Comments of Pacific Gas and Electric Company
Commitment Cost Enhancements Phase 3 Technical Workshop- 7/20/15

Submitted by	Company	Date Submitted
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Pacific Gas and Electric Company (PG&E) offers the following comments on the California Independent System Operator's (CAISO) Commitment Cost Enhancements Phase 3 July 20th Technical Workshop. PG&E appreciates the CAISO's work thus far to develop an opportunity cost model for use limited resources, and will continue to engage in the model design, simulation, and testing process to ensure the model is properly functioning prior to go live.

We provide the following recommendations and information requests to aid in refining the CAISO's opportunity cost model and proposal.

1. PG&E supports CAISO's proposal to include a negotiated opportunity cost option, and requests more information about this process.
2. CAISO is not the appropriate entity to calculate the use limitations of resources.
3. CAISO should provide more information to justify using Fifteen Minute Market (FMM) LMPs rather than Day Ahead (DA) LMPs in the opportunity cost model.
4. CAISO should schedule reruns of the opportunity cost model monthly, rather than quarterly, and incorporate actual usage of the resource.
5. CAISO triggers for unscheduled rerunning of the opportunity cost model should include actual usage of the resource beyond a threshold of the modeled dispatches, significant differences between the model's estimated LMPs and actual LMPs, and major transmission work on the CAISO system.
6. CAISO should provide stakeholders more information about the tradeoffs between the GAMS and SAS models.

PG&E's Comments

1. PG&E supports CAISO's proposal to include a negotiated opportunity cost option, and requests more information about this process.

   CAISO focused the majority of the technical workshop on the models that will be used to calculate opportunity costs for use limited resources that can be modeled. However, there are some resources for which limitations cannot be modeled (e.g. multi-stage generators), and the CAISO has laid out a separate, negotiated opportunity cost option for those resources. PG&E supports CAISO's proposal to include a negotiated opportunity cost option and requests CAISO include more information about this negotiated opportunity cost option in its forthcoming straw proposal, including a clear process to guide the negotiation, well defined criteria and documentation requirements. Additionally, CAISO should provide and specfify opportunities for renegotiation to reflect changing market conditions, analogous to rerunning the CAISO's model for use-limited resources.

2. CAISO is not the appropriate entity to calculate the use limitations of resources.

   At the workshop, CAISO asked stakeholders if CAISO should assume the responsibility for translating environmental permits into start/run hour limitations for use limited resources. PG&E does not believe that CAISO's role should be expanded to include this translation of environmental permits to use limitations.

3. CAISO should provide more information to justify using Fifteen Minute Market (FMM) LMPs rather than Day Ahead (DA) LMPs in the opportunity cost model.

   CAISO explained at the workshop that it chose to estimate and model opportunity costs based on FMM LMPs rather than DA LMPs because "most use limited resources are committed in the FMM" (page 13 of presentation). However, CAISO and stakeholders also recognized that the future pool of "use limited resources" will look very different from the current pool. As the definition of use limited changes, many resources will fall out of this category, and others who are not currently use limited will apply for the designation. PG&E is concerned that the majority of "use limited resources" that will use this model in the future may not be participating in the FMM, and thus the DA LMPs would be a more accurate input for opportunity costs. Accordingly, CAISO should provide an analysis of resources that may use the model both today and in the future in order to justify using the FMM LMPs rather than the DA LMPs in the opportunity cost model.

4. CAISO should schedule reruns of the opportunity cost model monthly, rather than quarterly, and incorporate actual usage of the resource.

   CAISO has proposed to rerun the opportunity cost model at pre-scheduled intervals to produce fresh opportunity costs for use limited resources. CAISO has proposed either quarterly or monthly scheduled reruns. PG&E supports scheduled reruns of the opportunity cost model on a monthly basis. PG&E recognizes that there may be an administrative burden associated with additional reruns, and is open to discussing how scheduled and unscheduled reruns can be used in conjunction to produce timely and more accurate opportunity cost estimates.

   CAISO has presented three options for adjusting inputs to the model when it is rerun (starts, run hours, generation, etc.). PG&E supports updating the model inputs with the actual resource usage to date to obtain the most accurate opportunity cost estimate ("Option # 1", page 40 of presentation).

5. CAISO triggers for unscheduled rerunning of the opportunity cost model should include actual usage of the resource beyond a threshold of the modeled dispatches, significant differences between the model's estimated LMPs and actual LMPs, and major transmission work on the CAISO system.

CAISO has asked stakeholders for feedback on triggers for rerunning the opportunity cost model in addition to the scheduled reruns. PG&E supports rerunning the model if the resource has been dispatched in a way that differs from the modeled dispatch by some threshold (e.g. the model predicted 25 starts in one month and the resource has already been started 20 times in the first two weeks). PG&E also supports rerunning the model if the inputs into the model (e.g. nodal LMPs and congestion patterns) are ultimately not reflective of market realities. Given that the estimated LMPs in the model incorporate the previous year's congestion patterns, it is important that CAISO have a trigger to rerun the model if those congestion patterns change. Major transmission work, such as the Path 15 work done this year, should trigger a rerun of the opportunity cost model.

6. CAISO should provide stakeholders more information about the tradeoffs between the GAMS and SAS models.

   CAISO presented the methodologies and preliminary results of two opportunity cost models – SAS and GAMS. Both models use the same inputs and have produced similar results, and CAISO must choose which model to ultimately use. CAISO laid out several tradeoffs, namely that GAMS would be more expensive and have potentially longer run times. However, based on the profit maximizing optimization of the GAMS model, the resulting opportunity costs appear to be more accurate. CAISO should provide stakeholders with more specific information regarding the incremental cost of GAMS vs. SAS, and how frequently the GAMS model could be rerun, in order for stakeholders to fully consider the tradeoffs between the GAMS and SAS models.