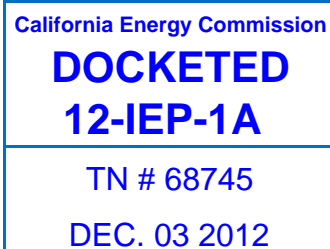


December 3, 2012

California Energy Commission  
Docket Office, MS-4  
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Re: California Energy Commission ("Energy Commission")  
Docket No. 12-IEP-A: Draft 2012 IEPR Update

To Whom It May Concern:

Southern California Edison ("SCE") appreciates the Energy Commission undertaking this ambitious project involving a wide range of issues, the Energy Commission's obvious hard work, and the opportunity the Energy Commission has afforded SCE to comment on the 2012 Integrated Energy Policy Report Update: Draft Lead Commissioner Report ("Draft Report"). SCE also recognizes the Energy Commission's considerable efforts to increase collaboration across State agencies, which will establish State energy policies that are unified, avoid duplication and inconsistencies, and enable their application to all load-serving entities ("LSEs") on a fair and equal basis.

SCE's comments are generally set forth in the bulleted Executive Summary below and in greater detail in Attachment 1 to this letter. SCE's comments focus on highlighting the need for prioritization of several of the Draft Report's recommendations to secure the appropriate attention and resources for the most promising recommendations.

- I. Protect the State's electricity customers from rising energy costs by supporting efforts that preserve LSEs' ability to select generating resources based on a least-cost best-fit ("LCBF") framework - In the Draft Report, the Energy Commission calls for utilities to modify their valuation process for renewable generation projects to "consider an expanded suite of renewable energy benefits."<sup>1</sup> In general, SCE is concerned that a number of the benefits do not directly accrue to electricity customers and therefore, incorporating these societal benefits as quantitative elements into the LCBF methodology will lead to increased procurement costs for the State's electricity customers. Additionally, any regulatory changes solely affecting Investor-Owned Utility bundled procurement authority will undermine a fair and efficient market for retail electricity service. In the current regulatory framework, utilities have adequate incentives in place to encourage the selection of the least-cost portfolio of resources to serve load. The Draft

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<sup>1</sup> Draft Report at 52

Report should support efforts that continue to allow utilities the flexibility to improve the effectiveness of their selection processes.

- II. Conduct a 2030 analysis that comprehensively addresses all greenhouse-gas reducing (“GHG”) policies, considering total cost impacts - SCE recommends that the Draft Report expand the scope of the proposed 2030 analysis to better support future energy policy development. Specifically, the assessment should not consider renewable energy policies in isolation, but rather include the role that transportation and industrial electrification can play in reducing the State’s carbon footprint. Such an analysis is important because the cost of electricity will directly impact future adoption of electric technologies and therefore, the effectiveness of policies designed to reduce GHG in these sectors. Additionally, the 2030 analysis should consider the reliability impacts of moving to a 33% Renewables Portfolio Standard (“RPS”) based on an evaluation of actual performance data prior to mandating the expansion of this program.
- III. Support the integration of transmission and interconnection planning processes - The State’s energy policy goals have led to a dramatic increase in the number of projects requesting interconnection to the CAISO balancing authority area. The CAISO’s updated Generator Interconnection and Deliverability Allocation Procedures (“GIDAP”) attempts to address the problems created by this situation. The Draft Report rightly recommends the consideration of environmental and land-use factors in the renewable scenarios used in the CAISO’s transmission planning process. SCE encourages the Energy Commission to prioritize this recommendation as it will be essential to ensuring that these scenarios represent a true least cost portfolio of generation and transmission infrastructure.
- IV. Work with responsible state agencies, including the California Public Utilities Commission (“CPUC”), to develop a process that will reduce the time required to bring transmission projects online - Bringing transmission projects on-line in a timely fashion will be essential to supporting the State’s energy policy goals. As such, SCE suggests making this recommendation a priority, focusing on improving environmental impact review processes and mechanisms for managing public opposition.
- V. Develop a statewide clearinghouse for renewable energy generation planning - SCE agrees that a centrally located source of data, information, and resources related to renewable energy infrastructure (transmission and generation) will assist developers, LSEs, and state and local planners in making informed investment and planning decisions. Further, this activity can help guide the State efficiently reach its renewable energy policy goals. SCE has and will continue to work collaboratively with the Energy Commission on documents, such as the Energy Aware Guide, and is willing, to the extent feasible, to provide data to support this effort.
- VI. Open a dialogue on distribution planning - The Draft Report articulates a number of recommendations related to improving distribution planning to better support the development of distributed generation. Developing a more complete understanding of the distribution planning and generator interconnection processes is essential to advancing properly any of these recommendations. The Draft Report should make improving

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stakeholder understanding of these processes a priority to ensure that any proposed changes are in the best interest of all electricity customers, appropriately balancing cost, safety, and reliability.

- VII. Support the development of a forward capacity market - The Draft Report correctly affirms that a forward procurement mechanism should be developed to ensure sufficient flexible capacity to integrate intermittent renewable resources. SCE has long supported the development of such a market and encourages the Energy Commission to facilitate this objective to the greatest extent feasible.

Additional comments on these and other items in the Draft Report are located in Attachment 1, which provides a detailed narrative discussion of each topic above, and Attachment 2, which contains specific language changes for consideration by Energy Commission Staff.

SCE appreciates the willingness of the Energy Commission staff to work collaboratively with SCE during the development of the Draft Report. As always, SCE appreciates the opportunity to submit its comments. Feel free to contact me regarding any questions or concerns.

Sincerely,

/s/ Manuel Alvarez

Manuel Alvarez, Manager  
Regulatory Policy and Affairs  
Southern California Edison Company

## **Attachment 1**

### **Additional Comments on 2012 Draft IEPR Update**

Southern California Edison (“SCE”) appreciates the Energy Commission undertaking this ambitious project involving a wide range of issues, the Energy Commission’s obvious hard work, and the opportunity the Energy Commission has afforded SCE to comment on the 2012 Integrated Energy Policy Report Update: Draft Lead Commissioner Report (“Draft Report”). SCE also recognizes the Energy Commission’s considerable efforts to increase collaboration across State agencies, which will establish State energy policies that are unified, avoid duplication and inconsistencies, and enable their application to all load-serving entities (“LSEs”) on a fair and equal basis.

In its cover letter to these comments, SCE provided its position on the most pressing issues addressed by the Draft Report. The comments below elaborate on those topics and provide additional detailed recommendations.

#### **I. Protect the State’s Electricity Customers from Rising Energy Costs by Supporting Efforts that Preserve Retail Sellers’ Ability to Select Generating Resources Based on a True Least-Cost Best-Fit (“LCBF”) Framework<sup>1</sup>**

As an overall strategy, the Energy Commission should, to the extent prudent and feasible, continue to collect and provide information to buyers and sellers that can help inform the development of least-cost and best-fit resources. However, some of the renewable energy policy recommendations in the Draft Report, while well intentioned, are not in the best interest of customers, as discussed below.

##### **A. The Utilities’ Least-Cost Best Fit (“LCBF”) Methodology Should be Revised Only to Include Benefits and Costs that Directly Accrue to Electricity Customers**

The Draft Report calls for utilities to modify their approach to evaluating renewable projects to consider an “expanded suite of renewable energy benefits.”<sup>2</sup> In particular, the Draft Report recommends reforming the LCBF methodology in order to consider benefits from renewables such as integration benefits, reduction in forest fires, reduced transmission and distribution costs, investment in disadvantaged communities, and creation of California jobs. While SCE supports the inclusion of integration costs into SCE’s own LCBF evaluation, it is unfair to recommend that California electricity customers disproportionately fund matters of statewide concern that lack a sufficient relationship to electrical customer benefits. As a matter of policy and principle, the Energy Commission should guard the tenets of a market-based procurement approach by supporting energy policies that ensure electricity customers receive

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<sup>1</sup> Renewable energy policies are also discussed in greater detail in Sections III and V below.

<sup>2</sup> Draft Report at 52

maximum value from procurement made on their behalf. In addition, to the extent appropriate, SCE already takes into account many of the non-energy-related benefits when evaluating bids. Finally, given today's robust and competitive renewable market it is not beneficial to consider differences in the value among renewable technologies when analyzing costs and benefits of renewable energy. Such considerations may hinder competition and raise costs for customers. Accordingly, procurement should remain technology-neutral.

*Integration Costs Should be Included in the LCBF Methodology*

SCE has been a long-time proponent of incorporating integration costs into the LCBF evaluation process and strongly supports the Energy Commission's recommendation.<sup>3</sup> As California continues to promote procurement of additional intermittent renewable resources, integration costs will increase. Utilities should be able to factor these costs into their procurement processes so they can appropriately value resources that do not cause additional integration costs (e.g., geothermal and biomass), as compared to those that do (e.g., wind and solar photovoltaic). Each utility will then be able to make procurement decisions that will result in the selection of projects that provide the greatest overall value to its customers.

The integration cost component should reflect the costs incurred in order to manage the intermittency (i.e., variability and uncertainty) of a generator's output. Examples of costs in this category include the additional system costs required to provide sufficient balancing reserves including load following, frequency regulation, and other new integrating services instituted by the CAISO, such as flexible ramping. The value of the integration cost component will necessarily differ by resource, depending on the level of variability (i.e., fluctuations in generator output) and uncertainty (i.e., predictability of the generator output) of the specific generator.

*The LCBF Already Incorporates Many Non-Energy Costs and Benefits; Matters of Statewide and National Concern That Are Unrelated to Direct Customer Benefits Should Not Be Included*

SCE's evaluation process already includes many of the benefits that the Draft Report recommends including in the LCBF. For example, when evaluating projects for short-listing selection in a solicitation, SCE considers the benefit of projects located near approved transmission infrastructure and gives a preference to projects that minimize transmission development requirements. Other benefits such as investment in disadvantaged communities are a part of the qualitative assessment of the LCBF. Also, California job creation will be included in the evaluation criteria under the new RPS program, which the CPUC is in the process of evaluating how to incorporate. If needed and relevant, the benefits of fire reduction from renewables could be added to the qualitative part of the LCBF.

SCE does not support including broad societal benefits that do not have a sufficient nexus to California's electricity customers to justify support from these customers through rates. For example, investment in disadvantaged communities and job creation are not appropriate

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<sup>3</sup> For example, in D.11-04-030, the CPUC declined to allow the use of non-zero integration cost adders for the 2011 RPS solicitation and, as a result, SCE used a zero integration cost adder in its 2011 RPS solicitation.

quantitative elements in the valuation of individual RPS projects.<sup>4</sup> Further, general societal benefits would be impossible to quantify in a way that is transparent, accurate and fair.<sup>5</sup>

### *SCE's Procurement Should Remain Technology Neutral*

Finally, the Energy Commission recommends that “planners and policy makers should consider differences in the economic value among renewable technologies when analyzing costs and benefits of renewable energy.”<sup>6</sup> First, to the extent appropriate, SCE considers the economic value of each bid during its evaluation process and already takes into account many of the non-energy-related benefits as described above. If, however, the Energy Commission is proposing that special consideration be given to certain renewable technologies, the RPS statute does not specifically direct LSE's to account for the unique cost of each technology and in this sense, is technology-neutral.<sup>7</sup> In fact, in a recent decision on the Renewable Market Adjusting Tariff (“ReMat”) Feed-in Tariff program, the CPUC ruled that setting unique prices for separate technologies is not consistent with state law or in the best interest of customers.<sup>8</sup>

Second, today's renewables market in California has matured to the point that additional subsidies and incentives for particular technologies are neither appropriate nor necessary. This increasingly robust and competitive renewable energy market has resulted in lower procurement costs and therefore reduced associated costs to customers. The proposed additional considerations may interfere with and hinder such competition and raise costs for customers. In addition, numerous existing programs and regulatory requirements sufficiently support renewable energy in the State. The RPS, Renewable Auction Mechanism for renewable generators from 1 to 20 MW, Solar Photovoltaic Program, Renewable Auction Adjustment Tariff and the Public Utility Regulatory Policies Act Power Purchase Agreement for Qualifying Facilities up to 20 MW are just a few of examples of these programs. With a robust market for renewable energy already established, the State's highest priority should be to ensure that electricity customers receive maximum value through the renewables procurement process.

### **B. Procurement Targets By Location Will Diminish Retail Sellers' Ability to Procure Cost-Competitive Resources**

The Draft Report recommends the CPUC to encourage a minimum percentage of investment in disadvantaged communities or areas with high unemployment by adjusting the selection criteria of the Renewable Auction Mechanism Feed-in-Tariff (“RAM”) program and other feed-in-tariff projects.<sup>9</sup> Whether or not a particular project is perceived as locally beneficial

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<sup>4</sup> Draft Report at 52-53.

<sup>5</sup> For instance, with respect to fire prevention, benefiting a biomass project in northern California for reduction of fire risk in a solicitation done by San Diego Gas and Electric would yield both a geographic and customer cross-subsidies. The southern California electric customers would essentially be subsidizing northern California residents subject to fire hazard while providing little or no benefit to the customers in San Diego. This is inefficient, and raises the cost to electric customers in San Diego for benefits that will go to customers in Northern California.

<sup>6</sup> Draft Report at 51

<sup>7</sup> Pub. Util. Code § 399.11(a),(b).

<sup>8</sup> D.12-05-035, at 33-34.

<sup>9</sup> Draft Report at 52.

will be difficult to quantify objectively. SCE does not support adjusting existing feed-in-tariff (“FIT”) programs, such as RAM, to focus on specific physical locations. The RAM is a competitive procurement process for utility purchases from independent power producers of electricity generated from eligible renewable facilities up to 20 MW per project. It appropriately considers the locational costs and benefits of individual bids within its existing structure. Any effort to constrain the resource selection process to certain locations risks unduly increasing program costs by requiring retail sellers to select otherwise non-competitive bids. Accordingly, FIT programs should not be modified to unfairly favor certain location specific renewable resources over others. A more tenable solution would be for local communities to encourage local development through efforts to lower developer costs and risks. SCE suggests that the Energy Commission consider providing information to communities on “best practices” that reduce other costs, such as reduced permitting timeframe, for preferred resources.

## **II. The Proposed 2030 Analysis Should Consider Address All Greenhouse-Gas Reducing Policies in a Comprehensive Manner, Considering Total Cost Impacts**

One recommendation in the Draft Report is for the Energy Commission to assess the implications of possible developments beyond the current 2020 horizon to evaluate generation resource requirements through 2030. As part of this analysis, the Energy Commission intends to evaluate “what is needed to achieve a 40 or 50 percent renewable energy goal.”<sup>10</sup> SCE appreciates the Energy Commission’s exploration of longer-term GHG policy considerations; however, the recommendations can be enhanced in a number of ways as outlined below.

### **A. The Role of Transportation and Industrial Electrification**

The Energy Commission should look beyond the electricity sector in conducting a long-range analysis such as the 2030 analysis (and, in particular, considering how the state is to achieve its greenhouse gas (“GHG”) emission reduction goals). The electricity sector contributes approximately 23 percent of the State’s total GHG emissions. As such, SCE recommends that the Energy Commission fully evaluate the role that transportation and industrial electrification might play in reducing the State’s carbon footprint. Without this analysis, any recommendation to establish a 40 or 50 percent renewable energy goal is premature.

Importantly, this approach is consistent with the Draft Report’s recommendation to “strengthen the links between transportation and clean electrification.” To that end, the Draft Report states that “policies and programs place a priority on efficiently electrifying the transportation system.”<sup>11</sup> A comprehensive analysis is essential because the cost of electricity will directly affect the adoption of electric vehicles and therefore, the effectiveness of the State’s efforts to reduce GHG emission in this sector. Accordingly, the Energy Commission should compare the feasibility, cost, and effectiveness of various policies on all GHG-emitting sectors, including the transportation and industrial sectors. This will enable the Energy Commission to achieve the State’s long-term goals in the most cost-effective manner.

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<sup>10</sup> Draft Report at 48.

<sup>11</sup> Draft Report at 55

## **B. Understanding Cost and Electric System Reliability**

The Draft Report should recommend including cost and electric system reliability as key metrics in the proposed analysis. Taking a complete view of policy impacts on customers will help inform the development of energy policies that are in their best interest. Increasing renewable generation targets has and will place upward pressure on customer electricity rates. Should the Energy Commission choose to look beyond the renewables goal established for 2020, it should focus on determining the feasibility and cost of reaching a higher target rather than making it a foregone conclusion that increasing the current goal through a mandate is in the best interest of State and its electricity customers.

To ensure that the proposed study provides meaningful and new insight to industry stakeholders, the initial phase of this effort should carefully study the system impacts of the existing 33% RPS. The Energy Commission acknowledges that there are substantial uncertainties with planning for the distant future.<sup>12</sup> SCE agrees. Achievement of the targets laid out in this program will impact the reliability of the electric system in a way that cannot be fully anticipated at this time. System impact analyses, such as was done for the 2010 Long-Term Procurement Plan, have relied heavily on simulated data. While performing an evaluation of a 40 or 50 percent renewables goal by 2030 is premature given the limited availability of actual data,<sup>13</sup> the amount of statewide renewable generation will increase significantly over the next few years as a result of the new RPS program. Without a clear understanding of the likely reliability impacts of moving beyond a 33% renewables goal based on actual performance data, additional analysis will be purely speculative. Therefore, SCE recommends the Energy Commission include as part of this effort a plan to incorporate actual data over the next few years.

## **III. Support the integration of transmission and interconnection planning processes**

The past five years have seen a dramatic rise in the number of renewable projects requesting interconnection to the California Independent System Operator (“CAISO”) balancing authority area. This sharp increase in the number of new proposed renewable projects has resulted in a backlog of system interconnection requests, which has and will continue to challenge the timely interconnection and development of these projects. Further, the CAISO has indicated that there are significantly more renewable generators requesting interconnection than will be needed to meet the State’s thirty-three percent RPS target.<sup>14</sup> This situation necessitates the creation of a framework for selecting the appropriate least-cost best-fit generation facilities to integrate into the electricity system from a surplus of renewable generation interconnection applications.

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<sup>12</sup> *Id.*

<sup>13</sup> Senate Bill 2 1x, codified as Pub. Util. Code § 399.11 *et seq.*, became effective on December 10, 2011.

<sup>14</sup> See Millar, Neil, “IEPR Committee Workshop Transmission Needed to Meet State Renewable Policy Mandates and Goals,” (dated May 17, 2011) available at: [http://energy.ca.gov/2011\\_energypolicy/documents/2011-05-17\\_workshop/presentations/02\\_CallISO\\_Presentation.pdf](http://energy.ca.gov/2011_energypolicy/documents/2011-05-17_workshop/presentations/02_CallISO_Presentation.pdf)



Fortunately, through the updated Generator Interconnection and Deliverability Allocation Procedures (“GIDAP”), the CAISO, the CPUC, the utilities and generators are already engaged in this process. Among other things, they are working to integrate annual generation resource portfolios developed by the CPUC and the Energy Commission with CAISO’s transmission planning process (“TPP”). This includes prioritizing projects based on the expected usefulness of their network upgrades to the overall transmission system. Prior to the adoption of the updated GIDAP, the Generator Interconnection Procedures (“GIP”) rules required that customers fully reimburse new generation projects for all network transmission upgrade costs. The new, integrated process would allow customer-funded upgrades only for projects that align with the TPP resource portfolios. The Federal Energy Regulatory Commission (“FERC”) conditionally approved GIDAP on July 24, 2012. CAISO submitted its compliance filing on August 23, 2012. GIDAP is now in effect for Queue Cluster 5<sup>15</sup> and beyond.

The development of realistic annual generation resource portfolios for use in the TPP is therefore essential to ensuring a low-cost expansion of renewable energy related transmission infrastructure. Recognizing this, SCE has advocated in past IEPR Comments for a transparent, stakeholder-driven process for developing the generation resource portfolios.<sup>16</sup> Specifically, in developing generation resource portfolios, CAISO should consider (i) existing procurement activities, (ii) land-use and environmental concerns for transmission and generation development, and (iii) how to support competitive processes for resource procurement. Properly developed resource portfolios will enable the CAISO to develop a transmission plan that is aligned with the interests of the state’s electricity customers. CAISO can create competitive areas that simultaneously minimize land-use disturbance and costs for interconnection and transmission upgrades. The Desert Renewable Conservation Energy Plan as one model process for addressing land-use and environmental concerns.

#### **IV. Work with Responsible State Agencies, Including the CPUC, to Develop a Process That Will Reduce the Time Required to Bring Transmission Projects Online**

SCE supports reforms that reduce the time and effort required to obtain construction and operating permits for transmission projects. To this end, the Energy Commission should focus on increasing coordination between permitting agencies in order to minimize the duplication of studies and analyses. In SCE’s experience, environmental impact review and public opposition related thereto are the biggest drivers of construction delays and should be at the forefront of any effort to streamline transmission and construction permitting. To reduce the time for bringing needed transmission online, the Energy Commission should seek improvements in how other state agencies work together on transmission project review and how the public’s interests are incorporated into these processes.

Addressing this issue is essential to helping the State more effectively meet its energy policy goals.

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<sup>15</sup> Queue Cluster 5 refers to projects that made interconnection requests between March 1 and March 31, 2012.

<sup>16</sup> SCE’s Comments on the Lead Commissioner Workshop on Interconnection of Renewable Development in California (dated May 21, 2012) at 1.

## **V. Develop a statewide clearinghouse for renewable energy generation planning**

The Draft Report recommends that the State “create a data clearinghouse for renewable energy generation planning.”<sup>17</sup> SCE agrees that a centrally located source of data, information, and resources pertaining to renewable generation planning will assist developers, utilities, and state and local planners in making informed investment and planning decisions. Specifically, the Energy Commission should focus on helping local planning agencies to incorporate planned renewable energy infrastructure investment (transmission and generation) into their land-use planning processes. This will help to avoid zoning environmentally sensitive development near future electricity projects. SCE can support this effort by providing needed information to the greatest extent feasible.

## **VI. Open a dialogue on distribution planning**

The Draft Report advocates that “distribution planning needs to be modernized and made more transparent.” It warns that the “[l]ack of comprehensive distribution system planning is expected to result in interconnection delays, lost opportunities to strategically deploy distributed generation, and increased costs.”<sup>18</sup> The Draft Report includes a variety of recommendations to improve the distribution planning process, including 1) identification of preferred geographical zones for distributed renewable development, 2) increased transparency of utility planning processes, 3) use of disaggregated demand forecasts, and 4) the creation of a statewide data clearinghouse for renewable energy generation planning. SCE has and continues to support efforts to encourage developers to locate distributed generation in regions most able to support additional distributed generation. However, SCE has a number of concerns with the tone of the Draft Report in this area as well as with some of the specific recommendations. Prior to implementation of these and other strategies, the Energy Commission should engage in a more comprehensive process to understand the distribution planning and generation planning process as well as to evaluate the effectiveness of current efforts to provide developers with information regarding the cost of interconnection. These efforts should explore the concerns raised below.

### **A. The “Systematic Approach” for Distribution Planning Needs More Detail Prior to Comment**

The Draft Report recommends that the Energy Commission “develop a dialogue on distribution planning and opportunities for a more integrated distribution planning process.”<sup>19</sup> SCE can support increasing transparency regarding the distribution planning processes, but has significant concerns with other assertions by in the Draft Report on this topic. For instance, the Draft Report states that one challenge for distribution planning is that while “a utility can pull local government planning permits for new residential, commercial, or industrial development and plan new or upgraded distribution systems to accommodate anticipated load growth,” “[d]istribution planning . . . occurs for new supply (generation) on a case-by-case basis through

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<sup>17</sup> Draft Report at 62

<sup>18</sup> Draft Report at 57.

<sup>19</sup> Draft Report at 61

an onerous and uncoordinated distribution interconnection process.”<sup>20</sup> The Draft Report advocates for a “systematic” approach to distribution planning and concludes that the development of “renewable energy zones would provide utilities with increased certainty about where new generation projects will be built” thereby mitigating this case-by-case approach.<sup>21</sup> Without a more detailed description of “a more systematic approach,”<sup>22</sup> SCE cannot make any specific comments. SCE provides a set of considerations that were not addressed in the Draft Report.

The distribution planning process is designed to provide reliable power under peak load conditions at the circuit level and is therefore concerned with meeting specific customer needs at specific locations. It does not lend itself to a global planning process as is done for generation and transmission on the CAISO’s system network. SCE completes a distribution system load growth plan on an annual basis. Injecting a stakeholder process within this annual plan would result in a significant delay to the process, which would ultimately result in delayed projects and possible system overloads with serious safety and reliability consequences.

Additionally, though distributed generation can reduce some of the load placed on a particular circuit, there is not a one-for-one displacement of distribution capacity upgrades with distributed generation. This is because the output of the vast majority of renewable generators is intermittent and its output during peak conditions is a small fraction of its maximum output. Therefore, even if generators were to locate in specific areas in order to offset load growth, distribution upgrades would still be necessary to account for the intermittency of distributed generation. In the absence of distribution upgrades, some form of physical assurance of load dropping would be required to ensure that the local facilities will have enough capacity to serve its other customers when the generator is unable to produce at its designed output or is out of service. Another alternative is for the local generator to provide some form of energy storage or other backup power that could replace the lost power output of an intermittent resource. Because of these requirements, such opportunities may be limited.

Finally, distribution upgrades driven by load growth occur in a small number of discreet locations throughout SCE’s service area each year.<sup>23</sup> Therefore, only limited potential exist for generation to directly avoid new distribution investments within the distribution planning process. Based on the abovementioned reason, SCE does not believe a stakeholder-driven planning process at the distribution level as is conducted at the transmission level is practical.

## **B. Designation of Distributed Renewable Generation Zones as Informational Guidance to Developers Should be Carefully Considered**

As discussed in this Section IV, SCE supports efforts that encourage developers to locate distributed generation in regions most able to support additional distributed generation. In fact, SCE is already identifying appropriate locations for generation developers, through publication of system maps describing preferred locations on its website. To this end, SCE has updated and

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<sup>20</sup> Draft Report at 43.

<sup>21</sup> Draft Report at 44.

<sup>22</sup> Draft Report at 57.

<sup>23</sup> On average, new distribution feeders represent are less than 1% of SCE’s existing system.

published its system maps on its website<sup>24</sup> and the pre-application report.<sup>25</sup> Using these maps, developers have the information they need to determine which locations are least likely to require substantial distribution upgrades. Over the last two years, SCE has observed a 78 percent reduction in the number of rural interconnection applications. This trend is consistent with SCE's increased effort to inform developers about the interconnection process and differences in likely costs by regions.

Additional information not pertaining to interconnection could be useful to developers. For instance, developers may benefit from additional land-use or environmental information developed through a stakeholder-driven process. Such maps could assist developers as they search for low-cost development areas.

However, it will be important to properly define distributed renewable generation zones to avoid unintended consequences. For instance, narrowly defining zones for distributed renewable development without taking into account and properly prioritizing the myriad of issues limiting DG penetration may result in large amounts of requested interconnections in 'preferred areas', which in turn could result in the need for distribution - and possibly transmission - system upgrades.

### **C. The Draft Report Should Support Efforts that Leverage Utility Maps with Competitive Procurement Mechanisms**

The Draft Report correctly points out that "California's DG procurement programs trigger market-driven solicitations and the selection of DG projects that require interconnection, consistent with the intent of the procurement programs."<sup>26</sup> In this framework, developers possess detailed knowledge regarding all aspects of their project, including interconnection, permitting, land, component, construction, and financing costs. Based on this information, developers submit exactly what level of payment they require to develop their projects. The State's electricity customers benefit by purchasing energy from the most competitive projects all things considered.

The Draft Report should be mindful that the overriding goal of these programs is the selection of least-cost resources from a total procurement cost perspective. As such, the selection of certain projects in non-preferred areas from a distribution interconnection perspective may be preferable if that project benefits from substantial savings in other cost categories. Therefore, the Draft Report should include language that indicates a support for providing developers with better information, but not for forcing procurement toward any given outcome based solely on interconnection or any other concern.

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<sup>24</sup> <http://www.sce.com/EnergyProcurement/renewables/spvp-ipp/spvp-ipp.htm>, or <http://www.sce.com/EnergyProcurement/renewables/renewable-auction-mechanism.htm>

<sup>25</sup> The pre-application report is a new feature of the revised Rule 21 Generator Interconnection Tariff which provides generators information on a proposed point of interconnection so that they can determine if it is a suitable location.

<sup>26</sup> Draft Report at 57

#### **D. Public Security and Customer Privacy Should Not Be Compromised in the Name of Transparency**

The Draft Report emphasizes the need to make the utilities' distribution planning processes more transparent and accessible.<sup>27</sup> As discussed in Section IV(B) above, SCE does make its system information available to the extent possible on the interconnection maps on the web. These maps provide sufficient information to allow developers to determine the preferred locations for distributed generation deployment. SCE is willing to work with the Energy Commission on efforts to make these interconnection maps more accessible and comprehensible to developers. SCE also supports efforts to develop a statewide clearinghouse of non-confidential renewable generation planning information.

However, certain utility infrastructure information must be kept confidential to lessen the risk of hostile attacks to the electricity grid. The security of the electricity grid and the safety and well-being of the public are obviously paramount. Likewise, protecting customer specific usage information is also a serious concern because SCE is legally prohibited from providing disaggregated customer data that could be used to identify an individual, family, household residence, or non-residential customer.<sup>28</sup> For these reasons, SCE opposes attempts on the part of the Energy Commission staff or third-party developers to gain access to SCE's non-public critical system planning information in the name of transparency.

#### **E. The Land-Use Planning Cycle Will Need to be Shortened**

The Draft Report calls for utilities to coordinate their distribution planning with other land-use planning efforts.<sup>29</sup> One challenge with coordinating land-use planning information is that land use plans, or general plans, are typically updated on a 10-year cycle (minimum). This cycle is not frequent enough to provide useful information to integrate land use planning directly into the utility planning process, which occurs on an annual basis. Better land-use information could provide better estimates for the utility on future needs; however, the Energy Commission should consider that land-use plans would need more frequent updating to be effectively incorporated into the utilities' planning process.

#### **F. Agreement on Inverter Function Changes Should be Made as Part of a New or Revised Industry Standard**

The Draft Report recommends that the Energy Commission "work with the CPUC to convene a working group to develop agreement on a range of autonomous inverter functions that would respond to local system conditions via preset parameters" and that "[t]hese functions

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<sup>27</sup> Draft Report at 44.

<sup>28</sup> While SCE has the ability to disclose aggregated customer usage information that is removed of all personally-identifiable information, SCE is legally prohibited from providing data that could reasonably be used to identify an individual, family, household residence, or non-residential customer. SCE would need to have received an authorization from each customer to release customer data to the Energy Commission or to the general public. Accordingly, the Energy Commission's plan to obtain "[i]ncreased geographic granularity in the demand forecasts" and "location-specific demand data" will necessarily be constrained by applicable laws related to the confidentiality of customer usage information.

<sup>29</sup> Draft Report at 44.

would be specified by utilities and would not require new standards.”<sup>30</sup> While SCE supports a working group to evaluate inverter functions, SCE’s principal intent is to insure the safety and reliability of the distribution system. As a general observation, we do not support developing an agreement on inverter functions outside of industry standards since this undermines the value of having these standards. However, SCE would support the evaluation and application of autonomous inverters functions to the extent that identification of interconnection requirements can be used to recommend changes to standards or affect interim policies that ensure the safety and reliability of the distribution system.

## **VII. Support the Development of a Forward Capacity Market**

The Draft Report supports development of a “formal multiyear forward capacity or capabilities market.”<sup>31</sup> SCE has long supported the development of a forward procurement mechanism, which would ensure that sufficient flexible capacity is available to integrate intermittent renewable resources.<sup>32</sup>

SCE agrees that the market should be designed “so that all resources – demand response (“DR”), energy storage, and distributed technologies, as well as natural gas power plants – are allowed to compete on a level playing field.”<sup>33</sup> Such a market will support the procurement of cost-effective capacity resources, regardless of technology type. In addition to ensuring that sufficient flexible resources are available to meet renewable integration needs, the forward capacity market should also contain products for satisfying system and local capacity needs.

SCE proposes a few minor modifications to this recommendation. The Draft Report should make clear that all eligible load serving entities (“LSEs”) must participate in such a forward capacity market. Further, procurement or cost responsibilities must be consistently allocated based on the requirements that each LSE is imposing on the electricity system. Rules should apply equally to all LSEs in California, so as not to give some LSEs a competitive business advantage over others.

The Draft Report states that “[t]he CPUC should consider either opening a new proceeding or using the existing resource adequacy rulemaking to evaluate allowing utilities to participate in a forward procurement mechanism.”<sup>34</sup> Based on information available at this time, it appears that the CPUC may support addressing the development of a forward procurement mechanism within its Resource Adequacy proceeding.

As the Draft Report notes, the development of such a market is complex and will take years. Accordingly, SCE encourages the Energy Commission to act quickly and commit resources to promote the expedient development of this market.

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<sup>30</sup> Draft Report at 64.

<sup>31</sup> Draft Report at 65.

<sup>32</sup> R.05-12-13, SCE Comments (dated on August 3, 2007).

<sup>33</sup> Draft Report at 65.

<sup>34</sup> Draft Report at 40.

## **VIII. SCE Generally Supports the Electricity and Natural Gas Demand Forecasts**

The Draft Report proposes to implement three recommendations to improve electricity and natural gas demand forecast beginning with the 2013 IEPR Update.<sup>35</sup>

The first recommendation is to expand the analysis of the impact of climate change on the energy consumption, peak demand, temperature distribution, and the relationship between normal and extreme peak demand. SCE supports this recommendation.

The second recommendation is to develop additional demand forecast results by climate zone in addition to the usual planning area level forecasts. This would be an initial step in the process of evaluating methods to disaggregate the demand forecast into even more granular levels. Apart from the confidentiality issues raised in Section IV(C) above, the economic/demographic data that constitutes the primary driver of the long-term load forecast is not available at the desired disaggregated level. Even if one were to construct such data at the desired disaggregated level, the accuracy and quality of such disaggregated data may be suspect.

The third recommendation is to begin efforts to forecast more comprehensively the impact of zero-emission vehicles, combined heat and power (“CHP”) and distributed generation on the uncertainty surrounding the demand forecast. SCE supports this recommendation.

## **IX. It is Too Early to Draw Conclusions from the Electricity Infrastructure Assessment**

The Electricity Infrastructure Assessment is a reasonable report on the status of current thinking regarding the reliability problems we are having in southern California. However, the Draft Report anticipates the outcome of processes that are still underway in other forums. For example, the Draft Report references a preliminary analysis of renewable integration need prepared by the CAISO.<sup>36</sup> Track 2 of the 2012 long-term procurement plan (“LTPP”) proceeding at the CPUC<sup>37</sup> will address the need for renewable integration. In that proceeding, the CAISO will present new analysis based on scenarios yet to be adopted by the CPUC. Because the CAISO’s preliminary analysis has not been finalized, fully evaluated by all parties, or approved by the CPUC, the Draft Report should not incorporate its results or should, at the very least, include the appropriate caveats. SCE’s recommended language changes address this concern in Attachment 2.

## **X. Tariffs, Rules, and Performance Requirements for Integration Services Should Be Technology-Neutral**

The Draft Report recommends that the CAISO develop “a comprehensive package of products, tariffs, rules, and protocols that allow automated demand response (in which electrical

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<sup>35</sup> Draft Report at 15.

<sup>36</sup> Draft Report at 30.

<sup>37</sup> R.12-03-014.

systems or appliances automatically reduce consumption in response to price or emergency signals), energy storage, and other distributed technologies to provide needed integration services.”<sup>38</sup> As specifically provided in Attachment 2, the Energy Commission should emphasize policies supporting the development of integration services, such as automated-DR and energy storage, that are technology-neutral and should not favor a certain set of resources over any other.

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<sup>38</sup> Draft Report at 7.



## Attachment 2

### Suggested Revisions to 2012 IEPR Update Draft Report

SCE recommends the following changes be made to the Draft 2011 Integrated Energy Resources Report (“IEPR”). A page citation to the IEPR is provided in brackets for the changes that SCE proposes. Added language is indicated by **bold type**; removed language is indicated by ~~strike through~~.

#### [P. 2]

California’s “loading order” of energy resources was established in 2003 in the state’s first *Energy Action Plan*. **Cost-effective** ~~e~~Energy efficiency and demand response are the preferred means of meeting growing energy needs, followed by renewable resources, distributed generation, and combined heat and power applications, and finally by clean and efficient fossil-fired generation.

#### [P. 3]

This is consistent with statements by Governor Brown that the 33 percent by 2020 RPS target should be considered a floor and not a ceiling and with the **potential** need for a higher percentage of renewable electricity resources to meet the state’s long-term (2050) greenhouse gas emission reduction goals.

#### [P. 4]

Focusing on distribution system planning will facilitate integration of demand-side supply and consumption technologies including energy efficiency, demand response, and electrification of the state’s vehicle fleet. ~~With the Governor’s goal of 12,000 MW of distributed generation by 2020, distribution planning needs to be modernized and made more transparent~~ **To address the Governor’s goal of 12,000 MW of distributed generation by 2020, the distribution planning process should reflect the changing system needs created by increasing amounts of generation at the distribution level.**

#### [P. 6]

The Energy Commission should also broaden its planning efforts beyond 2020 to explore renewable targets higher than 33 percent **and other GHG reduction policies** as the state moves toward the 2050 goal to reduce greenhouse gas emissions 80 percent below 1990 levels.

#### [P. 7]

To foster the development of integration services, the California Independent System Operator should develop a comprehensive package of products, tariffs, rules, and protocols that allow automated demand response (in which electrical systems or appliances automatically reduce consumption in response to price or emergency signals), energy storage, and other distributed technologies to provide needed integration services. **Tariffs, rules and protocols**

should be technology-neutral, meaning that they should not favor one technology type over another.

[P. 23]

Agencies with jurisdiction over interconnection processes (Rule 21, the Wholesale Distribution Access Tariff, and Generator Interconnection Procedures) should **continue to** evaluate their requirements with the goal of **improving** ~~easing~~ the process of interconnection at facilities that expand their generation capabilities.

[P. 25]

Extremely tight emission reduction credit markets in Southern California **could hinder** ~~are hindering~~ construction of replacement facilities for OTC plants that retire.

[P. 29]

The California ISO analysis used a **sensitivity scenario** ~~scenario~~ with the...

...and found that the amount of OTC replacement in the **western** Los Angeles Basin decreased from a range of 1,870 MW to 2,884 MW to a range of 1,042 MW to 1,677 MW. **The California ISO has stated in testimony presented in the CPUC's 2012 LTPP proceeding that this sensitivity should not be relied upon to make a determination of local area needs.**

[P. 30]

~~Preliminary results suggest that about 1,100 MW is needed statewide over the 3,200 MW required for Southern California local capacity requirement needs.<sup>31</sup> If half of that amount should be located south of Path 26—SCE's transmission interconnection to Northern California and the Pacific Northwest—then the Los Angeles region will need about 550 MW of additional resources. Analysis undertaken in the 2010 LTPP proceeding was not able to conclusively demonstrate a need.~~ The California ISO is continuing to study this issue, and **a firm resolution is not determination of the need is now expected to arise from Track 2 of the 2012 LTPP proceeding until sometime in 2013.**

~~31. On July 24, 2012, U.S. EPA and SCAQMD were sued in Federal District Court (Case 12-72358) by Communities for a Better Environment and California Communities Against Toxics over SCAQMD's Rule 1315. How this lawsuit may affect power plants already under construction, in the licensing pipeline, or in the developmental state is unknown.~~

[P. 34]

Many of these relate to the preferred resources in the state's "loading order," which calls for reducing energy demand through **cost effective** energy efficiency and demand response programs and meeting remaining demand first with renewable and combined heat and power facilities followed by clean fossil generation.

[P. 40]

The CPUC should consider either opening a new proceeding or using the existing resource adequacy rulemaking to ~~evaluate allowing utilities to participate in~~ **develop** a forward procurement mechanism **open to all load serving entities on an equal basis**.

**[P. 43]**

The location of a utility-**scale** or distributed generation renewable energy project can have a significant effect (negative or positive) on the cost and the speed of both utility interconnection and local government permitting processes. Unfortunately, most renewable project developers will not know the nature of the effect until after they have invested time and money due to a lack of baseline environmental data and the lack of a local comprehensive land-use planning process ~~or a transparent distribution planning process~~.

**[P.43-44]**

Utility distribution planning and local government land-use planning are not coordinated to plan for future growth in electricity demand (load). For example, a utility can pull local government planning permits for new residential, commercial, or industrial development and plan new or upgraded distribution systems to accommodate anticipated load growth. Distribution planning, however, occurs for new supply (generation) on a case-by-case basis through ~~an~~ **onerous and uncoordinated the distribution generator** interconnection process. Developing renewable energy zones ~~would provide utilities with increased certainty about where new generation projects will be built~~ **could direct developers toward areas with lower interconnection costs**.

**[P. 44]**

Where possible, the DG zones should target areas where ~~system upgrades and modernization are anticipated, and~~ **excess system capacity** could allow for increased penetration of DG resources.

**[P. 48]**

The analysis should include evaluation of what is needed to achieve ~~a 40 or 50 percent renewable energy goal~~ **cost-effectively the State's greenhouse gas reduction goals**, recognizing the substantial uncertainties with planning for the more distant future **and the role that transportation and industrial electrification can play in achieving these goals**.

**[P. 51-52]**

Currently, valuation of renewable resources does not include integration costs such as incremental ancillary service needs (ramping, regulation, and so on) or ~~capacity-related~~ services provided by renewable resources.

**[P. 52]**

Procurement decisions should consider an expanded suite of renewable energy benefits, including RPS-eligible facilities that can provide integration benefits, ~~including RPS-eligible facilities that can provide integration benefits~~ **The Energy Commission should identify and analyze policies that appropriately support benefits such as** reduction in forest fires that threaten public health and safety and damage transmission lines, reduced transmission and distribution costs, investment in disadvantaged communities, and creation of California jobs.

[P. 57]

The time needed to license, plan, and build major transmission facilities is often much longer than the time required to license and build a power plant. This disparity **can** impede the development of renewable resources in California. Better alignment of these time frames **would** reduce the ~~possibility~~ **likelihood** that generators would be stranded and **help facilitate** ~~ensure~~ the timely interconnection of renewable generators to the grid.

[P. 57]

~~Lack of comprehensive distribution system planning is expected to result in interconnection delays, lost opportunities to strategically deploy DG, and increased costs.~~

[P. 57]

California's DG procurement programs trigger market-driven solicitations and the selection of DG projects that require interconnection, consistent with the intent of the procurement programs. ~~Interconnecting these projects could benefit from taking a more systematic approach.~~ **Project developers would benefit from increased access to publically available knowledge regarding land-use, environmental, and other project development costs. Such information will assist project developers in deciding which potential projects warrant additional investment capital.**

[P. 59-60]

***Monitor Status of California ISO-Approved Transmission Projects to Ensure Timely Completion.*** To meet RPS targets, California must continue to develop the transmission required to deliver remote renewable generation to load centers. In cases where transmission projects have been identified and approved through the California ISO Transmission Planning Process or Generator Interconnection Procedures, ~~utilities, state and federal agencies, and the CPUC~~ must make appropriate progress on the environmental analysis and licensing of these projects. If progress on these projects slows or there are indications that the project may not be licensed, then the state should take appropriate action to get projects back on track or seek alternative solutions **that appropriately mitigate the root cause of any obstacles or barriers to transmission project implementation.** ~~These could include providing support for independent transmission projects that can deliver renewable energy to California load centers.~~

[P. 61]

***Develop a Dialogue on Distribution Planning and Opportunities for a More Integrated Distribution Planning Process.*** Building on recommendations in the 2007 IEPR, the Energy Commission, the CPUC, the California ISO, local governments, environmental stakeholders, and utilities should work together to ~~develop a transparent~~ **improve the distribution planning process, including increasing transparency of public information where feasible and where it serves the public interest.** The process should integrate information on increasing quantities of DG while maintaining reliability, controlling costs, and reducing emissions. Information about investments in distribution infrastructure is not readily available to the public ~~nor is there public transparency in the distribution planning process of each utility.~~ Because the transmission and distribution systems were designed on the premise that generation would flow from utility-scale generation to the distribution system, integrating increasing amounts of generation at the distribution level requires that **the distribution planning process reflect changing system needs and** that ~~both planning processes and~~ the system infrastructure be modernized.

[P. 62-63]

**Create a Statewide Data Clearinghouse for Renewable Energy Generation Planning** The state should create a statewide data clearinghouse for renewable energy generation planning. Renewable developers, utilities, system operators, and state and local planners need a centrally located source of data, information, and resources to help coordinate land-use planning with utility system planning at both the distribution and transmission levels. Collected data will also provide a foundation for the Energy Commission's identification of renewable development zones and for its development of a regionally disaggregated demand forecast. Data should include detailed, nonconfidential information about: **1)** existing energy generation projects, **2)** existing and planned transmission and distribution systems, **3)** location-specific demand data, and **4)** geographic areas for preferred renewable energy development. Closely coordinate data collection with the CPUC proposal to create an energy data center to make aggregated customer energy usage data available.

Actions/Implementation Steps:

- Open an Order Instituting Rulemaking (OIR) to investigate what publicly available data currently exist, what additional **non-confidential** data are needed **and do not compromise in any way utility security interests**, and how data collection can be streamlined. Areas to investigate include:
  - o With an initial focus on the areas identified for **utilizing** ~~developing~~ maps **that identify** ~~for~~ renewable DG and renewable energy development zones, **other** data that may currently exist and additional data (**that is not confidential and that can be released without compromising in any way utility security interests**) needed to identify preferred site characteristics (such as resource potential, electric system, habitat value, disturbed lands, farmlands, economic development areas, and local demand) for renewable energy development as discussed. . . .

[P. 63]

Over the next two years, the CPUC should undertake an inquiry to ~~establish new~~ **identify potential inverter requirements in utility procurement and interconnection programs requirements** for wind and solar photovoltaic resources **to support the development of industry standards.**

[P. 65]

*Recommendations – Grid-Level Integration*

**16. Develop a Forward Procurement Mechanism.** To ensure sufficient flexible capacity to integrate intermittent renewable resources, the state should develop a forward procurement mechanism for three to five years ahead. A multi-year mechanism is necessary to provide sufficient ~~revenue streams to ensure the flexible capacity resources are available when needed~~ **certainty of future revenue streams**. This mechanism should identify necessary attributes and be designed so that all resources – demand response (DR), energy storage, and distributed technologies, as well as natural gas power plants – are allowed to compete on a level playing field with appropriate consideration of the loading order and cost effectiveness. This should complement the CPUC’s existing LTPP process for new capacity.

*Actions/Implementation Steps:*

- By the end of 2012, the CPUC should consider opening a new proceeding (or use its existing Resource Adequacy Rulemaking [R-09-10-032]) to allow **all load serving entities** ~~utilities~~ to participate in such a procurement mechanism **on an equal basis.**