

**January 15, 2019**

The California Public Utilities Commission, Energy Division was notified by Southern California Gas Company of Aliso Canyon withdrawals at approximately 3:00 PM on January 14, 2019. This posting will be updated with a report containing more information as soon as possible.

**January 18, 2019 update**

The California Public Utilities Commission, Energy Division was notified by Southern California Gas Company that withdrawals from Aliso Canyon ceased at approximately 9:47 PM on January 17, 2019.

**January 22, 2019 update**

The data request required within 24 hours of the cessation of a withdrawal from Aliso Canyon has been provided by SoCalGas and is attached below.

**February 15, 2019 update**

The data request required within 30 days of the cessation of a withdrawal from Aliso Canyon has been provided by SoCalGas and is attached below.



### **System-Wide Voluntary Curtailment Issued for Electric Generation**

Due to cold weather conditions and high customer demand for natural gas, a system-wide voluntary curtailment of electric generation demand was issued today at approximately 2:30 PM PCT and is effective for gas day January 14, 2019 through gas day January 18, 2019. SoCalGas has issued the system-wide voluntary curtailment order of electric generation demand in accordance with the [Aliso Canyon Withdrawal Protocol](#). The curtailment is a voluntary request coordinated through the Balancing Authorities (CAISO and LADWP) for them to limit and/or reduce electric generation demand on our system, to the extent it does not impact electric system integrity. If needed, the Aliso Canyon Storage field may be used to meet the current demand as well as maintain inventory levels at the other storage fields for core reliability.

In addition, with the current forecasted weather, SoCalGas is asking customers to conserve natural gas where possible.

All noncore customers should continue to monitor ENVOY® at [www.socalgasenvoy.com/](http://www.socalgasenvoy.com/) for further updates.

Please contact your Account Representative or the Gas Scheduling Helpline if you have any questions.



A  Sempra Energy utility

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Liaison Officer

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January 14, 2019

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

RE: Aliso Canyon Withdrawal Protocol Notification

Dear Mr. Randolph:

Pursuant to the Aliso Canyon Withdrawal Protocol dated November 2, 2017 (Protocol), I am writing to inform you that SoCalGas initiated withdrawal of natural gas from the Aliso Canyon storage field at approximately 3:00 p.m. on January 14, 2019. SoCalGas will immediately notify you when withdrawal of natural gas from the Aliso Canyon storage field has ceased. Pursuant to the Protocol, SoCalGas will provide information regarding the withdrawal event to the Energy Division within 24 hours of the withdrawal event's cessation.

Please let me know if you have any questions.

Sincerely,

/s/ Joseph Mock

Joseph Mock

Liaison Officer - SoCalGas

cc: Maryam Ebke, Deputy Executive Director, CPUC  
Dorothy Duda, Energy Division, CPUC  
Jean Spencer, Energy Division, CPUC  
Renee Guild, Energy Division, CPUC  
Christina Ly, Energy Division, CPUC  
Judith Ikle, Energy Division, CPUC  
Simone Brant, Energy Division, CPUC  
Jonathon Bromson, Legal Division, CPUC  
Elizaveta Malashenko, Director, Safety and Enforcement Division, CPUC  
Kenneth Bruno, Safety and Enforcement Division, CPUC  
Matthewson Epuna, Safety and Enforcement Division, CPUC  
Lana Tran, Safety and Enforcement Division, CPUC

**SOUTHERN CALIFORNIA GAS COMPANY**  
**30-Day Aliso Canyon Withdrawal Report**  
**Response Dated February 15, 2019**

**PUBLIC VERSION**

**Purpose**

On November 2, 2017 the Energy Division of the California Public Utilities Commission (“CPUC-ED”) issued the Aliso Canyon Withdrawal Protocol (“Withdrawal Protocol”). The Withdrawal Protocol specifies the circumstances and conditions when Southern California Gas Company (“SoCalGas”) may execute a withdrawal operation from the Aliso Canyon storage field. In addition, the Withdrawal Protocol contains certain noticing and reporting requirements, including the following:

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.<sup>1</sup>

Pursuant to the Withdrawal Protocol, SoCalGas provides the following 30-day report with respect to the withdrawals from Aliso Canyon that occurred between January 14, 2019 and January 17, 2019.

**Background**

Withdrawals from Aliso Canyon were 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.

Weather

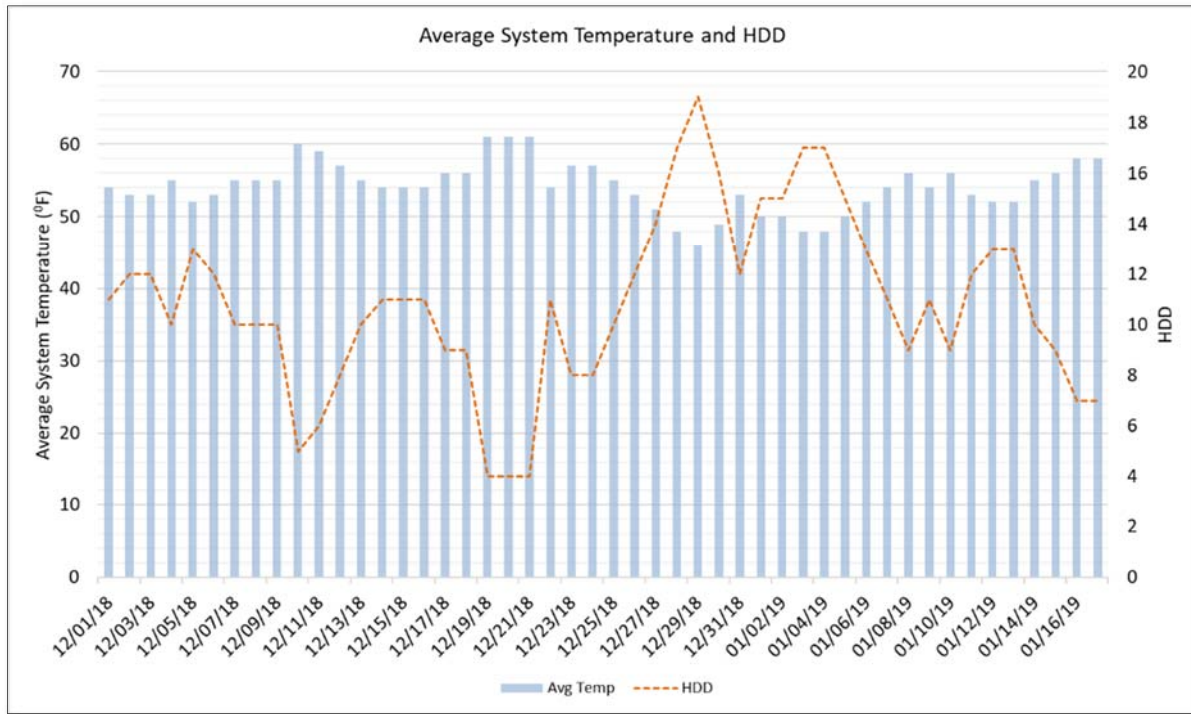
The graph below shows the SoCalGas system average heating degree days (“HDD”) from December 2018 through January 17, 2019.

An HDD is a measurement designed to quantify the demand for energy needed to heat a building. It is the number of degrees that a day's average temperature is below 65° Fahrenheit, which is the temperature below which buildings need to be heated. Additionally, the graph below shows the daily custom system average temperature condition for the SoCalGas and San Diego Gas & Electric Company (“SDG&E”) service territories before and during the period Aliso Canyon was on withdrawal. The custom system average temperature calculation incorporates

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<sup>1</sup> CPUC-ED Aliso Canyon Withdrawal Protocol dated 11/2/2017, page 3.

data from 12 weather stations across the SoCalGas and SDG&E service territories and is provided by calendar day.



Although temperatures remained in the 50s during this event, Aliso Canyon was needed to respond to customer hourly demand that reached extreme peaks (a daily equivalent of 4.4 BCFD) and to preserve and restore inventory and withdrawal deliverability at the non-Aliso Canyon storage fields to maintain their ability to support the system during the remaining winter months. These factors are discussed further below.

Status of Storage Fields

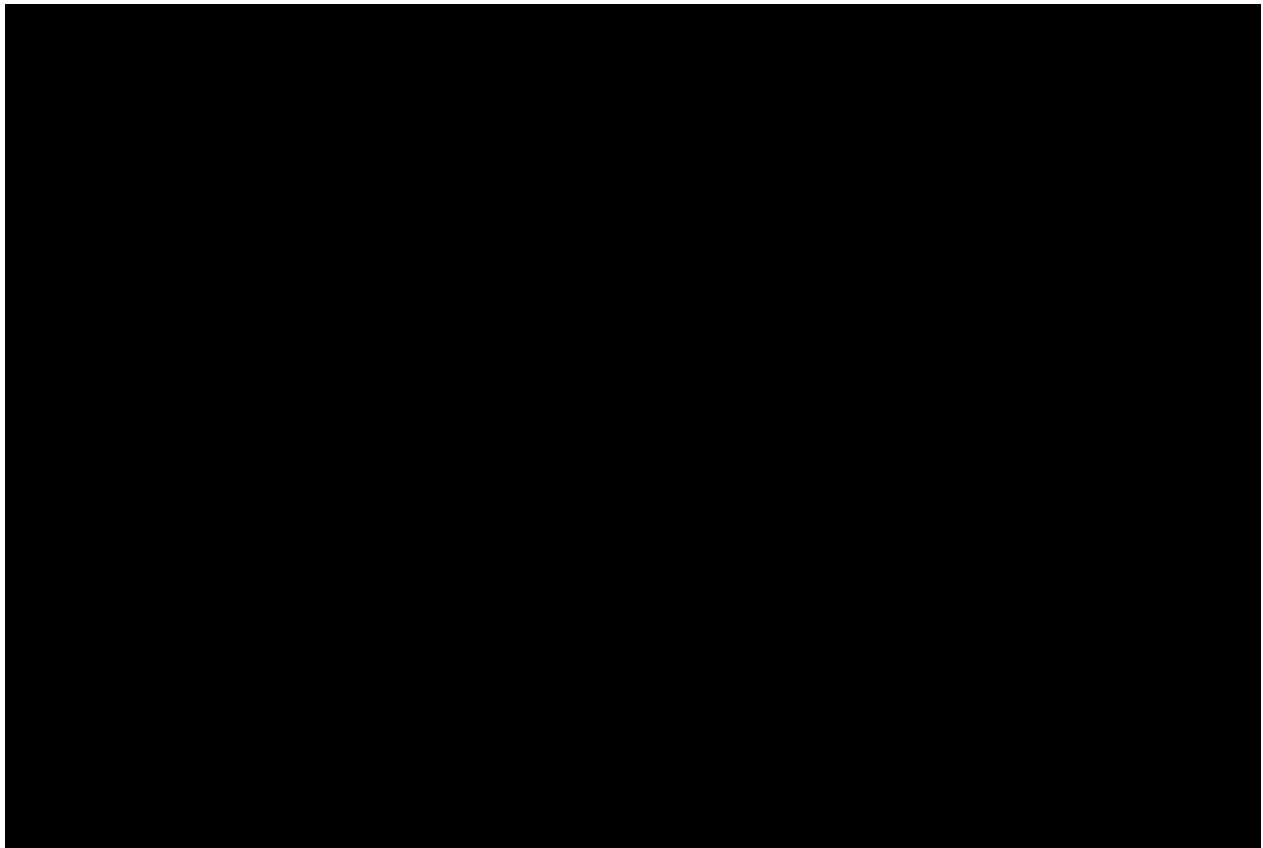
In accordance with the Withdrawal Protocol, SoCalGas has placed greater reliance on its non-Aliso Canyon storage fields (Honor Rancho, La Goleta, and Playa del Rey) to meet customer demand since the beginning of the winter season on November 1, 2018. This resulted in lower inventory levels at the non-Aliso Canyon fields, which in turn led to reduced available withdrawal capacities.

In addition, SoCalGas’ safety enhancements and integrity assessments at the storage fields have reduced SoCalGas’ system-wide withdrawal capacity because wells have been taken offline for mechanical integrity testing and conversion to tubing-only flow. These conditions resulted in decreased storage withdrawal capabilities to respond to this cold event.

The following table provides the inventories and approximate withdrawal capacities of each of the storage fields at the beginning of the cold weather event.

<b>Storage Field</b>	<b>Inventory (BCF)</b>	<b>Withdrawal Capacity (MMCFD)</b>
Aliso Canyon	32.402	
Honor Rancho		
La Goleta		
Playa Del Rey		
Total Storage W/O Aliso		895
Total Storage W/ Aliso		

The following graph shows the non-Aliso Canyon withdrawals from January 14, 2019 through January 17, 2019. As illustrated below, the non-Aliso Canyon fields and Aliso Canyon were needed to respond to the peak demand that occurred on January 14. Following this, on January 15-17, Aliso Canyon withdrawals were used to support the system so that the non-Aliso Canyon inventory could be preserved and restored to support the system during the remainder of winter.



The table below shows the 2018-19 Winter Technical Assessment's January month-end minimum inventory requirements for each storage field, the remaining inventory at each storage field at the end of the withdrawal period, and the total withdrawal of each storage field during the withdrawal period. From the table below, both Honor Rancho and Playa Del Rey were less than

1 BCF from their month-end minimum, with 14 days remaining in the month of January. Therefore, it is likely that at least one of these fields, Honor Rancho or Playa Del Rey (but likely both), would have been reduced to an inventory level lower than its respective month-end minimum inventory requirement, if Aliso Canyon had not been utilized for withdrawal. Again, it should be noted that we reached these levels with another 14 days in the month where inventory would be needed to protect core reliability.

<b>Storage Field</b>	<b>January 2019 Month-End Minimum (BCF)</b>	<b>Inventory Remaining at End of Withdrawal Period (BCF)</b>	<b>Withdrawal (BCF)</b>	<b>Inventory Remaining Minus Month-End Minimum (BCF)</b>
Aliso Canyon	4.4	31.265	1.213	26.865
Honor Rancho	12.6			
La Goleta	7.7			
Playa Del Rey	1.5			

#### Flowing Pipeline Capacity & Supplies

Several major transmission pipelines on the SoCalGas system were also out of service or operating at a reduced pressure during the winter season, reducing the amount of upstream pipeline supply available by 1,330 million cubic feet per day (MMCFD). The following table shows the receipt point capacity of the SoCalGas system during the cold period and the average scheduled quantities.

<b>January 14, 2019 – January 17, 2019</b>		
<b>Transmission Zone</b>	<b>Available Receipt Capacity (MMCFD)</b>	<b>Average Scheduled Quantity (MMCFD)</b>
CP Zone – Line 85	85	50
Southern Zone	880	852
Northern Zone	1,000	970
Wheeler Ridge Zone	800	774
Total System	2,680*	2,646
*Total System Capacity does not include CP (California Production)		

Customers are responsible for scheduling and delivering gas supplies to the SoCalGas and SDG&E system to meet their usage. SoCalGas has few tools besides its storage fields to manage the mismatch between what customers bring onto the system in supplies and their usage. SoCalGas must rely on regulatory tools in place to try to manage the system’s reliability, integrity, and safety. These tools include the low operational flow order (“low OFO”), the high

operational flow order (“high OFO”), the emergency flow order (“EFO”), and curtailment procedures.

SoCalGas declared Low OFOs on all 4 days during the period.

<b>Low OFO Declarations</b>		
January 14	Stage 1	-5%
January 15	Stage 2	-5%
January 16	Stage 2	-5%
January 17	Stage 2	-5%

## **Actions Taken Prior to Withdrawal**

### Curtailment Actions

Per the Withdrawal Protocol, SoCalGas took actions available to meet demand and to avoid curtailments including (as discussed in additional detail below) working with the Balancing Authorities (the California Independent System Operator [CAISO] and the Los Angeles Department of Water and Power [LADWP]) to reduce or limit electric generation demand through voluntary curtailments. Coordination took place between SoCalGas and the Balancing Authorities during this period, having multiple interactions per day with both management and the real-time control room operators to manage the system reliability of three energy delivery systems (CAISO, LADWP, and SoCalGas) in near real-time.

SoCalGas requested CAISO and LADWP voluntarily curtail their demand from January 14, 2019 through January 18, 2019, during SoCalGas’ and SDG&E’s system-wide voluntary curtailment. CAISO and LADWP were not able to comply with SoCalGas’ request for any of these days as it would risk their grid stability.

Despite these efforts, SoCalGas evaluated its capacity to meet demand and found that available pipeline and storage supplies were insufficient, and reliability was at risk without additional gas supply from Aliso Canyon. In preparation for this cold weather event, all fields were verified to have their withdrawal processes ready and on standby.

### Envoy Postings

On January 14, 2019 SoCalGas posted a SoCalGas ENVOY<sup>®</sup> (Envoy) notice providing notification to customers that due to cold weather and high natural gas demand, SoCalGas and SDG&E were issuing a system-wide voluntary curtailment for electric generation customers in accordance with the Aliso Canyon Withdrawal Protocol, effective from Gas Day<sup>2</sup> January 14, 2019 through Gas Day January 18, 2019. SoCalGas clarified that these were voluntary requests coordinated through the Balancing Authorities (CAISO and LADWP) to request that the Balancing Authorities limit and/or reduce electric generation demand on the system to the extent

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<sup>2</sup> A Gas Day is from 7:00 AM to 7:00 AM.



it did not impact electric system integrity. SoCalGas informed customers that, if needed, the Aliso Canyon Storage field may be used to meet current demand and maintain inventory levels at the other storage fields for core reliability. SoCalGas asked customers to conserve natural gas where possible and asked noncore customers to monitor Envoy for updates.

On January 15, 2019 SoCalGas posted an Envoy notice stating that beginning January 14, 2019 the SoCalGas and SDG&E service territories were experiencing inclement weather and that this inclement weather was forecasted to continue through the remainder of the week. SoCalGas and SDG&E urged customers and shippers to pay close attention to Envoy and schedule their volumes accordingly. SoCalGas stated that it continued to work with the Balancing Authorities (CAISO and LADWP) to limit and/or reduce electric generation demand on the system to the extent it did not impact electric system integrity. SoCalGas informed customers that due to cold weather and high natural gas demand, all SoCalGas storage fields, including Aliso Canyon, were being used to provide system reliability and that without withdrawals from Aliso Canyon, the increased demand on the system may have resulted in further curtailments to noncore customers.

On January 18, 2019 SoCalGas posted an Envoy notice providing notification to customers of the dates and times of the initiation and cessation of withdrawal operations at Aliso Canyon as well as the withdrawal volumes at Aliso Canyon for each Gas Day during the withdrawal period. Aliso Canyon withdrawal was initiated on January 14, 2019 at approximately 3:00 PM Pacific Time and ceased on January 17, 2019 at approximately 9:45 PM Pacific Time. The total withdrawal for Gas Day January 14 was 0.314 BCF. The total withdrawal for Gas Day January 15 was 0.586 BCF. The total withdrawal for Gas Day January 16 was 0.239 BCF. The total withdrawal for Gas Day January 17 was 0.074 BCF. SoCalGas stated that the change in weather conditions allowed SoCalGas to end the voluntary curtailment order of electric generators earlier than planned.

#### Restricted Maintenance Operations

Gas Control declared restricted maintenance operations for the period from January 15, 2019 at 7:00 AM through January 19, 2019 at 7:00 AM at transmission pipeline compressor stations, transmission pipelines, and storage facilities, noting anticipated high customer demand due to forecasted low temperatures. This anticipated high system demand combined with pipeline outages increased the risk of jeopardizing system integrity and thus required all other facilities to be ready and available to maintain system integrity. Maintenance personnel were instructed to request clearance before performing any maintenance that could possibly impact station or pipeline operations.

#### Demand Response

SoCalGas initiated Smart Therm Demand Response (DR) events on January 15, January 16, and January 17 between the hours of 5:00 AM and 9:00 AM Pacific Time. Customers participating in the Demand Response program received a notice at least nine hours before the events occurred except for customers with Honeywell thermostats who were notified two hours before. During the demand response events, thermostats were lowered up to four degrees from their current

setpoint. Once the Demand Response event ended, thermostats were returned to their original setpoints.

Dial-It-Down

SoCalGas issued a Dial It Down Alert on January 14, 2019 and it was effective during the remainder of Aliso Canyon’s withdrawal period. Southern Californians were urged to reduce their natural gas use.

**Events and Conditions Leading up to the Withdrawal Period**

During this mid-January event, cold weather stressed the SoCalGas system to the point where supply was needed from Aliso Canyon to avoid gas shortages, to avoid customer curtailment, and to preserve inventory of the non-Aliso Canyon storage fields.

During this event, customer hourly demand reached extreme peaks (a daily equivalent 4.4 BCFD) but then tapered off during the rest of the week. After initiating voluntary curtailments and demand response activities, and because of limited capabilities of the non-Aliso Canyon storage fields, SoCalGas initiated withdrawals from Aliso Canyon to (1) meet the immediate customer demand during these peak periods; and then (2) used Aliso Canyon to preserve and restore inventory and withdrawal deliverability at the non-Aliso Canyon storage fields to maintain their ability to support the system during the remaining winter months.

The table below shows the total system receipts and demand by day.

<b>Gas Flow Date</b>	<b>Total Receipts (MMCF)</b>	<b>System Demand (MMCF)</b>
01/14/2019	2,669	3,513
01/15/2019	2,620	3,245
01/16/2019	2,612	2,811
01/17/2019	2,675	2,876

In the Winter 2018-19 Technical Assessment, the capacity of the system was calculated to be 3.75-4.15 BCFD. However, as specified in the assessment, the system capacity calculation was based on a withdrawal capacity of 1,343 MMCFD for the non-Aliso storage fields, or 448 MMCFD more than the capacity on January 14.

The following table shows the change in demand from the beginning of the peak period to the peak demand and the average flowing supplies during the same period.

Demand Increase During Peak Period and Average Flowing Supplies				
Starting Date	Ramping Period (Hrs)*	Average Pipeline Flowing Supplies During Ramp (MMCFH)	Demand at Start of Ramp (MMCFH)	Demand at Peak (MMCFH)
01/14/2019	6	102	92	165
*Ramping period is the duration of time from "start of ramp" to "demand at peak"				

On January 13, 2019 non-Aliso Canyon storage fields – Honor Rancho, La Goleta, and Playa Del Rey – were all on withdrawal. Honor Rancho and La Goleta storage fields were on withdrawal throughout the day, averaging hourly rates of approximately 10.7 MMCFH (256 MMCFD) and 8.1 MMCFH (194 MMCFD), respectively.

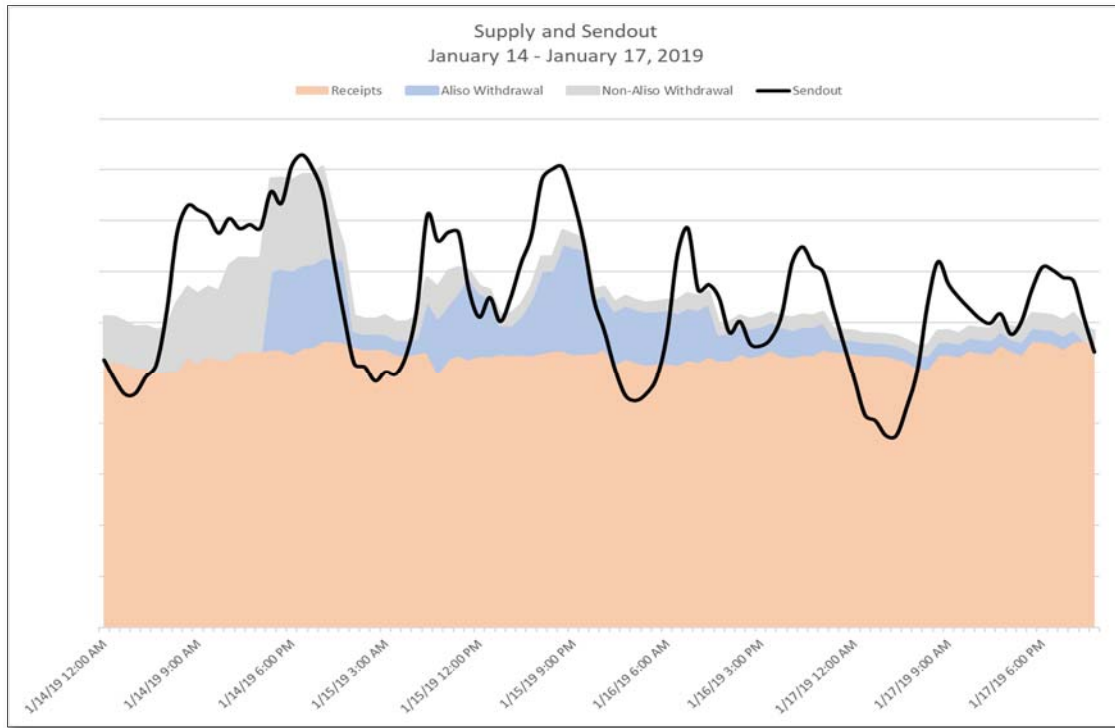
On January 14, 2019, non-Aliso Canyon storage fields remained on withdrawal. During the two hours before Aliso Canyon initiated withdrawal, all non-Aliso Canyon storage fields were on their respective maximum withdrawal rates. System demand increased from 92 MMCFH to 165 MMCFH (a daily equivalent of 2.2 BCFD to 4.0 BCFD) over the span of six hours due to cold temperature. With pipeline supplies averaging 102 MMCFH, and despite all non-Aliso Canyon storage fields at their maximum withdrawal rates, SoCalGas determined that withdrawal from Aliso Canyon would still be necessary to avoid further curtailment and maintain system reliability. At approximately 3:00 PM Pacific Time, SoCalGas initiated withdrawal from Aliso Canyon. As SoCalGas communicated in its letter to the Commission on January 8, 2019, SoCalGas intends to use Aliso Canyon to preserve inventory and withdrawal deliverability of non-Aliso Canyon storage fields. Even after Aliso Canyon began withdrawal, non-Aliso Canyon storage fields remained on maximum withdrawal rates until the late evening. The January 14 peak hourly demand of approximately 185 MMCFH actually occurred in the evening, at approximately 7:00 PM.

On January 15, January 16, and January 17, the system demand was 3,245 MMCF, 2,811 MMCF, and 2,876 MMCF, respectively. Cold weather was still present, but these demand figures were not as high, relative to the system demand of 3,513 MMCF on January 14. From January 15 through January 17, SoCalGas focused on preserving inventory and withdrawal deliverability of the non-Aliso Canyon storage fields by continuing withdrawal at Aliso Canyon. Honor Rancho and Playa Del Rey were used sparingly during this period, with withdrawal volumes from these fields even going down to zero for many hours throughout this period. Playa Del Rey was able to be on injection for much of this period so that its inventory could be replenished to stay above the Winter Technical Assessment's January end-of-month minimum inventory level. La Goleta was on constant withdrawal, but not maximum withdrawal, throughout this period.

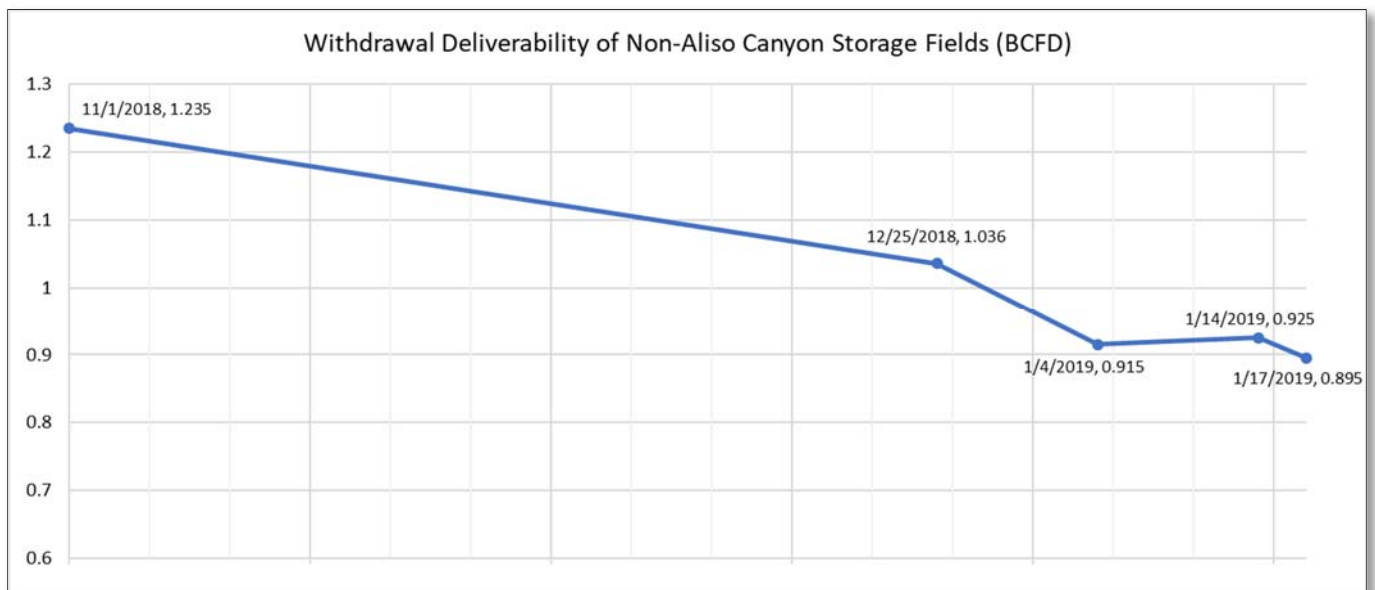
Aliso Canyon remained on withdrawal from January 14 until finally ceasing withdrawal on January 17 at 9:47 PM, when system conditions stabilized to the extent that Aliso Canyon

withdrawals were no longer needed. Over the January 14 to January 17 period, SoCalGas withdrew 1.213 BCF from Aliso Canyon and 0.633 BCF from non-Aliso Canyon storage fields.

The graph below shows several instances over the January 14 to January 17 period when Sendout exceeded the sum of pipeline supplies (receipts) and storage withdrawal.



The graph below shows the reduction in withdrawal deliverability of non-Aliso Canyon storage fields up to January 17.



## **Additional Steps or Actions That Could Have Reduced or Eliminated the Need for Withdrawal**

As previously stated, SoCalGas proactively worked with the Balancing Authorities each day during the cold weather event to reduce the level on the on-system generation demand prior to withdrawing gas supply from Aliso Canyon. As per the Withdrawal Protocol, SoCalGas withdrew gas from Aliso Canyon when the amount by which the Balancing Authorities could voluntarily curtail demand was insufficient to resolve the shortage of natural gas. SoCalGas could have further curtailed customer demand to reduce or eliminate the need to withdraw gas supply from Aliso Canyon. Per SoCalGas Rule No. 23 and SDG&E Rule No. 14, electric generation demand not necessary to maintain grid reliability is to be curtailed first, followed by other noncore customer demand, and then the remaining electric generation demand. SoCalGas does not consider this to be a reasonable action to reduce or eliminate the need to withdraw gas supply from Aliso Canyon.

## **Observations and Recommendations**

The cold weather event discussed above highlights a number of items or observations regarding SoCalGas' system, assets, and customer demand.

- Comparing non-Aliso Canyon storage inventory levels between now and around this time last year, there is less inventory in those fields this year. In order to manage storage inventory and preserve withdrawal deliverability at the non-Aliso Canyon storage fields, SoCalGas plans to withdraw gas from Aliso Canyon consistent with the Aliso Canyon Withdrawal Protocol. Preserving these storage inventories at the non-Aliso Canyon storage fields is critical in meeting forecasted customer daily and hourly demand and mitigating the risk of extensive gas curtailments this winter. In a letter written to the Commission on January 8, 2019, SoCalGas explained that it may withdraw gas from Aliso Canyon to (1) meet immediate high customer demands; (2) limit withdrawals at Honor Rancho to an average of 90 MMCFD per day for the remainder of January; and (3) restore Playa Del Rey inventory.
- Although SoCalGas' non-Aliso Canyon storage fields play a significant role in supporting reliability of the gas system, they cannot always provide the necessary reliability during significant events, especially when an event runs multiple consecutive days. Because of its size, its physical location on SoCalGas' transmission system, and its withdrawal capacity, Aliso Canyon Storage Field plays a key role in preventing customer curtailments and protecting the integrity of the SoCalGas system. As we head into the 2019 summer, it should be a priority to build storage inventories to near max levels to provide reliability for customers.
- As previously mentioned above, there was coordination between the Balancing Authorities and SoCalGas during the cold weather event. This coordination was not critical due to the lack of flexibility of the Balancing Authorities to reduce load. The Withdrawal Protocol should be modified or eliminated to allow Aliso Canyon to increase system flexibility and reliability, add to available supplies,

and reduce the need for customers to seek additional supplies during periods of market stress and limited supplies elsewhere.