

July 6th, 2009

California Energy Commission
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Re: California Energy Commission (Energy Commission)
Docket No. 09-IEP-1C: Written Workshop Comments of
Southern California Edison Company (SCE) the 2010 –
2020 Peak Demand & Energy Forecasts

To Whom It May Concern:

Southern California Edison (SCE) appreciates the opportunity to comment on the June 26, 2009 IEPR demand forecast workshop. After the review of the information available, we have identified the following issues:

- Calculation of SCE “uncommitted” energy consumption
- Staff forecast of energy consumption in 2010 -2020 is less than ½ of the historic rate of growth
- Discussion of time periods for measuring historical and forecast growth
- Energy Commission Staff’s (Staff’s) assumptions about increased compliance with 2005 lighting standards post- 2011
- Inclusion of energy consumption from existing and emerging electro-technologies
- Incremental self-generation 1997-2008
- Economic and demographic assumptions 2010-2020 do not appear to be a significant source of difference between SCE and Staff forecasts

Discussion

1. For the June 26 presentation, the Staff estimated SCE’s “unmanaged” forecast, and presented a 2010-2020 growth rate of 2.3%. This growth rate of 2.3% is incorrect, and the correct figure is 2.0%. Since the workshop, SCE has sent to Staff SCE’s measure of historical and forecast unmanaged load consistent with what was filed in the IEPR Forms. SCE’s measure of “unmanaged” consumption has a growth rate of 2.0% from 1990-2007 and 2.0% from 2010-2020, including electro-technologies. The comparison of Staff and SCE 1990-2007 and 2010-2020 growth rates of “unmanaged” energy consumption is shown in Table 1 below.

Table 1

| | Energy Consumption—Average Annual Growth Rates | |
|-----------|--|----------|
| | Staff Draft 2009 CED | SCE IEPR |
| 1990-2007 | 1.9% | 2.0% |
| 2010-2020 | 0.8% | 2.0% |

SCE submitted 2009 IEPR forms with the uncommitted energy efficiency (EE) deducted from the forecast period, and the Energy Commission forecast does not deduct uncommitted EE. The shorthand name for the Energy Commission forecast is “unmanaged” (e.g. not reduced by uncommitted EE). The SCE forecast would be considered “managed” (e.g. reduced for expected uncommitted EE.) For a fair comparison, both must be on the same basis.

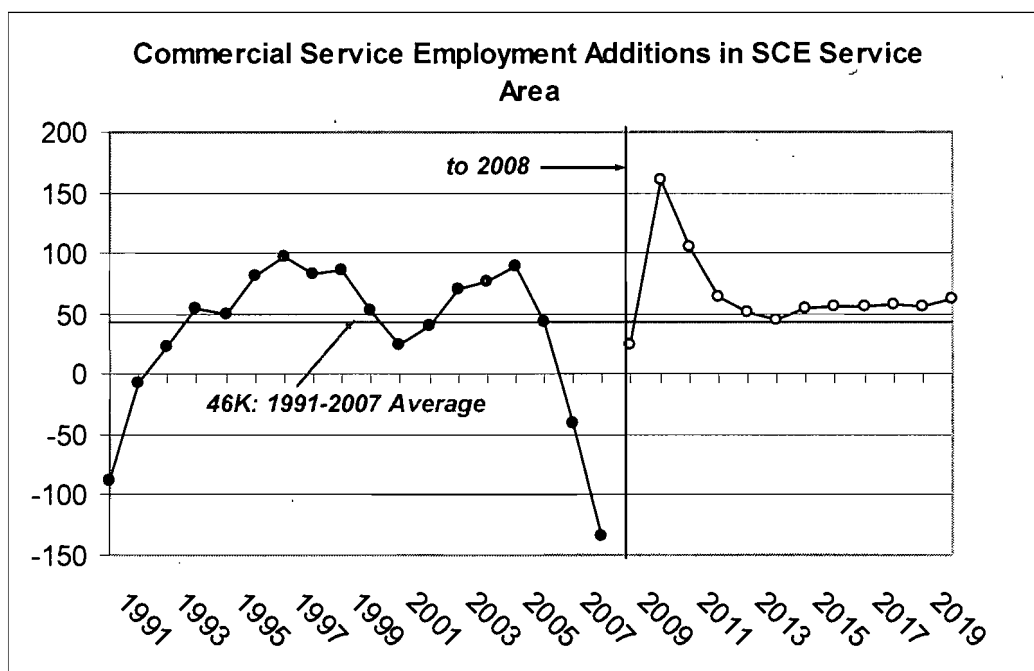
SCE makes its econometric forecast of “energy consumption” rather than sales. Energy consumption is recorded sales plus the committed EE savings plus the estimated self-generation. SCE’s definition of “energy consumption” is similar to Staff’s definition of “unmanaged” consumption, but SCE applies the definition to both history and forecast, and includes the historic savings from committed EE programs. Thus SCE models historic energy consumption, makes a forecast of consumption, and then deducts from this the forecast of self-generation and the forecast of total EE (committed, which decays, plus uncommitted). Thus, in comparing with historical growth rates, comparisons of SCE “unmanaged” must be made against “unmanaged” history. It would be inconsistent to compare recorded or “managed” growth rates or graph recorded energy or peak demand for the historical period of time and then compare this to the forecast level or growth rate of energy and peak demand on an “unmanaged” or total consumption basis. Although Staff does not “add-back” the savings from committed EE programs in its calculation of historic energy consumption, the comparison shown on Table 1 is “apples-to-apples”.

2. Also shown in Table 1 above, Staff’s forecast of unmanaged energy consumption in 2010-2020 is less than ½ of the 1990-2007 growth rate, and is only slightly higher than ½ of the energy consumption growth rate in the final 2007 CED 2010-2018 forecast.

3. Over the long run, the economy goes through periods of economic growth and economic recessions. Economists calculate the long-term growth by looking at “peak to peak”, “trough to trough”, or the “fitted” growth rate through the center of the economic cycles to get an unbiased view of growth. Obviously, looking at growth rates from an economic peak to a recessionary trough is going to show a lower or negative growth compared to the long term average rate, and likewise looking at the growth rate starting from a recession trough and ending at an economic recovery is going to show a higher growth rate than the long-term average rate. The current economic recession of 2008-2009/2010, the worst since the great depression, makes the 2010 data point biased too low from which to measure growth rates. A better period for comparison of long-run growth rates would be from 2013 through 2020.¹

¹ The historical period 1990-2007 contains the period of the “aerospace recession” of the early 1990’s during which the SCE service area lost 100,000’s of jobs, the dot-com boom of the late 1990’s, the energy crisis and economic recession

Thus, based on the economic cycles, it would not be unexpected for the forecast period 2010-2020 to show a higher growth rate than 1990-2007. Offsetting this somewhat is the expectation that California employment will not recover to the long-term trend set from 1990-2007—Global Insight currently predicts that there will be a permanent downward adjustment in the long-term economic level compared to the pre-recession average trend, but predict no reduction in the growth rate post recovery (e.g., 2013-2020). This is exemplified in the graph of SCE Service Area Commercial Sector Employment, based on the global Insight economic forecast of April, 2009.



4. In their forecast, Staff assumed a higher compliance rate with the 2005 lighting standards after 2011. They assumed the compliance rate with the 2005 lighting standards will increase with the assistance of IOU EE programs, post 2011. This single assumption accounts for 18% of the reduction in the 2009 CED forecast from their 2007 CED forecast for 2018.² It also appears that this assumption alone may be the single largest contributor to the lower growth rates in energy consumption the 2013-2020 (i.e. post recession, post recovery) period.³ Lighting compliance

of 2000-2001, and the building boom of 2002-2006. Thus, the period contains two complete “bust-boom” economic cycles. The period 2007-2010 starts from the year of the economic peak, 2007, and covers the period during which the economy fell into the worst economic recession since the great depression—just the “bust” period of the economic cycle. The forecast period 2010-2020 starts from approximately the bottom of the recession “bust” and grows to the long-term trend value for 2020, and thus, other things being equal, will show a relatively higher growth rate since it starts from the bottom of the recession and covers the time period of recovery from the recession.

² Chris Kavalec’s presentation “Statewide Forecast results for electricity and Natural Gas, slide 17

³ The Staff assumption of higher compliance appears to be coincident in timing with start of the uncommitted CPUC “Total Market Gross” energy efficiency goals. The Total Market Gross goals include IOU’s being accountable for not

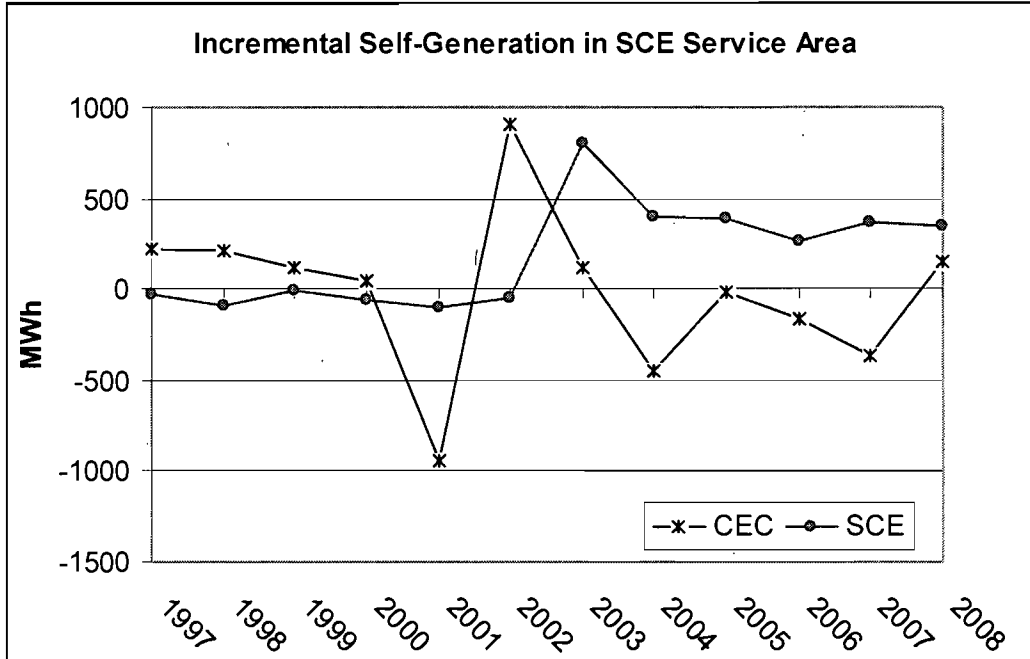
assumptions post 2011 should be excluded from this forecast and considered in later hearings on uncommitted EE.

5. The Energy Commission along with the Air Resources Board co-funded a study by TIAX estimating the size of the emerging electro-technologies market.⁴ This study estimated the additional energy use from such technologies as LA-Long Beach Port electrification (e.g., cold ironing); electrification of overnight truck-stops such that drivers of semi rigs can hook up to air conditioning and video feeds through a cab window, and thus shut down their diesel engine, reducing emissions; conversion of LPG fueled fork lifts to electric; and all-electric and plug-in hybrid vehicles. SCE has reviewed and updated the assumptions in the study, and has included a growing load from electro-technologies in its forecast. The Staff forecast makes no mention of including load from either electric vehicles (EVs) or other electrification projects, some of which are already in operation.

6. Staff presented for each utility a graph of self-generation, and commented that the data was based on “self-reported” data from self-generators. They expressed some concern about its validity. SCE filed in IEPR Form 1.7a&b its estimates of historical self-generation, and forecasts. Historical figures are based on customer interconnection reports which reflect both self-generation additions and generators removed from service, and an assumed capacity factor for each type of generator (thermal, wind, solar, emergency). During the period 1997-2008 Staff’s estimates are significantly different from SCE’s estimates, as shown in the graph below. Since self-generation is added to recorded sales to derive energy consumption, correcting the self-generation will show higher growth rates of energy consumption in the 2002-2008 period. SCE suggests Staff utilize the SCE provided data for 1997-2008.

only IOU EE program savings, but also savings from State and Federal appliance and building standards. These goals are for the 2012-2020 period, and are thus to be included in the “uncommitted” EE savings, not in the current Staff forecast. If we have assumed correctly about the reason for the Staff’s assumption of increased compliance with the 2005 lighting standards, then this assumption should be removed from the current forecast, and the savings from this assumption justified and included in the calculation of uncommitted EE, later in the IEPR process

⁴ “State Alternative Fuels Plan”, CEC-600-2007-011-CMF, December 2007



The Staff forecast of energy consumption in 2009 CED for the 2010-2020 period is lower than the 2007 CED and the historic growth from 1990-2007. The lower growth does not appear to be due to lower growth rates of economic or demographic variables. Thus, the difference in forecast growth rates must be due to assumptions described above, or to other issues yet to be identified.

Table 2 – Economic Variable Comparison

| | Average Annual Rate of Change | | <i>Real Income</i> | | <i>Comm. Floorspace</i> | |
|------------|-------------------------------|------------------|--------------------|------------------|-------------------------|------------------|
| | <i>Households</i> | | | | | |
| | <i>2007 IEPR</i> | <i>2009 IEPR</i> | <i>2007 IEPR</i> | <i>2009 IEPR</i> | <i>2007 IEPR</i> | <i>2009 IEPR</i> |
| 1991-2001 | 0.9% | 0.9% | 2.4% | 2.3% | 2.0% | 2.0% |
| 2010-2020* | 1.1% | 1.1% | 2.0% | 2.5% | 1.7% | 1.4% |

* 2010 to 2018 for 2007 IEPR

Cooperative Efforts

SCE is committed to supporting collaborative efforts with the Energy Commission. SCE looks forward to investigating assumptions and inputs that may resolve questions about the forecasts. SCE has recently provided Staff with the SCE ‘unmanaged’ historical and forecast data for better comparison with Staff data, and has requested from Staff their historical values of model fitted data versus actual, before and after calibration, for the residential and commercial sectors.

If you have any questions or need additional information about these written comments, please contact me at 916-441-2369.

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Very truly yours,

Manuel Alvarez