



**Stakeholder Comment Template**  
**CAISO Integration of Renewable Resources (IRRP)**  
**October 24, 2008 Stakeholder Meeting**

<b>Organization:</b> Southern California Edison	<b>Date Submitted:</b> 11-7-2008
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<b>Industry Segment:</b> Load Serving Entity, Generator, and Participating Transmission Owner	

Instructions: The CAISO is requesting written comments on information discussed at the Integration of Renewable Resources Program (IRRP) stakeholder meeting held on October 24, 2008. This template is offered as a guide for entities to submit comments.

All documents related to the CAISO's IRRP Program Plan are posted on the CAISO Website at the following link: <http://www.caiso.com/1c51/1c51c7946a480.html>

Upon completion of this template please submit (in MS Word) to Jim Blatchford at [jblatchford@caiso.com](mailto:jblatchford@caiso.com). Submissions are requested by close of business on **Friday November 7, 2008**.

**Introduction**

SCE participated in the CAISO's October 24, 2008 Integration of Renewable Resources Program (IRRP) stakeholder meeting and offers these initial comments on the IRRP meeting and project going forward. SCE also provided comments on the ISO's IRRP high level plan published April 2008 and provided feedback at that time.

SCE offers high-level comments, focusing on IRRP project structure and prioritization as well as specific comments on tasks discussed at the October. 24 meeting. SCE expects to have more specific comments as this effort begins. In particular SCE is encouraged and supports the CAISO's leadership in starting a study to analyze the integration of a renewable portfolio standard (RPS) of 20% and beyond (20%+).

**Studies**

SCE commends the CAISO for providing information to stakeholders that it will be starting a stakeholder process to study the integration of renewables beyond 20%. and plans to kick-off this study in early 2009. SCE supports this effort and the critical

need to add a project to study and understand the operability of the grid at higher levels of renewables. SCE also appreciates the CAISO approach to build a process for stakeholder input, and work more openly and collaboratively with all participants in developing the plan and reviewing assumptions/methodologies that provide insight into the impacts of integrating intermittent resources beyond 20%.

It should be noted that the studies beyond 20% should be defined as that. 33% is merely a single data point. SCE recommends a study methodology that identifies critical integration issues and the trigger for them to occur (it could be RPS mix or use of non storage solar, etc.) rather than purely based on percentage numbers. (For example, what if we found that 32% is easy to do but 33% is problematic, wouldn't we want to know that?)

Also, while SCE understands that CAISO's main focus is to understand the impacts to the system itself, SCE recommends an economic assessment be included across all the suggested working groups so initial integration costs can be captured. SCE understands that the cost impact will be further defined and analyzed by other participants however, consideration should be given to any initial costs that could be identified through these working groups that could supplement any analysis performed by other stakeholders.

### **Project Structure**

SCE understands that stakeholders will have more opportunity to contribute input to the 20%+ effort and that the ISO will be building a stakeholder process around this effort. SCE strongly supports this approach and looks forward to working with the CAISO. The CAISO is in the unique position to lead or be the key participant in such a study however other participants should be allowed to assist the CAISO in developing the long range planning assumptions especially with respect to future generation. The ISO's commitment in performing these studies with stakeholders and looking beyond the operability of integrating 20%+ renewables will provide the foundation to allow CA to meet its future policy objectives.

SCE also encourages the CAISO to work in a framework that will allow it and stakeholders the ability to understand, at least on an order of magnitude basis, the costs of renewable integration at varying levels. In addition, SCE would like to understand the assumptions so if desired we can duplicate or check some of the studies conclusions internally and/or work with the CAISO staff on joint efforts.

## Transmission Planning Conceptual Report

The CAISO posted a preliminary conceptual report titled, “*Report on Preliminary Renewable Transmission Plans*” (final version updated August 6, 2008). SCE appreciates that this is a conceptual report for discussion before the RETI forum produces its conceptual plan. However, these conceptual transmission projects have not been studied in detail, nor has an engineering analysis been performed. Given this, SCE would appreciate the CAISO clarify its future plans with this report, if any.

***The IRRP effort is currently divided into two components – 20% RPS and 33% RPS. Each of these components will assess operational and infrastructure needs, which will then drive solutions that will fall with four categories: (1) infrastructure additions, (2) internal operational tools, (3) market products, and (4) regulatory modifications. Many of the tasks identified are consistent with the specific projects included in the IRRP High-Level Plan published in May 2008. Please comment on whether those tasks, as discussed at the stakeholder meeting, are appropriate and whether other projects should be included as part of the IRRP.***

- ***Please indicate whether you believe such tasks should be included for 20% RPS or beyond 20% RPS.***

The tasks discussed during the stakeholder meeting area appropriate for both 20% RPS and beyond 20% RPS. Top priority should be given to completing these tasks for 20%.

- ***If included in the 20% component, please provide a proposed schedule that would ensure the results of the task could impact meeting the 20% RPS goal by the start of 2012.***
  - Given a goal of the start of 2012, SCE supports a proposed schedule of January 1, 2011 for the completion of all the tasks listed above to provide for the CAISO filing its Tariff language with FERC and consideration of infrastructure additions. Operational tools need to be developed and tested for a period of approximately 6 months or longer before gaining the confidence and put any models into real time use.
  - New market products need to be available for use before 2012 so that their performance can be tested. The timeline depends on the approval of CAISO tariff for new products, development of products by the entities (could be Participating Transmission Owners (PTOs) or vendors for storage) and solicitation of these products either by the CAISO or the PTOs.
  - Regulatory modifications need to be in place and these need to be addressed by the CPUC and also WECC as it relates to intra-hour scheduling and other needs.

***There are many renewable activities occurring in California and various areas across the country. Please list those studies or activities that you believe have merit that may serve as an appropriate model or otherwise assist the CAISO in conducting the IRRP. If ongoing, please indicate how***

*such activities may be coordinated with the IRRP.*

SCE anticipates working with the CAISO to coordinate research and demonstration efforts if SCE's proposed Renewable Integration and Advancement (RIA) program is approved (A. 08-03-014). Under that program, SCE seeks authority to commit up to \$30 million over two years to study the impacts of integrating higher levels of renewable resources into SCE's system. The issues of integration are varied and broad, and SCE can provide field demonstration opportunities as well as actual data to serve as inputs to CAISO's models.

Additionally, CAISO should closely note the results of the RETI process. The draft RETI Phase 1B Report Executive Summary ranks 30 Competitive Renewable Energy Zones (CREZs) and sub-CREZs, of which 17 are within SCE's service area. The CREZs within SCE's service area generally represent the largest of the 30 zones. These include Tehachapi, Fairmont (just south of Tehachapi in LA County), Kramer (just east of Tehachapi in San Bernardino County), Mountain Pass, San Bernardino - Lucerne, and Iron Mountain (in the central and southeast corner of San Bernardino county, respectively). These 17 CREZs could potentially supply nearly 100,000 GWh/year of renewable power, according to the CPUC Consultant, Black and Veatch. This implies that the priority transmission for renewables will substantially fall in SCE's domain. This also means that generators will be interconnected to SCE's system but may not be selling power to SCE. SCE's system will likely interconnect and transmit well above the 20% renewable goal in an effort to reach other load serving entities.

The CAISO also identified that it has been working with SCE on solar rooftop project information. SCE has been supporting this effort to encourage the further study of solar integration and more needs to be done to understand the challenges and what is needed for high levels of solar integration.

Also, Nexant has prepared an independent analysis, "Higher Levels of Renewables Study" on the potential future levels of 20%, 33%, and 50% renewables in California using the Plexos simulation model. It's anticipated that a final report may be available by the end of November, 2008. This is a theoretical study and models the WECC and CA. This study may help to gain insights into the beyond 20% renewables case. The investor-owned utilities (IOUs) are study participants. SCE encourages the CAISO to utilize the basecase in the Nexant study and SCE is available to work with the ISO in this effort.

SCE also understands that the CAISO plans to release two near-term draft studies:

1. Existing Fleet Analysis to address whether the existing fleet can meet the energy deliverability characteristics to integrate 20% RPS



2. Over-Generation Analysis – To identify and quantify over-generation occurrences and to do sensitivities including high hydro and low hydro

SCE understands that the CAISO plans to issue a draft report on these studies by the end of the year and that there will be an opportunity to provide feedback on the studies and assumptions.

*In response to the IRRP High-Level Plan, the Market Initiatives Roadmap, and the storage White Paper, several parties have indicated a strong interest in market product development to address aspects of renewable integration. To assist IRRP in prioritizing and coordinating its role in market development, please indicate your perspective on*

- *the effect of MRTU market design and planned enhancements (MAP) on renewable integration;*
- *any changes to the Roadmap based on consideration of renewable integration;*
- *which new market products, if any, are needed to stimulate needed capabilities;*
- *market aspects of interdependencies with other market and policy developments (e.g., once through cooling, long-term RA, greenhouse gas regulations); and*

Once-Through-Cooling (OTC):

The State Water Board staff is working on a draft statewide policy to implement section 316 (b) of the Clean Water Act that controls the harmful effects of once-through cooling water intake structures on marine and estuarine life. SCE believes the CAISO needs to ensure the OTC initiative is integrated with the IRRP initiative to identify reliability and market implications in removing these units from service while replacing them with intermittent renewable resources.

Long-Term RA:

Based on the CAISO's IRRP efforts, there will be significant renewable resources introduced into the system. As a result, the CAISO needs to ensure coordination with the CPUC and other Local Regulatory Authority's on the Resource Adequacy process.

- *market design lessons being learned in other ISOs/RTOs or other countries that are relevant to the California market context*

SCE supports the CAISO's flexibility to consider changes to the Roadmap based on consideration of renewable integration. It may be best to put in a placeholder at this time because while the IRRP effort is being scoped and studies performed changes will likely be proposed.



- Other ISOs (e.g. MISO) have assessed how to improve how its market is functioning. For example, intra-hour load following product may be appropriate
- Exploring with Balancing Authorities whether schedule changes shorter than one hour may be appropriate between BA

***In response to comments on the IRRP High-Level Plan, several parties supported the creation of working groups. The CAISO proposes to create the following working groups to act as technical forums to assist the CAISO: Storage, Forecasting and PIRP, Needs Assessment Studies and Research, and Market Products.***

- ***Please indicate whether you support the creation of such groups and whether your company would be willing to participate.***

SCE strongly supports the creation of the working groups and would be willing to participate. The extent and level of participation is dependent on the expected commitment and possible funding of the RIA program (A. 08-03-014).

- ***Are there other working groups that should be created?***

SCE supports and would be willing to participate in an Economic Analysis Working Group to perform economic analysis from both generation and transmission perspectives.

Additionally, specifically, SCE supports a workgroup on Resource Mix Study as described by the ISO in its October 24 presentation<sup>1</sup>. SCE strongly supports the CAISO's approach to coordinate and build upon the Nexant study as indicated in its presentation. SCE looks forward to working with the CAISO in this workgroup<sup>2</sup>.

Also, a Regulatory Working Group to track developments related to integration at FERC.

- ***Should there be limits on participation to those with appropriate technical backgrounds?***

No, such an approach would be self-limiting – pure technicians are likely to only consider the direct question posed and difficult to implement. Instead, the CAISO should welcome as many participants as possible to the Working Groups to ensure a good mix of technical, project management and 'business' skills.

- ***Describe the role the working groups should play in the IRRP.***

The Working Groups should identify project scope, leverage opportunities, overlap, issues and priorities. Also, they should assess the existing tools and, technologies available in the market as well as used by other utilities with higher renewables in



their systems and make recommendations based on the technical and economic merits.

SCE also suggests that a PMO/Steering Committee that includes stakeholders to carry out the coordination role.