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SMUD Comments on Updated Energy Demand Forecast

Additional submitted attachment is included below.

STATE OF CALIFORNIA
BEFORE THE CALIFORNIA ENERGY COMMISSION

In the matter of:	)	Docket No. 18-IEPR-04
	)	
2018 Integrated Energy Policy Report	)	SMUD Comments on Integrated
Energy Demand Forecast Update	)	Energy Policy Report Energy Demand
	)	Forecast Update
	)	
	)	
	)	December 28, 2018

Comments of the Sacramento Municipal Utility District on the Updated Energy Demand Forecast

On Thursday, December 6, 2018, the California Energy Commission conducted a workshop to propose and discuss updates to the 2018 Integrated Energy Policy Report (IEPR) energy demand forecast. SMUD also attended and participated in the Demand Analysis Working Group (DAWG) meeting on November 14th. SMUD appreciates the work of the CEC to produce this forecast and to help us understand the methodology behind it.

After the November 14th DAWG workshop, SMUD staff followed up with CEC staff on SMUD's time-of-day program and our EV projections, as discussed during the DAWG meeting. On December 21, 2018, SMUD staff received a copy of the CEC's baseline sales and system peak forecast from Mr. Cary Garcia. The CEC's baseline forecast is also a "managed" forecast that takes into account all DERs and EV charging. The CEC managed forecast was based on the California Energy Demand Updated (CEDU) 2018 Baseline Mid Demand Case Total Sales forecast (Form 1.1b, column I) and Net Peak Demand forecast (Form 1.4, column H) adjusted for additional achievable energy efficiency (Mid-AEE) and additional PV (Mid-AAPV).

In the comments below, we compare the CEC's managed sales and peak forecast with SMUD's current "budget" forecast (which is also a managed forecast). SMUD's current managed forecast is based on a 1-in-2 weather scenario and is comparable to the CEC mid-case scenario.

However, a detailed comparison of these forecasts shows that the CEC's managed baseline forecast for retail sales and system peak demand are significantly higher than the SMUD managed forecast by approximately 6 percent and 9 percent, respectively, over the forecast period. While differences in the expected impacts of energy efficiency, behind the meter PV, electric battery charging, and other DER programs may account for some of these differences, SMUD staff believes the majority of the differences are

due to the weather normalization models used by the CEC. From our review of expected energy efficiency, the CEC and SMUD estimates seem fairly comparable.

From our understanding, the CEC forecast begins in 2018, even though 2018 is now nearly over. The time period for the 2018 IEPR forecast is 2018-2028. The table below shows the weather conditions for 2017 from the National Weather Service Sacramento City weather station. This table shows that both the average daily high and low temperatures were well above normal temperatures for the year. More importantly, the annual cooling degrees (CDD, with base average daily temp exceeding 65 degrees, Fahrenheit) were 29 percent above normal for the year. Moreover, 2017's CDDs rank it as the fifth hottest year since 1980.

2017 Weather Statistics- Sacramento City					
	Hi Temp	Lo Temp	Avg Temp	CDD	HDD
Actual	77	53	65	1,897	1,917
Normal	75	51	63	1,468	2,301
Difference	2.3	1.6	2.0	429	-384
Percent Difference	3%	3%	3%	29%	-17%

Given the extreme cooling conditions in 2017, one would expect to see a large reduction in normalized sales in 2018. In the CEC's managed sales forecast, however, the 2017 actual sales and the weather normalized sales for 2018 are virtually the same after accounting for additional energy efficiency impacts in 2018. This is surprising to us, and therefore these results seem to indicate that the CEC's weather normalizations process for 2018 does not adequately adjust the sales downward to reflect "normal" weather conditions.

In the case of system peak, the CEC managed system peak demand for 2018 is 3104 MW, about 53 MW lower than SMUD's actual 2017 system peak of 3157 MW. SMUD's 2017 system peak occurred when the daily high temperature soared to 109 degrees Fahrenheit at Sacramento City weather station, which is well above SMUD's assumed normal peak day temperature of 106 degrees. Based on SMUD's analysis of weather normalized system peaks, the weather normalized 2018 system peak should range between 2950 and 3000 MW. In fact, SMUD's actual 2018 system peak was 2944 MW, which occurred at hour-ending (HE) 18 on July 25th. It therefore appears that the CEC used 2017 as somewhat of a "baseline" weather year for the updated IEPR forecast, thus creating higher forecasted peak loads in future years, even though this weather year may have been an abnormal one. We would appreciate the CEC's reconsideration of the effects of 2017 weather on the updated forecast for 2018 and beyond.

In conclusion, SMUD staff appreciates discussing forecasting issues with Mr. Garcia to better understand the CEC's forecast methodology and the adjustments that are made to reflect current trends in distributed energy resources (DERs) such as energy efficiency, behind the meter PV, EV battery charging, and building electrification. Besides our differences in the 2018 base year forecast, both the CEC's and SMUD's managed forecasts are relatively flat over the forecast period. In the future, we look

forward to discussing these issues with Mr. Garcia and CEC staff to refine our assumptions on DER impacts for the future.

Thank you for the opportunity to comment on the 2018 IEPR Forecast.

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cc: Corporate Files (LEG 2018-0531)