



SOUTHERN CALIFORNIA GAS COMPANY WINTER 2024-25 TECHNICAL ASSESSMENT

October 28, 2024

Executive Summary

Southern California Gas Company (SoCalGas) has prepared this technical assessment to provide a forecasted outlook of system reliability during the coming winter season (November 1, 2024 through March 31, 2025) and analyzed the associated risks to energy reliability during this period. For this assessment, SoCalGas has analyzed the following: (1) pipeline capacity available to bring gas into the system, (2) available storage withdrawal capacity and inventory levels needed for core reliability, (3) forecasted winter demand, (4) available system capacity given the assumed winter supply and forecasted demand, and (5) forecasted winter storage inventory. In performing this analysis, this assessment takes into consideration the various existing outages and operating restrictions on gas transmission and storage assets.

The California Public Utilities Commission (CPUC) mandates two winter design standards for SoCalGas: a 1-in-35 year peak day in which all noncore customers are assumed to be fully curtailed, and a 1-in-10 year cold day design standard in which service is provided to both core and noncore customers. SoCalGas forecasts a demand of 3.08 billion cubic feet per day (BCFD) for the 1-in-35 year peak day design standard and 4.62 BCFD for the 1-in-10 year cold day design standard in the 2024 California Gas Report (CGR).

Pipeline receipt capacities have improved from the summer, and storage inventory has the potential to be much greater than the minimum necessary to maintain core reliability throughout the winter season. Assuming customers elect to utilize the available pipeline receipt capacity to deliver sufficient supply and no further infrastructure outages occur than those considered in this assessment, SoCalGas expects to meet both the 1-in-35 year peak day and the 1-in-10 year cold day design standards.

SoCalGas also analyzed a scenario where all active storage fields were at their minimum inventory levels required for core reliability.¹ Under this scenario, given the lower withdrawal rates associated with the lower inventory, SoCalGas is still able to meet the 1-in-35 year peak day design standard; however, SoCalGas has insufficient capacity to meet the 1-in-10 year cold day design standard. SoCalGas has calculated an approximate maximum system-wide daily capacity available to serve end-use customers at these minimum inventory levels of 4.32 BCFD. This capacity is sufficient to serve all core customers and all noncore, non-electric generation customers in the 1-in-10 year cold day design standard.

As always, unexpected outages on the transmission pipeline and storage system, such as those resulting from third-party damage and safety-related conditions, could still occur throughout the winter season and impact our capacity to serve demand as presented in this technical assessment.

¹ Maximum withdrawal rates are not available when SoCalGas' storage fields are at the minimum inventory levels for core reliability.

System Reliability Assessment of Winter Months

The CPUC has mandated two design standards for the winter operating season: the 1-in-10 year cold day standard, in which service is to be maintained to core customers and noncore customers under a temperature condition expected to recur once in a ten-year period; and the 1-in-35 year peak day standard, in which service is to be maintained to core customers under a temperature condition expected to recur once in a thirty-five-year period and service to all noncore customers is curtailed.

In assessing reliability in the upcoming winter, SoCalGas has analyzed the supply outlook for the system and the winter demand forecasts. These are addressed in turn below.

Supply Outlook

Available Flowing Pipeline Supplies

The SoCalGas/San Diego Gas and Electric (SDG&E) gas transmission system has a current capability to receive up to 3.775 BCFD of flowing supply on a firm basis. This means if customers deliver that much supply to the SoCalGas system, and there is sufficient customer demand, SoCalGas can redeliver that gas supply to customers.² Supplies delivered to the SoCalGas/SDG&E system, however, do not reach these available receipt levels for a variety of reasons, including that customers may choose to use SoCalGas' balancing service rather than deliver supplies, California production has declined over time, system demand frequently does not require maximum delivery of supply, or flowing supplies may not be available due to weather patterns or maintenance impacting the interstate pipelines upstream of the SoCalGas system, such as during a polar vortex event over the Midwest or an interstate pipeline outage. Additionally, planned and unplanned pipeline outages on the SoCalGas/SDG&E system can further reduce available receipt capacity.

To calculate this season's system capacity to serve customer demand, assumptions must be made regarding the available supply. The peak winter demand period is expected to occur either in December or January. During this timeframe, no projects or outages are planned on any major SoCalGas pipelines. There is sufficient supply assumed at Blythe to utilize the full 1,210 million cubic feet per day (MMcfd) of receipt capacity. Otay Mesa is still available to receive up to 400 MMcfd of supply, but the total Southern Zone receipt capacity is limited to 1,210 MMcfd. Northern Zone and Wheeler Zone can also utilize their full capacities of 1,590 MMcfd and 765 MMcfd, respectively.

In addition to the outages and restrictions discussed above, SoCalGas' analysis took into consideration that customers do not typically fully balance their supply with their demand given SoCalGas' balancing rules. Reviewing scheduled deliveries shows that customers have historically used on average 80% of available interstate receipt capacity. In situations with significant infrastructure outages and limited storage supply, however, SoCalGas would require tighter balancing and expect to see higher capacity utilization as a result.

² Customer demand may also be required to be in a specific location, such as on the Southern Zone in order to receive the full receipt capacity of 1,210 MMcfd at Blythe and Otay Mesa.

Given these considerations, and the lack of expected significant infrastructure outages, for the purpose of this peak day capacity calculation, SoCalGas has adopted a peak day utilization assumption of 80% for all supplies except for local California production, which is assumed at the current production rate.

SoCalGas’ ability to maintain uninterrupted service also depends upon customers delivering sufficient supply to the SoCalGas system. SoCalGas expects that there may be times during the winter season when gas supply from the interstate pipelines is unavailable due to weather conditions elsewhere in the country or pipeline constraints upstream of SoCalGas’ system, such that supplies delivered to the system may be less than assumed in this assessment. These situations are beyond the scope of this technical assessment, and additional customer curtailment may be necessary to maintain system integrity and service to core and critical noncore customers under such conditions.

While SoCalGas has factored in the known operating restrictions on its transmission pipelines, unexpected outages on the transmission system, such as those resulting from third-party damage and safety-related conditions, may still occur throughout the winter season, further reducing available receipt capacity beyond the levels projected in this assessment.

Based on the scenario information outlined above, the resulting receipt capacities during the peak winter period are detailed below in Table 1.

Table 1. Available Flowing Pipeline Supplies

Receipt Point	Capacity/Supply (MMCFD)	Details
North Needles	800	Topock limited to 350 MMcfd due to Line 3000 operational restrictions. Northern Zone capacity remains 1,590 MMcfd.
Topock	350	
Kramer Junction	440	
Blythe	1,210	
Otay Mesa	0	Otay Mesa has a firm receipt capacity of 400 MMcfd but is limited by the total 1,210 MMcfd receipt capacity of the Southern System.
Wheeler Ridge & Kern River Station	765	
California Production	70	Current level of local California production.
Total	3,635	80% utilization except at California Production.
Assume 80% pipeline utilization	2,922	

Available Storage Supplies

The forecasted inventories with associated withdrawal rates for SoCalGas’ storage fields at the start of the winter season and at those levels necessary to provide core customer reliability are presented below in Table 2. Under most temperature conditions, gas will be withdrawn from storage throughout the peak demand period. Therefore, SoCalGas does not expect to be at maximum inventory levels system-wide during the peak demand periods of December through January, resulting in withdrawal capability lower than the maximum rates shown below. However, as previously mentioned, due to improved pipeline receipt capacities, storage inventory during the peak demand periods of December through January, has the potential to be much greater than the minimum necessary to maintain core reliability throughout the winter season.

Table 2. Projected Storage Field Performance, Winter 2024-25, Typical Well Maintenance Activities

Maximum		Forecasted on November 1		Minimum Level for Peak Day Reliability*	
Inventory (BCF)	Withdrawal Capacity (MMcfd)	Inventory (BCF)	Withdrawal Capacity (MMcfd)	Inventory (BCF)	Withdrawal Capacity (MMcfd)
118.8	2,472	105.9	1,842	44.3	1,402

* End of January

This data is based on wells currently or forecasted to be in service during the winter operating season and assumes a typical level of well outages at each field for routine maintenance and mandated reassessments. SoCalGas assumes in its forecast that there will be no outages beyond those already identified at any of the storage fields that would impact their ability to provide the winter withdrawal capacity assumed for this assessment. SoCalGas’ storage capacities are continually reassessed in light of performance and the safety-related work planned, in progress, or completed at our storage fields.

Peak Winter Demand Forecast and System Capacity Calculation

System Capacity

Using the pipeline supply and withdrawal assumptions presented in Tables 1 and 2, SoCalGas has calculated the system capacity to serve this winter’s peak demand to be 4.32 BCFD. The system capacity is calculated based on the withdrawal available at the minimum inventory levels necessary to maintain core reliability discussed later in this report.

Customer demand is not constant over the course of the day, and gas supplies from interstate pipelines travel slowly across the pipeline network at a steady rate. During those times of the day when demand exceeds the pipeline supply, SoCalGas must use supplies from its storage fields to make up the difference. When customer demand is reduced, SoCalGas will reduce the amount of supply taken from its storage fields or inject excess supply into storage to balance supply and demand and avoid overpressuring the system. Because storage supplies are not used at a constant rate for the entire day, the system capacity is often less than the sum of the available pipeline and storage supplies.

Demand Outlook: 1-in-10 Year Cold Day Event

For the upcoming winter season, SoCalGas forecasts a 1-in-10 year cold day demand of 4.62 BCFD, broken down by customer class in Table 3 below:

Table 3. Customer Demand Forecast, 1-in-10 Year Cold Day Event

Customer Type	Winter Demand (MMcfd)
Core (including Wholesale Core)	2,925
Noncore, Non-Electric Generation	744
Noncore, Electric Generation (EG)	948
Total	4,617

This level of demand exceeds the system capacity calculated based on the minimum inventory levels necessary to maintain core reliability. SoCalGas notes that higher inventory levels at its storage fields through the peak winter period would result in higher withdrawal rates than those shown for peak day reliability in Table 2. Under such conditions, SoCalGas could potentially have sufficient capacity to serve a 1-in-10 year cold day demand provided sufficient pipeline supply is delivered to the system. As further discussed in this assessment, an examination of the available pipeline receipt capacity and demand expected throughout the winter operating season indicates that storage inventory levels will be greater than those minimum levels needed for core reliability, and it is likely that capacity will be sufficient to meet the 1-in-10 year cold day demand forecast.

Demand Outlook: 1-in-35 Year Peak Day Event

SoCalGas forecasts a 1-in-35 year peak day demand of 3,082 MMcfd, consisting entirely of core demand³ per the design standard. With prudent and active management of storage inventory, SoCalGas expects to have sufficient supply and capacity to meet this design standard.

SoCalGas must maintain minimum levels of storage supply throughout the winter season to protect core reliability. Using inventory and withdrawal relationships for the storage fields, SoCalGas has determined the minimum inventory level required at each storage field to produce the needed withdrawal rates for core reliability. These minimum inventory levels are shown below in Table 4. SoCalGas will use curtailment procedures (as necessary) to preserve these minimum inventory levels at all four storage fields throughout the winter season.

Table 4. Month-End Minimum Inventory Requirements for Core Reliability

Storage Field	Month-End Minimum Inventory (BCF)				
	NOV 2024	DEC 2024	JAN 2025	FEB 2025	MAR 2025
Aliso Canyon	23.7	22.9	22.0	19.0	9.6
Honor Rancho	13.9	13.5	13.1	7.0	5.0
La Goleta	8.0	7.9	7.7	7.6	7.5
Playa del Rey	1.6	1.6	1.5	1.1	0.7
TOTAL	47.2	45.9	44.3	34.7	22.8

³ Retail and wholesale.

The Ventura compressor station is necessary to fill the La Goleta storage field, and because of the capacity at the station, if SoCalGas were to draw La Goleta inventory down to near zero inventory, it is expected that the field could not be refilled in the summer 2025 operating season to sufficient levels needed to support winter 2025-26 demand. SoCalGas will therefore manage its system to maintain a minimum of 7.5 BCF at La Goleta through March 2025 and has included that additional inventory in Table 4 above.

Seasonal Reliability Assessment

Using the 2024 CGR forecast for the winter season (November 2024 through March 2025, cold temperature conditions with dry hydro, and hot and average temperature conditions with base hydro) and the estimated inventory levels on November 1 (105.9 BCF), SoCalGas has performed a mass balance examining the impact on its storage supplies and our ability to meet customer demand. The mass balance presented below in Table 5, simply compares forecasted demand against assumed supply and does not account for actual injection and withdrawal capabilities.

Table 5. Monthly Storage Assessment, 80% Utilization (MMcf)

Month	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Curtailment Total
Pipeline Supply	87,060	89,962	89,962	81,256	89,962	
COLD TEMPERATURE CONDITION						
CGR Monthly Demand	74,670	97,309	90,644	78,176	74,710	
Storage WD	-12,390	7,347	682	-3,080	-15,252	
Mth-end Inv	115,931	108,584	107,902	110,982	118,800	
Min Inv Req	47,200	45,900	44,300	34,700	22,800	
Curtailment	0	0	0	0	0	0
AVERAGE TEMPERATURE CONDITION						
CGR Monthly Demand	72,330	92,194	85,901	74,452	72,168	
Storage WD	-14,730	2,232	-4,061	-6,804	-17,794	
Mth-end Inv	116,056	113,824	117,885	118,800	118,800	
Min Inv Req	47,200	45,900	44,300	34,700	22,800	
Curtailment	0	0	0	0	0	0
HOT TEMPERATURE CONDITION						
CGR Monthly Demand	70,080	87,141	81,344	70,840	69,874	
Storage WD	-16,980	-2,821	-8,618	-10,416	-20,088	
Mth-end Inv	116,056	118,800	118,800	118,800	118,800	
Min Inv Req	47,200	45,900	44,300	34,700	22,800	
Curtailment	0	0	0	0	0	0

This mass balance assessment is not predicting that all storage fields will be full or nearly full prior to the start of the summer injection season in April 2025. Rather this assessment shows that on a monthly basis under all temperature conditions, SoCalGas expects to have sufficient pipeline receipt capacity and storage inventory to serve all noncore customer demand without curtailment, and without impacting

core reliability requirements. Storage levels should be much greater than those levels needed to maintain core reliability throughout the winter season provided customers elect to utilize our available pipeline receipt capacity and deliver sufficient supply. These mass balance calculations assume that gas supplies are delivered to the SoCalGas system equal to the assumed pipeline capacities, including utilization assumptions. In this sense, the mass balance provides the most optimistic assessment of the capability to meet demand through the winter season. To the extent that customers are unwilling or unable to deliver supply to the SoCalGas system at these assumed levels, there will be a potential for the curtailment of noncore demand in order to maintain core reliability.