



## Two-Tier Allocation of Real-Time Bid Cost Recovery Uplift Comments of Pacific Gas & Electric on CAISO Issue Paper

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Pacific Gas and Electric Company (PG&E) appreciates the opportunity to submit comments pertaining to the California ISO's November 2015 issue paper on the potential two-tier allocation of real-time bid cost recovery uplift.

### Summary

PG&E believes that the ISO may be able to enhance the efficiency and transparency of its markets by using a two-tier methodology for allocating real-time bid cost recovery (BCR) uplift to those causing the costs. As explained in the comments below, PG&E suggests that the ISO explore an allocation methodology that is based on cost-causation, which will help provide incentives to participants to lower real-time BCR. More specifically, PG&E suggests that the ISO host a working group session to examine the key drivers of real-time bid cost recovery uplift (such as incremental load and/or the loss of expected supply). Real-time bid cost recovery uplift totaled \$56 million<sup>1</sup> in 2014, and so PG&E believes that devoting time and effort to this topic is worthwhile.

### Background on Bid Cost Recovery

The California ISO markets include rules designed to ensure that any resource committed and scheduled as part of an optimized market process is able to recover its overall daily costs, should its resulting market revenues be insufficient to accomplish this for any reason. These processes are collectively known as the Bid Cost Recovery (BCR) rules, and they translate into payments to resources with identified daily revenue shortfalls. These payments are then funded by a series of uplift charges. Currently, the CAISO BCR uplift associated with the Integrated Forward Market (IFM) and Residual Unit Commitment (RUC) process is allocated using two tier processes, while all Real-Time BCR uplift is allocated through only a single tier to measured demand.

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<sup>1</sup> CAISO Department of Market Monitoring, 2014 Annual Report on Market Issues and Performance, Page 67

#### BCR Uplift Allocation for IFM:

- The first tier of IFM BCR uplift is allocated to Scheduling Coordinators based on the portion of their demand that is not served by self-scheduled generation and/or imports, but is served by energy supplied through the market. This allocation is determined by calculating each Scheduling Coordinator's day-ahead scheduled demand less self-scheduled generation and imports plus or minus any inter-Scheduling Coordinator trades of IFM load obligation. The first tier of IFM BCR uplift is also charged to virtual demand. The rationale for the first tier's allocation is that the demand allocated the first tier costs is the portion of the demand causing commitment costs because it is the demand using generation scheduled by the market, rather than using its own generation or imports.
- The second tier is allocated to load and exports.

#### BCR Uplift Allocation for RUC:

- The first tier of RUC BCR uplift is allocated to Scheduling Coordinators based on their net negative ISO demand deviation (load that deviated from the IFM schedule) and virtual supply awards. The rationale for the first tier's allocation is that demand not scheduled in the IFM is the demand causing the RUC to commit additional generation and incur BCR costs.
- The second tier is allocated to load and exports.

Given the logic and market success of using these two-tier allocation methodologies for the IFM and RUC costs, it is natural to ask whether such a methodology can be applied to the Real-Time Market. On that note, FERC has instructed the ISO to investigate the possibility of replacing the existing Real-Time BCR uplift allocation methodology (currently one-tier) with a two-tier methodology. PG&E hopes that these comments will help determine if such a process is reasonable and manageable.

### **Cost Causation Principles**

As explained above in the overview of the IFM and RUC uplift allocation processes, the foundational principle is that tier one costs should be assigned to those participants that drove the need for a resource commitment by the market optimization process, based solely on the changes to that market from the previous one.

The IFM specifically commits bid-in supply to meet bid-in demand, meaning that any bids from demand resources that are not matched by self-scheduled supply create the need for optimized commitment. For RUC, the ISO optimizes to meet any expected demand that was not cleared through the earlier IFM process, based on the ISO day-before demand forecast in relation to cleared bids, and to replace any net system virtual supply with physical, dispatchable energy.

If we apply the cost-causation principle outlined above to the Real-Time Market, we can start to identify the corresponding drivers that would require the ISO optimization process to commit and dispatch resources beyond the positions set up in the IFM and RUC process. These drivers could then be specifically quantified and assessed a portion of any resulting Real Time BCR uplifts.

### **Cost Causation in Real-Time**

The CAISO fifteen minute market (FMM) is the first financially binding market run after the RUC process has completed. It is intended as a mechanism to commit and dispatch economic resources in order to

meet any changes in system requirements (for example: load requirements, changes in transmission or congestion constraint parameters, etc.) that have occurred since the RUC process. Such changes not only include load forecast fluctuations, but also the loss of scheduled supply (including inertia derates and forced generation outages), and mathematically both types can be equivalent in driving the ISO's need to commit additional resources in real-time.

The final market process for the CAISO is the five-minute Real Time Dispatch (RTD) optimization, which further refines the specific generation output levels to meet any further changes to these same system requirements.

Taken as a whole we can then group these different drivers as "resources that present non-economic requirements" on the overall electrical system overseen by the CAISO optimization engine. Following the principle of cost causation, it may be appropriate to allocate the first tier of Real Time BCR uplift costs to this mix of resources. As a next step, PG&E suggests that the ISO host a working-group session to examine such resources in more detail.