



California Public Utilities Commission

Modeled Gas Shortfall if Aliso Canyon Closed

November 2, 2021

This memo revises and replaces the memo posted on September 15, 2021. An explanation of the change is provided at the end of this memo.

FII Consulting, Inc. has completed its analysis of the shortfall in gas deliveries that would result if the Aliso Canyon natural gas storage facility were unavailable and no further activities were undertaken to replace it. This shortfall represents the forecasted gap between gas supply and demand on the coldest day in 10 years, should that day occur in 2027 or 2035, expressed in million cubic feet per day (MMcfd). This constraint is also expressed in megawatts (MW) of electricity during the most constrained hour resulting from this analysis. This MW value represents the electricity that would have been dispatched that hour if Aliso were available but instead would be unavailable if all of the gas shortfall resulted in gas power plants not being dispatched. Thus, the gas and electric values are alternative ways of viewing the shortfall and are not additive.

Shortfall Results		
	Gas	Electricity
2027	395 MMcfd	3,176 MW
2035	323 MMcfd	2,875 MW

These results reflect model updates since the March 30, 2021, workshop. Among other changes, the 11.5 MW of electricity generation and storage the CPUC ordered in Decision (D.) 21-06-035 has been added to the model, and the gas assumed to be available from the non-Aliso fields has been updated to reflect forecasts for March 31, which account for a draw-down in non-Aliso storage throughout the winter. The shortfall is lower in 2027 than the previous forecast of 434 MMcfd, and slightly higher in 2035 than the previous forecast of 318 MMcfd.

The following inputs were used in this model:

Key Modeling Data for a Peak 1-in-10 Winter Day			
	2027	2035	Source
Total gas demand	4,516 MMcfd ¹	4,443 MMcfd	2020 California Gas Report (includes 1% annual decline), except for gas demand for electric generation, shown below
Gas demand for electric generation	745 MMcfd	803 MMcfd	FTI electricity modeling output
Gas pipeline receipts	3,115 MMcfd	3,115 MMcfd	Consistent with CPUC Phase 2 modeling: 85% capacity for Northern & Southern Zones, 100% capacity for Wheeler Ridge Zone
Gas storage withdrawal capacity	1,033 MMcfd	1,262 MMcfd	Based on modeled gas storage fields' percent full on March 31: 57% in 2027, 81% in 2035

The shortfall results are the main output of Workstream 1 of FTI Consulting, Inc.'s analysis. In Workstream 2, FTI Consulting is modeling five portfolios of activities to fill this shortfall, calculating the net present value of each portfolio to utility ratepayers over a 20-year forecasting period and qualitatively assessing any regulatory constraints. The components of these portfolios include gas infrastructure, electric generation, electric storage, energy efficiency, building electrification, gas demand response, and electric transmission.

Correction from Previous Memo

On October 28, 2021, FTI informed the CPUC that the shortfall number previously reported for electricity for 2035 was incorrect. The previously reported number, 2,747 MW, reflected the last hour of the day rather than the hour with the highest electric shortfall. The correct number is 2,875 MW and is reflected in the "Shortfall Results" table above.

FTI's modeled electricity shortfall results are shown in more detail below. As shown in the November 3 workshop slides, the peak hourly electric shortfall occurs at night because more electricity is available during the day.

Electricity Shortfall Results		
Hour of Peak Day	2027	2035
12 AM – 9 PM	0 MW	0 MW
9 PM – 10 PM	3,176 MW	1,055 MW
10 PM – 11 PM	3,176 MW	2,875 MW
11 PM – 12 AM	3,176 MW	2,747 MW

¹ For comparison, note CPUC modeled a peak winter day's gas demand as 4,821 MMcfd, including 1,123 MMcfd for electric generation, for the year 2030 (Simulation 05).