Comments of Calpine Corporation on

Stepped Constraint Parameters

Issue Paper

Dated: May 5, 2016
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Summary:

Calpine conditionally supports only one of several proposals in the Issue Paper. Specifically, Calpine can support a rational reduction in the bid floor to $-300 conditioned on the implementation of the Flexible Ramping Product (specifically, with a downward ramping constraint.)

The balance of the proposals is insufficiently or inappropriately supported, address unidentified concerns, appear to significantly reduce reasonable scarcity, and eliminate important price signals for locational value. Calpine suggests they be eliminated from further consideration.

Introduction:

As an initial matter, Calpine takes issue with the assertions of the introduction of the Issue Paper wherein the CAISO asserts that "[c]osts are deemed excessive in instances when the adjustment of a non-priced quantity can resolve the system at a lower system cost." The logical extension of this statement is that regardless of how low the ISO sets the adjustment (or penalty) thresholds and adjustment prices, the simple, but unjust goal of reducing costs can be achieved and "excessive" costs can be eliminated. In this manner administrative pricing could be used more – rather than less -- to achieve the unjust singular objective of reducing total costs.

Calpine does not believe that robust prices and costs are inherently "excessive", but rather, they serve an important role in reinforcing locational value, ensuring availability of resources (for example, in EIM areas), ensuring proper representation of those resources in CAISO models and systems and reinforcing the need for important products such as ramping capability. Scarcity prices are a critical component of an efficient and well operating market.

In fact, two of the proposals herein (a further reduction in real-time transmission constraint parameters and a stepped power balance constraint) attempt to

manage costs directly by, in essence, establishing *price* caps, and rendering the higher bid caps allowed by the tariff meaningless. That is, under the proposals much lower but stepped constraints are established which could result very low prices ignoring high bids for highly effective resources. In this case market efficiency is directly harmed.

Further, the indiscriminate elimination or significant moderation of appropriate scarcity value is entirely misplaced in the CAISO market today. Infra-marginal rents are already declining so significantly that generation owners struggle to cover going forward costs (as evidenced for 5 years running in DMM's annual review) and are announcing unit shutdowns (e.g., most recently La Paloma).

Transmission Constraint Relaxation Parameter:

Calpine does not support the proposal to further restrict the use of economic bids[1] in the market by establishing stepped and lower voltage-based transmission constraint relaxations.

First, the proposal is supported only by broad assertions regarding avoidance of "large ineffective redispatch" and further that "effective adjustments … for low voltage level are comparatively less available." No data is presented to support these assertions. No analysis is presented to demonstrate that this is a solution to a problem either in the ISO or in the EIM. In contrast, the CAISO provided significant data in 2012/3 when the RT relaxation parameter was reduced from $5000 down to $1500.

Second, the relaxation parameters that are less than the current bid cap of $1000 per Mwh create, in essence a *price* cap that renders the tariff-based bid cap meaningless. That is, if a single bid (below the bid cap) from a highly effective resource results in a shadow price above the proposed and reduced relaxation levels, that bid will never be accepted.

Third, there is no support for the particular split of voltages proposed by the CAISO. Indeed, if the split of voltages at 115 kV remains, it is Calpine's view that the relaxation levels for higher voltages should be raised with respect to the $1500, not lowered. Higher voltage constraints will have broad market impacts and should transparently signal locational value and needed investment.

Fourth, unlike previous efforts to reduce relaxation parameters, the CAISO has not asserted nor demonstrated a need to reduce Real-Time Congestion Offset (RTCO) costs. In fact, the CAISO clearly states that implementation of FMM has resulted in an expectation of lower RTCO which, in itself, also suggests that the

[1] Calpine takes issue with the suggestion that generators "happen" to submit economic bids. (Issue Paper, p3.) The ISO should be applauding and encouraging submission of economic bids, not deriding their presence. Submission of economic bids is not happenstance.

measures taken in 2013 to reduce the relaxation parameters may no longer necessary. Therefore, other than unjust cost control, no specific problem has been identified to support this proposal.

Shift Factor Effectiveness Threshold:

In resolving congestion, resources on each side of a constrained transmission element are adjusted until the constraint is eliminated. The ISO initially established a just-right, "Goldilocks" effectiveness threshold of two percent – in which units that are less than two percent effective would not be included in redispatch.

This two percent factor was divined to balance two undesirable outcomes: "the potential to distort congestion management by utilizing ineffective adjustments [if set too low] or precluding potentially effective adjustments[2] [if set too high]."

Now, rather than evaluating the merits of the balance historically struck, the Issue Paper summarily concludes that lowering the threshold is beneficial because it increases the pool of economic bids. As a result, the CAISO proposes to significantly reduce the threshold … largely because computational speed may allow such[3].

Calpine is not convinced that massive movement of highly ineffective resources is justified -- for instance, a move of 2000 MW to achieve 1 MW of flow reduction(1000 MW up at 0.1 percent on one side, and 1000 MW down at 0.1 percent on the other side).

Further, the interaction of this threshold change and the reduction in transmission relaxation parameters must be evaluated. In fact, each is proposed on a diametrically different premise of the value of bids. The lowering of relaxation parameters is premised on the position that low effectiveness bids should be clipped and not used, wherein the proposed change to the effectiveness threshold encourages and values the use of the same low effectiveness bids.

Calpine's view is that the combination of the two proposals would result in shadow prices escalating more quickly to the proposed lower transmission constraint parameters. The CAISO may be creating exactly what it seeks to avoid which is to "overly rely on transmission constraint relaxation to resolve congestion[4]."

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[2] Minimum Effectiveness Threshold Report – CAISO Compliance Filing – March 1, 2010 http://www.caiso.com/Documents/MinimumEffectivenessThresholdReport.pdf

[3] The analysis included in the Issue Paper suggests that a 6 minute (10 percent) increase in DA computation time is insignificant. However, there is no analysis of RT – where time constraints are significantly more pressing.

[4] Issue Paper, p6

We ask that in the next version of this paper – if the CAISO even finds a next version necessary – that it include a diligent review and simulation of the individual proposals and the expected results of interactions between the proposals.

Power Balance Constriant Relaxation:

Calpine finds this section of the Issue Paper particularly confusing and absent a concrete proposal. Nonetheless, we are not supportive of a stepped or graduated set of power balance violations.

On one hand, the paper suggests that the problem is associated with EIM Entitiy violations – but that the problem of power balance violations has been addressed by recent modifications to allow the inclusion of "available balancing capacity" into the bid stack. Problem solved.

On the other hand, the CAISO suggests that short duration or small power balance violations do not cause a reliability concern and in essence, should be ignored. We disagree.

The CAISO has embarked upon significant efforts to reduce or eliminate power balance violations. In particular, the implementation of the Flexible Ramping Constraint, and soon FRP with its symmetrical constraints should greatly reduce that which is already a small exposure to power balance and ramping violations. This, in concert with the ability to convert ancillary services to energy will be significant tools to manage energy balance. In that regard, Calpine would not oppose a penalty/adder to be assessed when ancillary services are converted to energy.

However, if violations occur, regardless of size or duration, Calpine believes that prices should reflect the full value of energy (as represented by bid caps/floors) at that time.

Economic Relaxation of EIM Transfer Limit Constraint

Calpine does not support the proposal to relax the law prohibiting "leaning".

One of the fundamental tenets of the EIM market design is that each BA would be individually responsible for ensuring that they enter the real-time market fully resourced. A policy of "no leaning" has been absolute and unyielding. The simple and effective solution to managing an EIM entity that is under-resourced is to simply isolate it by freezing transmission access. Calpine believes this is an effective method to enforce the fairness of EIM participation.

Now the CAISO proposes that a BA simply be allowed to "pay to lean". Specifically the proposal is that some penalty factor be applied to transferred energy if there is a violation of balance, capacity or ramping constraints. The CAISO seeks input as to the level of that penalty.

First, we do not support a "pay to lean" approach. This will only encourage EIM Entities to make economic choices rather than reliability choices. Most particularly, they will have the ability to lean on the fleet of California (or neighboring EIM Entity or Calpine) resources to meet their needs. But the economic tradeoff is not made with the owner or holder (maybe via RA contract) of that capacity – it is made based on some administrative penalty.

Second, it seems that one of the motivations of this proposal is to keep transfers flowing, which in turn will demonstrate EIM benefits. We think this motivation is wrongheaded. If one BA is leaning on another with unjust compensation, EIM is a failure regardless of measured and monitored flow.

Finally, the proposal is to allocate the proceeds of the penalty to the BA that was not deficient. At a very high level this is just. However, the sub-allocation within a BA is likely highly controversial and unaddressed in the tariff[5]. As an initial matter, Calpine would assert that resources, not loads are most likely directly harmed by the leaning – because capacity is being used without capacity compensation. And particularly, resources that are effective in correcting the violations should be disproportionally rewarded.

Lowering the Bid Floor

The CAISO proposes lower the bid floor, either to a previously stated target of $-300 or to a level that is "symmetrical" with the bid cap. The lower bid floor is premised on the assertion that even at $-150, some generators are still motivated to self-schedule rather than bid an opportunity cost which might exceed the current floor.

Calpine does not object to lowering the bid floor if and when the Flexible Ramping Product ("FRP") is implemented. FRP will ensure that downward ramping capacity is available and will facilitate rational formation of prices rather than the discontinuous movements caused by power balance or ramping violations.

FRP implementation is critical – even in spite of the rather dramatic increases in decremental bid liquidity. Particularly, reports at the market Performance and Planning Forum show hundreds, if not thousands of MWs of decremental capacity. However, given that there have not been significant declines in

[5] And in fact each BA (OATT) may ultimately allocate any proceeds differently.

downward ramping violations; one can reasonably assume that the decremental bids are not present in hours when most needed.

Finally, we will repeat our common request – that in addition to reducing the bid floor, that the CAISO consider significant relaxation or elimination of export fees.

Thanks