



# Comments of Pacific Gas & Electric Company

## Energy Storage and Distributed Energy Resources Initiative:

### Revised Scope and Schedule

Submitted by		Company	Date Submitted
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#### Summary:

PG&E appreciates the opportunity to comment on CAISO’s Revised Scope and Schedule for enhancements to existing rules, products and models to enable increased participation of energy storage and distributed energy resources. PG&E largely supports CAISO’s revised scope and schedule. PG&E is particularly appreciative of CAISO’s efforts to date to further enhance the non-generator resource (NGR) model. CAISO made limited changes to its scope and schedule for 2015 and 2016 and has stated it will begin work on the scope of issues for potential policy resolution in 2015. As a result, PG&E’s comments are focused on the 2016 scope.

In summary, for 2016 PG&E:

1. Recommends that in the NGR model, CAISO include modeling characteristics that are available for non-NGR resources and submits a few clarification questions.
2. Suggests CAISO develop or adapt a model that can accommodate a 50% state of charge parameter for resources with longer cycle times such as four hours or longer.
3. Recommends CAISO align with the CPUC’s endorsement of storage counting as RA by allowing energy storage resources to have non-zero transition times in applicable models and products.
4. Recommends that when CAISO is evaluating alternative baseline methodologies for the Proxy Demand Response product, CAISO should ensure those methodologies enable PDR resources to participate in the real time market.
5. Supports CAISO’s decision to wait until 2016 before determining the scope and rules for non-RA behind-the-end-use-customer meter distributed energy resources providing services to the end-use customer and participating in CAISO wholesale markets.

**1. PG&E recommends that in the NGR model, CAISO include modeling characteristics that are available for non-NGR resources and submits a few clarification questions.**

- Non-NGR resources are able to model a host of characteristics that are limitations of the resource (e.g., throughput limitations, minimum up and down times, etc.). PG&E believes there are characteristics of energy storage that may also be applicable to include in the NGR model. Examples include:
  - throughput limitations (e.g., x number of MWh per day),
  - transition limitations (e.g., x transitions reversing the direction of energy flow), and
  - other characteristics as deemed applicable.

PG&E believes that by including applicable characteristics in the master file for NGR resources, PG&E and other market participants could offer in more accurate bids and allow CAISO to improve dispatch efficiency.

- Related to the comment above, PG&E requests CAISO further define what a transition is, in the context of energy storage. Does CAISO view a transition to mean the resource moves from full charge to full discharge or does it consider a transition as simply switching direction from charge to discharge? Understanding how CAISO defines transitions will provide transparency and will be important as PG&E operationalizes potential future energy storage contracts.
- PG&E appreciates that CAISO has stated it will begin evaluating in 2015 many of the issues slated for 2016 such as interconnection requirements for non-exporting NGR, multiple configurations for a single NGR where each configuration is allowed different operating characteristics and economic bid curves based on physical constraints of the resource and expanding bid cost recovery for NGR to potentially cover additional resource types and configurations. Examining these issues in the context of working on the 2015 scope will help to ensure the success of all enhancements of the NGR model.
- CAISO has stated that in 2016 for the NGR model it plans to, “Enhance load management capability and participation under the NGR model (i.e., both increasing and decreasing consumption).” PG&E requests CAISO clarify what CAISO means by “enhance load management capability and participation” in the context of the NGR model.

**2. CAISO should develop or adapt a model that can accommodate a 50% state of charge parameter for resources with longer cycle times such as four hours or longer.**

As mentioned in PG&E’s previous set of comments submitted on June 1, 2015 on the ESDER Proposed Scope and Schedule, PG&E is interested in a 50% state of charge parameter for resources with longer cycle times such as four hours or longer. PG&E believes this could allow resources to more effectively bid in their capacity into regulation markets. CAISO should examine a 50% state of charge parameter for resources with longer cycle times – either in the NGR model or in a separate model or product.

**3. CAISO should align with the CPUC’s endorsement of storage counting as RA by allowing energy storage resources to have non-zero transition times in applicable models and products.**

The CPUC’s revised Proposed Decision in the Resource Adequacy proceeding (R.14-10-010, Section 5.6), modifies RA effective flexibility capacity (EFC) rules and now allows a transition from charge to discharge in under 45 minutes to count for EFC. To align with this ruling, CAISO should update applicable models to allow for non-zero transition times.

**4. When evaluating alternative baseline methodologies for the Proxy Demand Response product, CAISO should ensure those methodologies enable PDR resources to participate in the real time market.**

In its Revised Scope and Schedule on page 15, CAISO stated that in 2016 it plans to explore dispatching demand response to increase consumption. PG&E requests CAISO provide additional clarification on what it means by dispatching demand response in the context of these enhancements. PG&E interprets this as potentially including a dispatchable PDR product. On a related track for 2015, PG&E understands that CAISO is exploring alternative baseline methodologies to the PDR model. PG&E would like to ensure any alternative baseline methodologies accepted by CAISO allow PDR to participate in real time markets.

**5. PG&E supports the CAISO’s decision to wait until 2016 before determining the scope and rules for non-RA behind-the-end-use-customer meter distributed energy resources providing services to the end-use customer and participating in CAISO wholesale markets.**

PG&E notes that the CPUC will develop policies for this same scenario under Track 2 of the Energy Storage OIR (R.15-03-011), specifically part 3.d: “How should the CPUC and CAISO undertake dispatch coordination and prioritization for resources that have agreed to provide services to more than one entity?” PG&E recommends that the CAISO ESDER Initiative and the CPUC Energy Storage OIR have synchronized timelines in order to stay aligned on this complex issue.