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SCE's Comments on CEC Docket #15-IEPR-01: Draft 2015 Integrated Energy Policy Rpt

Additional submitted attachment is included below.

November 10, 2015

California Energy Commission
Docket Office, MS-4
Re: Docket No. 15-IEPR-01
1516 Ninth Street
Sacramento, CA 95814-5512
docket@energy.ca.gov

Re: Southern California Edison Company's (SCE's) Comments on the California Energy Commission Docket No. 15-IEPR-01: Draft 2015 Integrated Energy Policy Report

Dear Commissioner McAllister:

Southern California Edison (SCE) appreciates the opportunity to provide comments on the California Energy Commission's (Energy Commission's) 2015 Integrated Energy Policy Report (2015 IEPR): Draft Report. SCE commends the Energy Commission staff for their efforts in completing the Draft Report, which addresses many pressing energy and environmental policy issues that impact California's energy future.

SCE generally supports the Energy Commission's policy recommends and has only few recommendations. SCE appreciates the Energy Commission's consideration of these comments and looks forward to its continuing collaboration with the Energy Commission. Please do not hesitate to contact me at (916) 441-2369 with any questions or concerns you may have. I am available to discuss these matters further at your convenience.

Very truly yours,

/s/

Manuel Alvarez

COMMENTS

I. CHAPTER 1: Energy Efficiency

A. Existing Building Energy Efficiency

SCE agrees with the Energy Commission that Energy Efficiency (EE) is a critical component for achieving a low-carbon energy system, and SCE supports the Energy Commission’s recommendations to further advance EE in existing buildings, consistent with the Energy Commission’s *Existing Buildings Energy Efficiency Plan*, Senate Bill (SB) 350, and Assembly Bill (AB) 802. SCE actively participated in the legislative process for AB 802 and SB 350 and was pleased with the bills’ EE policies for existing buildings. SCE particularly supports the Energy Commission’s recommendation to “[r]equire utilities to map utility meters to physical locations.”¹ SCE is beginning to evaluate this very process through its own Multifamily Benchmarking pilot project.

With respect to developing standard protocols for meter-based savings verification, SCE encourages the Energy Commission to consider (1) “double-incentivization” of savings policies which attribute savings to both operational and behavioral activities, and (2) the effect of changes in code to meter-based savings assertions.

B. Utility Energy Efficiency Procurement

SCE also supports the Energy Commission’s recommendation to “continue the transition toward ‘rolling portfolios’ of investor-owned utility efficiency programs,” as well as progress toward improvement in the Evaluation, Measurement, and Verification (EM&V) process as it relates to existing balancing account-funded energy efficiency activities.² In addition, as noted in SCE’s April 21, 2015 IEPR Comments, SCE encourages the Energy Commission to explore methods to meaningfully incorporate EE procured through activities such as the Local Capacity Requirements (LCR) Request for Offer (RFO) into the Energy Commission’s demand forecast.³ While SCE recognizes that these procurement activities are included in the California Public Utility Commission’s (CPUC’s) Long-Term Procurement Process (LTPP), this incremental

¹ Draft IEPR at p. 51.

² Draft IEPR at p. 53.

³ SCE Comments on Existing Building Energy Efficiency Action Plan for Staff Workshop on the AB 758 Draft Action Plan at p. 4. April 21, 2015.

energy efficiency may not yet be completely harmonized with methodologies inherent in CPUC-authorized balancing account-funded programs. Similarly, SCE recommends designing mechanisms to rationalize and align the methodologies for the valuation, measurement, verification, and settlement of energy efficiency delivered across different regulatory proceedings and procurement channels.

C. Zero-Net Energy

SCE continues to support the concept of Zero-Net Energy (ZNE) due to its proven ability to drive innovation and promote advancements in the building design and construction industry. SCE continues to support the development of a simple, flexible, and clear definition of ZNE, and looks forward to continuing to engage with the Energy Commission to help shape ZNE policy in a manner that is consistent with SCE's provision of safe, cost-effective, clean, and reliable energy service. SCE offers the below recommendations for the Energy Commission's consideration on ZNE.

As previously noted in SCE comments,⁴ SCE believes that the Time-Dependent Valuation (TDV) metric for ZNE has merit for evaluating the trade-offs between gas consumption, electricity consumption, and renewable energy projection. The TDV of energy has been used in building standards since the 2005 Title 24 cycle and continues to be a robust method of balancing trade-offs between energy, peak demand, and different fuel types.

One short-coming that the Energy Commission should address, however, relates to *system-wide implications* of adopting building energy systems into code based on the current TDV metric. By valuing energy *production* on an equal basis as energy *consumption* for a building site, there is significant embedded potential for inappropriate cost-shifts among customers as TDV is implemented for ZNE. The implicit "equal basis" assumption assigns *benefits* to solar customers, including ZNE customers, but any *costs* associated with that solar system are not recognized in the TDV calculation.

In the past EE efforts focused entirely on building efficiency. Today, there is increasing penetration and integration of Distributed Energy Resources (DERs), such as DG, but the current ZNE definition makes it difficult to reasonably reflect the costs of DERs and to claim certain

⁴ Joint Utility Comments on the Definition of Zero Net Energy in Newly Constructed Buildings in California. August 1, 2013.

cost-effective savings. As the regulatory landscape and the electricity grid continue to evolve with the advancement of DERs, such as solar and energy storage, the Energy Commission should reassess ZNE's impact on energy ratepayers.⁵ Recognizing that it may be necessary to modify that definition to achieve ZNE goals, SCE encourages that any legislative or regulatory changes to the ZNE code or definition involve robust stakeholder participation and that the Energy Commission continue to provide timely updates of TDV values as technologies advance further.

Finally, SCE recommends that the Energy Commission consider the State's Loading Order in its analysis of ZNE code to set energy standards-- both for new and existing buildings-- for 2019 and beyond. For instance, consistent with the Loading Order, before adding onsite generation, the Energy Commission should first consider deep energy-efficiency improvements for ZNE buildings.

II. CHAPTER 2: Decarbonizing the Electricity Sector

SCE generally supports the Energy Commission's recommendations for Decarbonizing the Electricity Sector, and particularly the Energy Commission's encouragement of a more integrated planning approach, and its recommendation that "[f]urther consideration is needed on the role of distributed resources in the Renewables Portfolio Standard (RPS)."⁶ SCE agrees that with increasing penetrations of customer-side renewable DG and the inclusion of DERs in the California Independent System Operator (CAISO) wholesale market, that the Energy Commission and the Legislature should carefully evaluate the future role of renewable DG in the RPS. Additionally, SCE offers the following five recommended revisions for the Energy Commission's consideration:

First, SCE recommends that the Energy Commission consider consolidating **Recommendations 1 and 3 on page 86** into a single recommendation that more closely reflects the Energy Commission's policy to encourage an integrated approach to reducing greenhouse gases (GHGs). SCE offers the following revision for consideration *in place of the existing recommendations 1 & 3*:

Zero-carbon solutions should maintain system reliability while integrating a diverse portfolio of renewables. Any effort to advance renewables must be

⁵ SCE Comments on Staff Workshop on Zero Net Energy for Newly Constructed Buildings at p. 2. June 1, 2015.

⁶ Draft IEPR at p. 86.

part of an overall portfolio that integrates all demand and supply-side resources across sectors to reduce GHG emission, reduce criteria pollutants and meet other environmental goals, maintain reliability, and control costs.

SCE believes that properly valuing integration needs and considering a full spectrum of options will result in resource diversity when and where it is most beneficial. SCE recommends that a solid valuation framework be established to inform decision-making and evaluate tradeoffs, such as whether to procure baseload geothermal or solar paired with energy storage.

Second, SCE notes that **Recommendation 2**, which states that the “50 percent renewable goal should be a floor, not a ceiling,”⁷ should recognize prior Energy Commission assertions that renewable energy growth should be coupled with load growth to achieve optimal outcomes.

Third, while SCE is a proponent of exploring all options to decarbonize, SCE believes that the Energy Commission’s assumptions on **page 60** that Carbon Capture and Storage (CCS) can decarbonize large point sources by up to 100%⁸ are an overstatement of CCS technologies. SCE recommends that the Energy Commission justify this figure and ensure that it represents the capabilities of CCS to reasonably remove carbon in a non-laboratory setting. SCE also expresses concern over the Energy Commission’s example of coal plant capturing as a means of reducing carbon. Because carbon-rich, non-ramping resources are unlikely to be a common resource type in California’s energy future, CCS represent a costly carbon removal solution, as compared to the other strategies discussed in this chapter.

Fourth, SCE proposes that the Energy Commission correct **Table 5: RPS Progress by Large Investor-Owned Utilities**⁹ to reflect that SCE forecasts that its 2020 RPS procurement percentage is expected to be **36.9%**¹⁰ -- not 23.5%. That figure, however, is based on an assumption of a 100% success rate for projects that have not yet come online.

Finally, SCE recommends the following revisions to the Energy Commission’s “**Action Items Needing Further Work**” in the first two paragraphs of **page 73**, in bold underline and strikethrough to incorporate and reflect the CPUC’s Distribution Resource Planning efforts:

⁷ Draft IEPR at p. 86.

⁸ Draft IEPR at p. 60.

⁹ Draft IEPR at p. 65.

¹⁰ R.15-02-020 RPS – SCE 2014 Preliminary Annual 33% RPS Compliance Report at p. 21.

Improving the transparency of renewable cost information and distribution planning processes. Improving the ability to track publicly available information on renewable project costs will expand the state’s understanding of cost trends and drivers in the growing distributed renewable energy portfolio and help support distribution planning. California’s energy agencies need to increase efforts to work with the U.S. Energy Information Administration, utilities, customers, and developers to develop a framework to prepare transparent estimates of the system costs of renewable distributed generation. In addition, the Energy Commission needs to coordinate with local, state, and federal agencies to identify available cost data and what additional information is needed to support distribution planning.

For more transparent distribution planning, The energy agencies and utilities need to continue to improve coordination and integration of distributed generation procurement programs, long-term procurement plans, smart grid deployment plans, and transmission planning so that the distribution planning process is **at least as transparent as planning processes on the transmission side better informed. The energy agencies should explore options to improve the transparency of the IOUs’ distribution planning process, leveraging the tools and methodologies being considered in the CPUC’s Distribution Resources Plan proceeding and forming an independent review group of non-market participant stakeholders where needed, to preserve competition and protect customer information.** The work being done through the “More Than Smart” working group led by California ISO staff is an important contributor to this effort.

III. CHAPTER 3: Strategic Transmission Investment Planning

SCE supports the Energy Commission’s recommendations for the Strategic Transmission Investment Plan, which are consistent with SCE’s transmission planning efforts. In particular, SCE supports the Energy Commission’s timely and important Recommendations 3, to “Leverage analytical tools,” and 6, to “Develop right sizing policies.” SCE recommends the following limited revisions to the recommendation in **paragraph 5 on page 117**:

Leverage analytical tools to conduct further landscape-scale analysis for renewable planning. The Energy Commission should continue to leverage the tools and approaches developed for the Desert Renewable Energy Conservation Plan and related planning efforts, **including the “Data Basin Gateway,”** to ease successful landscape-scale planning of renewable resources, transmission investments, and conservation, **and to inform the development of renewable resource portfolios for the RPS Calculator.**

IV. CHAPTER 4: Transportation

SCE commends the Energy Commission for its inclusion of the investor-owned utilities’ proposals to the CPUC for Zero-Emission Vehicle (ZEV) infrastructure, as well as on the new SB 350 requirements on utilities to accelerate transportation electrification in its Draft IEPR.¹¹ SCE also appreciates the Energy Commission’s incorporation of existing regulations in the IEPR Demand Forecast, including light duty ZEV, NHTSA Corporate Average Fuel Economy (CAFE) standards and the Low Carbon Fuel Standard (LCFS).¹² SCE believes that as a result, future forecasts will produce expectations that are more consistent with California’s environmental goals and transportation requirements.

To develop forecasts that are more in line with California’s environmental policy goals, SCE continues to recommend that the Energy Commission conduct scenario analyses that depict the impacts of meeting the State’s long-term climate goals and federal air quality requirements under a variety of fuel and technology mixes, including a “high electrification” case for transportation, as noted in its previous comments.¹³ For now, SCE recommends that such an analysis be separate from the demand forecast modeling efforts. Additionally, SCE offers the following five recommendations for the Energy Commission’s consideration.

First, SCE recommends that the Energy Commission correct an error in its description of the California Air Resources Board’s (CARB’s) ZEV regulation on **page 121**. Contrary to the current language in the Draft IERP, the regulation does *not* require a fixed number of ZEVs, but

¹¹ Draft IEPR at p. 123.

¹² Draft IEPR at p. 126.

¹³ SCE Comments on Staff Workshop on Energy Demand Cases and Forecast of Vehicle Attributes for 2015 Transportation Energy Demand at p.1. October 14, 2015.

rather a fixed number of ZEV *credits*.¹⁴ Because different compliant vehicles under the regulation earn different amounts of ZEV credits, the required number of ZEVs in 2025 can vary widely—from well below 1 million units to over 2 million units in operation—depending on automakers’ choice in vehicle production. It is important to correct this misperception and manage expectations of what the ZEV regulation is capable of accomplishing.

Second, SCE recommends that the “Providing Incentives for Transformation” section, beginning on **page 122**, provide a more comprehensive list of available transportation incentives available in California. SCE recommends that the Energy Commission clarify that the AB 118 and AB 8 program—in addition to funding Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP) activities—also provide funding for CARB’s Carl Moyer, AB 923, and AQIP programs, as well as Congestion Mitigation and Air Quality Programs implemented by metropolitan transportation organizations, and various air district programs funded by motor vehicles fees (e.g., AB 2677).

Third, SCE recommends the Energy Commission clarify a discrepancy between GHG emission figures that differ from those provided by CARB. On **page 119** of the Draft IEPR, the Energy Commission notes that “The production, refining, and use of petroleum represent some of the state’s largest sources of pollution – accounting for about 40 percent of California’s greenhouse gas (GHG) emissions,” but, CARB, in an October 2015 presentation¹⁵ to its Board, noted that emissions from fuel production and distribution account for 50 percent of GHG emissions. SCE recommends that the Energy Commission rectify this discrepancy.

Fourth, on **page 137**, SCE cautions that **Figure 28** may contain an error, as the “Low Demand” case intuitively should not be higher than the “High Demand” case. All of the other charts within the Draft IEPR indicate the “Low” case is lower than the “High” case, and Figure 28 appears to be inconsistent with the remainder of the chapter. Furthermore, SCE recommends that the Energy Commission include a footnote for this Figure denoting that, according to CARB, electric fuel is 2.8 to 3.4 times more efficient in converting energy into miles traveled when compared to gasoline or diesel fuel.

¹⁴ California Environmental Protection Agency Air Resources Board Staff Report at pp. ES-3, and 35-38. <http://www.arb.ca.gov/regact/2012/zev2012/zevisor.pdf>

¹⁵ CARB Presentation: Mobile Source Strategy Informational Update. October 22, 2015. At: <http://www.arb.ca.gov/board/books/2015/102215/15-8-6pres.pdf> p.4.

Finally, SCE recommends that the Energy Commission phrase its ARFVTP recommendations to discourage a silo approach for achieving GHG and air quality goals. Currently, those recommendations include language that statutorily links to achieving petroleum reduction mandates,¹⁶ instead of encouraging a portfolio of options for reducing GHGs and improving air quality in the most cost effective manner.

V. CHAPTER 5: Electricity Demand Forecast

A. Summary of Changes to the Forecast

As an initial observation in reviewing Chapter 5, SCE notes that the preliminary statewide load forecast appears to project a much faster pace of growth than in most of SCE's own recent forecasts in the SCE planning area, while the Energy Commission's projected statewide peak load appears to be in line with SCE's projections. Understanding that these are preliminary projections, SCE looks forward to reviewing the Energy Commission's revised forecast for the SCE planning area, including the forecast for electric vehicles and distributed generation, when it becomes available later this year, so that it can provide further insight based on SCE's own forecasting analysis.

In line with SCE's interest in reviewing and coordinating with the Energy Commission as it develops its final forecast, SCE also recommends that the Energy Commission actively engage with stakeholders and encourage technical discussions through workshops and other forums, in order to ensure successful implementation of SB 350 and AB 802. SCE believes that actively engaging stakeholders will improve the development of more analytical, granular forecasting capabilities in line with the implementation objectives for SB 350 and AB 802.¹⁷

B. California Energy Demand Forecast Results

SCE observes that the Energy Commission attributes the lower peak demand growth projected in the California Energy Demand (CED) 2015 Preliminary forecast to a higher self-generation forecast for distributed solar generation. Although SCE is pleased to see the Energy Commission's updates to its solar PV forecast model to appropriately reflect a higher level of PV *adoption*, SCE is concerned that the Energy Commission may have overestimated the *peak impacts* from increasing solar PV generation in the preliminary CED 2015 forecast. The Energy

¹⁶ Draft IEPR at p. 153.

¹⁷ Draft IEPR at p.156.

Commission's assumptions result in a peak demand forecast that is significantly lower than SCE's own forecast. SCE recently identified this issue at the Energy Commission's Preliminary Demand Forecast Workshop on July 7, 2015. SCE and Energy Commission staff recognize that the main cause for the discrepancy is Energy Commission's consistent assumption that hour-ending (HE) 16 is the peak hour. SCE, San Diego Gas & Electric, and other utilities are already observing a shift in peak hour to later hour(s) than HE16. To accurately assess the solar PV's impact on long term peak demand, SCE believes that it is important for the Energy Commission must account for this shift in utilities' peak. Failure to do so may cause the Energy Commission to significantly underestimate future peak demand growth and create system reliability issues from planning perspectives. SCE sees a decreasing incremental peak impact through the increase in distributed solar generations precisely due to the shift in peak hour to later hours in the day. SCE recommends the Energy Commission reflect this important phenomenon in its final forecast by modeling the peak hour shift effect. SCE is willing to support Commission staff to make this important revision in the final forecast.

VI. CHAPTER 6: Natural Gas

SCE proposes that the Energy Commission add a recommendation to examine the long-term potential of biomass to supply biomethane and to determine the best use of such fuel (e.g., as used in plastics, power plants, transportation, direct end-uses) to minimize stranded assets and attaining long-term GHG goals. This aligns with the Energy Commission's discussion of a need to transition from natural gas to low-carbon bio methane resources in the Low-Emission Resources Biomethane section.¹⁸

SCE also proposes that the Energy Commission revise the **final recommendation on page 92 of Chapter 6**, as follows, because the chapter does not address or provide justification for an evaluation of the CPUC decision on exporting Combined Heat and Power (CHP):

Analyze the cost and benefits of CHP and on exporting CHP. Continue to develop and support new frameworks that will better value the true costs and benefits of combined heat and power generation and align utility incentives with those costs and benefits. The Energy Commission recognizes that new

¹⁸ Draft IEPR at p. 179.

regulatory and market frameworks could lessen the challenges facing combined heat and power today. ~~Also, the Energy Commission should evaluate the effects of the CPUC decision on exporting CHP.~~

VII. CHAPTER 7: Updates from the 2013 IEPR and the 2014 IEPR Update

SCE appreciates the Energy Commission’s inclusion of updates from the 2013 and 2014 IEPR Reports. SCE has no further comments on this chapter.

VIII. CHAPTER 8: Drought, Page 247, Paragraph 2

SCE appreciates and agrees with the Energy Commission’s observations and recommendation in Chapter 8, and only recommends clarifying revisions. On **page 247, Paragraph 2**, SCE recommends that the Energy Commission revise the paragraph with the added language in bold underline, as follows: “In addition, California normally imports hydropower from the Pacific Northwest and from Hoover Dam in the Pacific Southwest. Indeed, additional energy imports from the Pacific Northwest are often available. This is expected to continue, despite drier conditions in the Pacific Northwest, **in part because the Pacific Northwest tends to be winter peaking as opposed to summer peaking.** Conditions for hydroelectric generation in the Pacific Southwest appear stable through 2015, **though the average elevation at Lake Mead (formed by Hoover Dam) has continued to drop to levels much lower than normal.**” SCE bases this revision on analysis from the National Park Service on the Storage Capacity of Lake Mead.¹⁹

IX. CHAPTER 9 – Climate Change Research

SCE strongly agrees with the Energy Commission’s Recommendations in Chapter 9 and appreciates the Energy Commission’s commitment to climate change research. SCE looks forward to reviewing the findings from the Energy Commission’s continued analysis. As California agencies and utilities prepare for a changing climate, such research will be crucial to understanding the vulnerabilities and threats to reliability that may result from continued greenhouse gas emissions. SCE is actively participating in the Department of Energy

¹⁹ National Park Service at: <http://www.nps.gov/lake/learn/nature/storage-capacity-of-lake-mead.htm>

Partnership referenced in this chapter, and anticipates sharing the outcomes of that work with California's energy agencies. Future collaboration between utilities and state agencies will be necessary to ensure our shared grid is resilient to the threats of a changing climate -- and subsequent increases in extreme weather.