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Recommendation to include 8760 shapes in CMUA Energy Efficiency Potential Study

Additional submitted attachment is included below.

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Comment on Joint Agency IER Workshop on Energy Demand Forecast and Doubling of Energy Efficiency – Data and Analytical Needs

Role in the Proceeding

I am the Principal at LoadForecast.net. LoadForecast.net is currently under contract to LADWP to provide services related to Load Forecasting on a part-time basis. The opinions that follow are my own.

CMUA Energy Potential Study

In his presentation, Gary Cullen of Navigant said that Navigant had the capability but not the funds to deliver 8760 load shapes for the 200 energy efficiency measures in the 2016 CMUA Energy Potential Study.

I recommend that the CMUA expand the scope of its Energy Potential study to include 8760 load shapes and make them available to all the POUs. I acknowledge that it is difficult to append contracts especially if there are multiple parties involved.

It appears that Navigant is contracted to deliver an annual energy and a coincident peak demand based on the DEER protocol for 200 hundred separate measures. From this information, LADWP computes load factors for each measure. A weighted-average load factor is calculated based on the forecasted energy saved from each measure. The peak demand forecast is adjusted based on the difference between weighted-average load factor and system load factor. This peak demand adjustment based on data obtained from the Energy Potential studies is a recent and significant enhancement to LADWP's peak demand forecast methodology.

Obtaining the 8760 hour data for energy efficiency could further enhance peak demand modeling in at least two ways.

First, it would allow us to study peak shift in the LADWP service area due to energy efficiency measures. The work that I have reviewed so far on peak shift mostly concentrates on peak shift due to added solar distributed generation and electric vehicles. The DEER peak protocol is based on loads between hour ending 2:00 and 5:00 PM as I understand it. This protocol fits the current LADWP system well as LADWP currently observes its peaks at either 4:00 or 5:00 PM. However if peak shifts to later in the evening, as has been occurring in other California utilities, LADWP's peak adjustments will become less informed.

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Second, it would allow LADWP to study weather response within the measures to see if it makes a difference. DEER peak protocols might need to be adjusted to fit the LADWP service area. Weather stations are different. DEER protocols use the Burbank and Torrance weather stations whereas LADWP uses the Los Angeles Civic Center, Woodland Hills Pierce College and Los Angeles Airport weather stations. DEER protocols use 2009 as its typical year. The LADWP model calculates the 2009 peak day weather as being a 1-in-1.8 event so it is a good typical year. Closer to normal for LADWP is 2012 which was a 1-in-1.98 peak day weather event. More important to LADWP are 1-in-10 weather events as these are the events included in the Integrated Resource Plan. The recent year close to a 1-in-10 weather event was 2011 which was a 1-in-11.8 event. What happens to energy efficiency savings at extreme temperatures?

Conducting these types of studies is not a panacea. The outcomes will probably lead to small adjustments. More importantly conducting these types of studies informs Forecasters as to sensitivities in their models. This, in turn, leads to improved judgement in the people creating the forecasts.