities have defined "min-generation" requirements in their winter reliability assessment and, to support system reliability, SoCalGas will hold them to those volumes if our system is in stress.

How should SoCalGas effectuate curtailments to reduce demand to "min-generation" in light of Rule 23's requirement to begin curtailing other noncore customers once noncore - EG customers have been curtailed to 60% of their forecasted burns?

Further, the following presents SoCalGas' understanding from the meeting based on the topics SoCalGas provided the Energy Division prior the meeting. SoCalGas requests Energy Division's confirmation of the following understanding.

1. "Request clarification on protocol's reference to Sections 1.A and 1.B"
 - a. Energy Division intended the quoted section to be an introduction and discussion of the different sections of the protocol. A withdrawal from Aliso Canyon can be made provided the requirements of Section 1.A or Section 1.B are triggered. Section 1.A and 1.B occur under different circumstances and require different steps.
2. "Request clarification as to whether withdrawal protocol replaces or supersedes SoCalGas Tariff Rules"

- a. The protocol was not intended to replace SoCalGas Tariff Rules and is similar to prior protocols, so, to degree prior protocols didn't conflict with tariffs the current protocol should not now conflict. Energy Division intended the process to proceed in accordance with the curtailment order specified in Rule 23, and as follows (assuming there is not an emergency condition requiring immediate action):
 - i. Contact Balancing authorities to determine if they can reduce EG demand.
 - ii. If the Balancing Authorities cannot reduce demand, or the requested reduced EG demand does not fix the situation, SoCalGas can withdraw from Aliso Canyon.
 - iii. If withdrawals from Aliso Canyon are still insufficient, SoCalGas curtails the noncore consistent with Rule 23.
 - b. Energy Division stated there are no restrictions in the Protocol on the authority to curtail customers pursuant to SoCalGas' tariff process.
 - c. Energy Division acknowledged some uncertainty as to the application of the above process (see our request for clarification above).
3. "Request clarification on party responsible for determining emergency conditions and impacts to health and safety"
- a. SoCalGas is responsible for making this determination, supporting the determination, and communicating it to the CPUC.
 - b. Energy Division noted that they do not believe we are currently in an emergency condition.
4. "Request clarification on withdrawal protocol if there are disagreements between the System Operator and the Balancing Authorities"
- a. SoCalGas remains responsible for determining if withdrawals are necessary under Section 1.A or Section 1.B.
5. Request clarification on use of term "electric load"
- a. Means electric customers (end use) on the electric system.
6. "Request clarification on SoCalGas' operating restrictions"
- a. Energy Division did not intend the withdrawal capacity levels of 2.065 Bcf and 2.4 Bcf directed by the Commission to be requirements, but rather targets.
 - b. Energy Division understands the risk that if we use storage, the withdrawal capacity will decrease – hope we could bring back up and maintain at targets as best possible.

- c. SoCalGas is not to curtail to maintain withdrawal capacity targets.
- d. SoCalGas explained that withdrawal capacity impacts would be greater if natural gas was withdrawn from Honor Rancho versus Aliso Canyon.
- e. Energy Division agreed to provide written clarification that 2.065 withdrawal capacity is not a requirement.

The November 16, 2017 letter from Executive Director Sullivan regarding "Clarification of Intent of March 16, 2017, Letter from the Executive Director" provided the requested clarification.

Email from Edward Randolph, Director, Energy Division, California Public Utilities Commission

To: Devin Zornizer, Southern California Gas Company

Date: 12/21/2017

CC: Rodger Schwecke, SoCalGas; Brian Prusnek, SoCalGas; Kari Kloberdanz, SoCalGas; Lana Wong, CEC; Catherine Elder, Aspen Environmental Group; Nancy Traweek, CAISO; Donald Sievertson, LADWP; Dorothy Duda, CPUC; Franz Cheng, CPUC; Jean Spencer, CPUC; Robert Peterson, CPUC; Jonathan Bromson, CPUC; Simon Baker, CPUC; Abishek Hundiwale, CAISO; Majed Ibrahim, CPUC; Brad Packer, LADWP; Dennis Peters, CAISO; Mark Rothleder, CAISO; Dede Subakti, CAISO; Brad Bouillon, CAISO;

Devin,

In your email of November 29, 2017, (which is below this email) you asked Jean Spencer for clarification of the Aliso Canyon Withdrawal Protocol. Here is the response to your inquiry.

Minimum Generation

First, Energy Division would like to address a statement made in the opening of the email that was not framed as a question. Your email stated:

“As a reminder, the Balancing Authorities have defined “min-generation” requirements in their winter reliability assessment and, to support system reliability, SoCalGas will hold them to those volumes if our system is in stress.”

Energy Division is concerned by SoCalGas’ statement that it will “hold” the Balancing Authorities to the minimum generation levels defined in the “Aliso Canyon Winter Risk Assessment Technical Report 2017-18 Supplement” (2017-18 Winter Technical Assessment). As was stated clearly in the 2017-18 Winter Technical Assessment, the minimum generation levels represent a best-case scenario and are only possible if all transmission lines are in service, electricity is available for purchase, and the Balancing Authorities receive sufficient notice from SoCalGas to reallocate electric generation. While it is true that under Rule 23 SoCalGas has the authority to curtail electric generators down to zero in a crisis, the Withdrawal Protocol *does not* require the Balancing Authorities to go to minimum generation before gas can be withdrawn from Aliso.

Withdrawal Protocol Step 1(A)

Question: How should SoCalGas effectuate curtailments to reduce demand to “min-generation” in light of Rule 23’s requirement to begin curtailing other noncore customers once noncore - EG customers have been curtailed to 60% of their forecasted burns?

Answer: In the event that insufficient gas is forecast to be available to support system demand, Step 1(A) requires SoCalGas to request that the Balancing Authorities reduce their gas demand by the amount needed. The Balancing Authorities will voluntarily attempt to shift electric generation outside the SoCalGas service territory and will inform SoCalGas of the amount by which they are able to reduce their gas demand. The Balancing Authorities may reduce their demand to the minimum generation level identified in the 2017-18 Winter Technical Assessment, but they are not required to do so. The amount by which the Balancing Authorities are able to reduce their demand will depend on the conditions and constraints in effect when SoCalGas’ request is received. If the amount by which the Balancing Authorities are able to reduce their demand is insufficient to resolve the shortage of natural gas, SoCalGas may withdraw gas from Aliso Canyon.

Any voluntary reduction in demand by the Balancing Authorities compared to what is forecast will count toward their maximum curtailment requirements under Rule 23 should curtailments be required despite withdrawals from Aliso Canyon. The following are two simplified hypothetical examples.

1. A Balancing Authority (e.g., California Independent System Operator (CAISO)) forecasts that it will need 1000 MMcfd of natural gas. SoCalGas requests that the Balancing Authority reduce its demand to 300 MMcfd, and the Balancing Authority complies. After withdrawing gas from Aliso, there is still insufficient supply to meet demand, so SoCalGas begins curtailments under Rule 23. Since the Balancing Authority has already voluntarily curtailed by 70%, that curtailment would count toward its portion of the 60% of Dispatched Electric Generation load as specified under Step 2 of Rule 23 (Part C, Section 1, Effectuation of Curtailment). SoCalGas would then continue with curtailments per Rule 23 and move to Step 3 as specified in the Rule. If there is still insufficient gas after going to Step 3, up to 100% of electric generation can be curtailed in Step 4 of Rule 23.
2. A Balancing Authority forecasts that it will need 1000 MMcfd of natural gas. SoCalGas requests that the Balancing Authority reduce its demand to 300 MMcfd. The Balancing Authority replies that it can only reduce demand to 700

MMcfd. After withdrawing gas from Aliso, there is still insufficient supply to meet demand, so SoCalGas begins curtailment under Rule 23. Since the Balancing Authority only voluntarily curtailed by 30%, SoCalGas can now work with the Balancing Authority to effectuate curtailment up to 60%, reducing demand to 400 MMcfd. The curtailment order would then continue as specified in Rule 23.

Comments on SoCalGas' Understanding of Energy Division's Answers at November 13, 2017 Meeting

1. Confirmed.
- 2(a) and (b) Confirmed.
- 2(c) Clarification provided above
3. Confirmed.
4. Confirmed.
5. Confirmed.
- 6(a) The targets were required for the summer and fall to handle summer demand and to prepare for the beginning of winter.
- 6(b) Confirmed.
- 6(c) SoCalGas should manage its system as a prudent operator.
- 6(d) Confirmed.
- 6(e) Provided.

I hope this answers your questions from your November 29th email. Do not hesitate to contact me or my staff who are cc'd on this email if you have further questions.

Sincerely,

Edward Randolph



Rodger R. Schwecke
Senior Vice President
Gas Transmission, Storage
and System Operations
555 W. Fifth Street, M.L. GT-21C3
Los Angeles, CA 90013-1011

March 2, 2018

Edward Randolph
Director of the Energy Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Re: Southern California Gas Company (SoCalGas) Underground Natural Gas Storage and System Reliability Assessment for the Week of March 5, 2018.

SoCalGas requests the ability to *immediately* begin using Aliso Canyon to manage gas storage inventory and preserve withdrawal deliverability at SoCalGas' non-Aliso storage fields. The recent two weeks of below average temperatures, and the current forecast outlook for the weekend and early part of the following week indicates that conditions will continue to require extensive use of gas supplies from storage to meet customer demand. As further explained below, preserving storage inventories at the non-Aliso storage fields will be critical to meeting forecasted customer daily and hourly demand and mitigate the risk of more extensive gas curtailments in the coming weeks.

Due to the heavy reliance on the non-Aliso storage fields since the week of February 19th, SoCalGas currently has approximately 28.2 billion cubic feet (Bcf) of natural gas inventory, a drop of 6.1 Bcf, at Playa del Rey, Honor Rancho, and La Goleta. This reduction in inventory results in 0.240 billion cubic feet per day (Bcfd) of withdrawal deliverability loss, lowering withdrawal deliverability from 1.12 to 0.880 Bcfd, and does not include the use of Aliso Canyon inventory to support reliability, which totaled 0.93 Bcf over the last week. Without greater use of Aliso Canyon to manage inventory and subsequent deliverability, SoCalGas expects further reductions in inventory and withdrawal capacity at the non-Aliso storage fields, in addition to significantly increasing the risk of fully depleting the inventory at the Playa del Rey storage field. Moreover, SoCalGas projects the deliverability at the non-Aliso storage fields to further be reduced to approximately 0.600 Bcfd by March 7th.

Per the Aliso Withdrawal Protocol, SoCalGas has been working with the Balancing Authorities to reduce electric generation demand through voluntary curtailments. SoCalGas expects this to continue into next week, with the need for potentially greater reductions due to

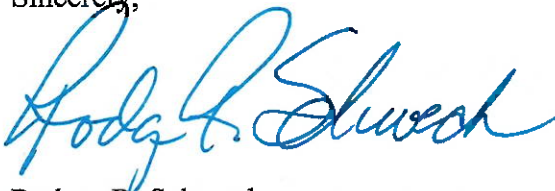
March 2, 2018

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the lower levels of withdrawal deliverability. Using Aliso Canyon to “baseload” some withdrawals at lower, constant rates for longer periods of time will help avoid customer curtailment, preserve inventory and deliverability at Honor Rancho, La Goleta, and Playa del Rey enabling system inventory to be recovered with Aliso, while the withdrawal at the fields can be reduced or shut in. This proposed flexibility in the protocol will not eliminate the communication and coordination with the Balancing Authorities regarding voluntary curtailments.

With these conditions in mind, as a prudent operator, SoCalGas requests *immediate* permission to use Aliso Canyon as described above to minimize the inventory reductions and preserve withdrawal deliverability for all its storage fields in order to mitigate supply shortfalls and any other unplanned outages.

Sincerely,



Rodger R. Schwecke
Senior Vice President
Gas Transmission, Storage and System Operations

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



March 3, 2018

Rodger Schwecke, Vice President
Transmission and Storage
Southern California Gas Company
555 West 5th Street, GT21C3
Los Angeles, CA 90013
RSchwecke@semprautilities.com

Re: Southern California Gas Company (SoCalGas) Underground Natural Gas Storage and System Reliability Assessment for the Week of March 5, 2018.

Mr. Schwecke:

Based on information provided to Energy Division in your letter dated March 2, 2018 and SoCalGas' ongoing data request responses regarding the volume of gas in storage, it appears that inventories in all of SoCalGas' non-Aliso storage facilities have dropped below or are very near minimum levels needed to support withdrawal rates at the levels forecasted in the 2017-2018 Winter Technical Assessment. This drop in inventory is the result of the heavy reliance on the non-Aliso storage facilities since February 19, 2018 to meet high gas demand in Southern California. In that same time period, SoCalGas has coordinated with California's electric Balancing Authorities to reduce natural gas demand for electric generation purposes in Southern California.

The Aliso Canyon Withdrawal Protocols provide that Aliso Canyon should only be used after withdrawals from all other storage facilities have been maximized. In the current circumstance where the non-Aliso storage facilities have been used at or close to their maximum capacity for multiple days and are now at critically low levels, the request in your March 2, 2018 letter to operate Aliso in a manner that allows SoCalGas to maintain or restore storage levels and withdrawal capacity in the non-Aliso facilities is consistent with the protocols provided that SoCalGas continues to also follow the provisions in the protocol to coordinate with the Balancing Authorities to reduce overall natural gas demand. However, the ability to operate Aliso in this manner to support the other storage facilities should be limited to the conditions detailed above. Once natural gas demand in Southern California returns to average levels, rather than the high demand levels seen over the last 12 days, SoCalGas should act to rapidly restore inventories in all storage facilities.

Rodger Schwecke
March 3, 2018
Page 2

SoCalGas must notify the CPUC if the need to operate Aliso Canyon as described in your March 2, letter goes beyond March 13, 2018.

Sincerely,

A handwritten signature in black ink that reads "Edward Randolph". The signature is written in a cursive style with a large, prominent "E" and "R".

Edward Randolph
Director, Energy Division

Cc: Alice Stebbins