# Stakeholder Comments
# CAISO's Energy Storage Interconnection
# Draft Final Proposal, November 18, 2014

| Submitted by | Company | Date Submitted |
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Southern California Edison (SCE) appreciates the opportunity to comment on the California Independent System Operator (CAISO), November 18, 2014 Energy Storage Interconnection Draft Final Proposal. SCE generally supports the CAISO's proposal.

In summary

- SCE supports using the Generator Interconnection and Deliverability Allocation Procedures (GIDAP) for the interconnection of energy storage projects
- SCE supports the use of the NGR model for storage, including not allocating TAC to storage while charging, and exempting uplift charges associated with Measured Demand. However, as we gain additional experience, refinements may be needed. We also seek clarification on if tariff changes will be needed to implement this approach.
- SCE supports treating station power for storage consistent with generation, including the need for separate metering of auxiliary load

**SCE Supports Leveraging the GIDAP Process for Storage**

To date, there have been no identified tariff revisions deemed to be required to process the energy storage interconnection requests submitted during Queue Cluster 7, and possibly beyond. The robust participation by a wide array of industry members in the energy storage interconnection stakeholder process has resulted in significant strides being made to

accommodate the interconnection requests of storage developers under the existing GIDAP requirements. SCE commends the CAISO for the development of an interconnection process which is dependent upon the existing GIDAP provisions to accommodate the interconnection of energy storage projects – the dominant technology, in terms of volume, seeking to interconnect in Queue Cluster 7. The CAISO proposal is consistent with FERC's Order 792 and allows the CAISO to use the GIDAP as a straightforward approach to process and study interconnection requests from energy storage developers. The premise that energy storage projects will operate similarly to conventional generators, subject to CAISO dispatch instructions, including curtailment to manage congestion, irrespective if the storage unit is charging or discharging, allows for this more streamlined process rather than creating a less efficient bifurcated process whereby energy storage would be studied separately as generation and load.

Although SCE is generally supportive of the adoption of the GIDAP for energy storage projects, it is critical that the CAISO not lose sight of possible further refinements to the proposed energy storage interconnection process as the industry gains experience with accommodating entry by this emerging technology. CAISO along with industry members must carefully tread the longer-term, beyond Queue Cluster 7, handling of energy storage interconnection requests based on the lessons learned from the implementation of the CAISO's Draft Final Proposal. The processing of interconnection requests from energy storage developers obviously presents some nuances not encountered with the interconnection of conventional generators. Given the nascent stage of energy storage, the energy industry will have the opportunity to learn both the benefits and challenges of what gets implemented in the near term. As we gain experience, we should apply the lessons learned from the early application of the GIDAP to energy storage interconnection requests in the longer term in order to continue the broader commercial deployment of this budding technology.

**SCE Supports Modeling Storage as NGR**

SCE appreciates the CAISO recognizing the urgency of addressing the interdependency between interconnection and rate treatment issues for energy storage, and the CAISO providing its clarification on the rate treatment for energy storage by applying the Non-Generator Resources (NGR) model. Reducing the uncertainty of rate treatment issues will be

beneficial to the development of the storage market. SCE supports the Draft Proposal's recommendation that energy storage not be subject to TAC and measured demand uplift charges. .Regarding energy storage being exempt from measured demand uplift charges, SCE recommends that the CAISO monitor the implementation of this rule for potential unintended consequences, such as energy storage costs related to "use" of the existing infrastructure being subsidized. SCE also seeks further clarification from the CAISO regarding the proposed exemption for energy storage from all measured demand uplift charges given that the energy storage is proposed to be treated as an NGR without any CAISO tariff changes.[1] Section 8.4.1.2 (Regulation Energy Management) of the CAISO Tariff, states in part, "The portion of Demand of Non-Generator Resources using Regulation Energy Management that is dispatched as Regulation in any Settlement Interval shall not be considered Measured Demand for purposes of allocating payments and charges pursuant to Section 11 during that Settlement Interval." Given that the CAISO tariff appears to only exempt the portion of demand of NGRs using REM, SCE requests the CAISO to explain how its proposal to exempt energy storage (treated as an NGR) from all measured demand uplift charges can be implemented without a tariff change. .

The resolution of rate treatment issues in a timely manner is critical, as the energy storage developers need a clearer signal in terms of how costs responsibility for existing system facilities and network upgrades associated with the charging mode of an energy storage project will be allocated. With the upcoming milestone in the first quarter of 2015 for projects in Queue Cluster 7 to post Interconnection Financial Security (IFS) after receiving their respective Phase I study reports, and prior to proceeding to the Phase II study, the energy storage rate treatment clarification provided by the CAISO will assist developers in making a more fully-informed decision as to whether or not to post IFS, and move forward to Phase II. The CAISO states that as a next step following this initiative, the CAISO will consider which of the clarifications on rate treatment issues "may be appropriate to reflect in the Market Operations Business Practice Manual." SCE believe this is an appropriate next step.

[1] The Draft Final Proposal's response to the question on page 27 (table) - "Subject to Measure Demand Uplifts?" – is "No" for both positive and negative generation modes.

**SCE Supports the Treatment of Station Power and Auxiliary Load**

SCE supports the notion that the rules for settlement of station power for energy storage be the same as that for conventional generators, which would be the case under the NGR model. Energy storage represents a generation resource similar to other existing natural gas and renewable resources. In order to ensure equitable rate treatment for all customers, SCE believes rate applicability requirements should be applied equally for all generation resources regardless of technology.

SCE also agrees with CAISO that it may be difficult to distinguish station auxiliary power consumption from charging unless the two activities are metered separately for storage facilities and proposes to bill station auxiliary load at retail rate levels on a separate meter from the energy storage device. These loads can include fans, pumps, computers, and lighting that are actually consumed by the facilities and not used for charging of the storage device. The details of retail rate treatment will need to be decided in a CPUC forum.