Comments of Calpine Corporation on

FERC Order 764 Compliance
15 Minute Scheduling and Settlement

Straw Proposal

Dated: October 23, 2012
Comments Submitted: November 17, 2012

Summary:

Calpine appreciates the thought-provoking and far-reaching proposal of the CAISO. There is much to consider in complying with Order 764, not the least of which might be Regional reactions and consensus. Major modifications, such as those included in the instant proposal will come at great cost, but with little utility if others outside the CAISO approach compliance differently. As such, the CAISO should reach out to its bordering BAAs and report back on their plans and their reaction to the CAISO proposal.

There may be benefits to this proposal regardless of the reaction of others outside the CAISO boundaries. We identify some of them below. However, Calpine is and will remain to be very concerned with the CAISO's continuing and unabated use of Exceptional Dispatch ("ExD") and Minimum Online Commitment ("MOC") constraints, each of which has a suppressive effect on RT prices. Any redesign of the RT market must face and address the inefficiencies introduced by these actions. We encourage the ISO, as did FERC very recently, to provide an analysis of how this revised market design reduces the need for and use of ExD (and in our view, MOC). If unaddressed, the proposed redesign will fail to produce the marginal price signals necessary to efficiently integrate renewables.

As more specifically discussed below, Calpine offers the following reactions:

- The Intent of 764 is Frustrated if LMPs Fail to Represent Market Conditions
- 15-minute Intertie Scheduling Works IF Others Allow It
- Simultaneous Clearing is Beneficial
- Four Settlements Every 15 Minutes is Overkill
- A Slowdown in FRP Should Defer Dec Floor Changes
- What is the Cost-Benefit Ratio of the Big Bang
- Focusing on Technical Design Matters Seems Premature

The Intent of 764 is Frustrated if LMPs Fail to Represent Market Conditions.

Order 764 was issued in large part to ensure the efficient integration of variable renewable resources. Such integration will be managed most efficiently if prices, especially in the real time market, represent the true cost of the marginal resource on the grid. Unfortunately, with the growing use of Exceptional Dispatch, RT LMPs rarely reflect the true cost of marginal energy[1]. Rather, as the Commission noted in an Order issued on October 26, 2012, the use of Exceptional Dispatch may be "too expansive" and may "tend to artificially depress market clearing prices."

In addition, an overly-conservative, or inappropriate approach to placing units at Minimum Load also injects unpriced energy into the supply stack and reduces prices. As an example, the CAISO recently announced a new MOC constraint in Northern California that expressly protects the CAISO grid from a transmission contingency. The CAISO will apparently commit units to provide ramping capability to be used in a post-contingency response. These minimum commitments will not be allowed to set the LMP, and hence, will further suppress market prices.

Given these market imperfections and the dramatic increases in variable resources, it is often unlikely that LMPs reflect the true marginal signals to increase or decrease output. This will only lead to more Exceptional Dispatch.

So, Calpine fully concurs with the Commission, when it said the following in its October 26 Order:

> We strongly encourage the CAISO to continue evaluating, through its stakeholder process, new market products, including but not limited to, a 30-minute ramping reserve service that may reduce the CAISO's reliance on exceptional dispatches.

There seems to be no better forum to address these fundamental market infirmities than a comprehensive redesign of the RT market. Calpine asks that the CAISO address the beneficial or detrimental effects of the instant proposal with respect to the use of ExD and MOC and include in this redesign pricing modifications that recognize the impact of these out of market dispatches.

[1] Calpine does not have specific data to expressly support this assertion. However, it seems logical that on those days when the CAISO has dispatched 30,000 MWh of Exceptional Dispatch and untold MOC Mwh, that the market price is entirely corrupted by unpriced energy.

15-minute Intertie Scheduling Works IF Others Allow It

As indicated in the Summary, much of the benefit of the contemplated changes only accrue to market participants if more flexible transactions are available at the interties. That is, 15 minute scheduling at the interties only works if the external BAA allows schedule changes within the hour. While there is some movement to more frequent scheduling timelines, particularly in the Pacific Northwest, these efforts remain in pilot status, and no such activity appears to be occurring in the Desert Southwest or Rocky Mountain regions. If other Regional entities seek less dramatic forms of compliance with Order 764, much of contemplated effort would be fruitless.

The CAISO should consult with and report back on external BAA compliance approaches. This feedback would be instructive to determine how far to go with this proposal and also how fast to go there. Indeed, if resistance to this change to 15 minute intertie scheduling is substantial in the interconnection, a more moderated focus on optional services and redeployed focus on correcting current imperfections might be a more reasoned approach.

Simultaneous Clearing is Beneficial

Calpine's has long-held the position that a simultaneous RT clearing of interties, virtuals, internal generation and load would be a preferred outcome for CAISO markets. Current markets that allow interties to clear on hourly blocks create a market in which internal generation cannot participate because they must settle every 10 minutes. This sequential market clearing has also produced inefficient dispatch of both intertie and internal generation – and has resulted in alleged systemic price differences. Of course, this sequential clearing problem also may lie at the heart of intertie convergence bidding controversy.

However, our support for simultaneous clearing is conceptual and the CAISO should not interpret this as an endorsement of 15 minute scheduling at any cost. As a substantial contributor to the CAISO's flow-based GMC, Calpine seeks, below, a better understanding of the costs of this change and any reasonable compliance alternatives.

Four Settlements Every 15 Minutes Is Overkill

The proposal creates 4 settlements covering every 15 minutes for internal generation. First, the newly reconstituted RTPD creates a 15 minute financially binding settlement for internal generation. This settlement does not create a physical obligation for energy, but is, in form and structure, similar to the DA IFM financial clearing. A few short minutes later, the generator will be given financially and physically binding dispatch instructions. These dispatch instruction would be settled on a 5-minute basis – as opposed to the current 10 minute settlement interval.

This multi-settlement mechanism is a vestige of driving to a simultaneous clearing market at 15 minutes. However, the settlement, validation, and shadowing costs will be substantial. Calpine believes that any and all alternatives to this 4-settlements-every-15 minutes should be considered.

A Slowdown in FRP Should Defer Dec Floor Changes

The current timeline defers the implementation of FRP until fall of 2014. Most relevantly, the deferral of FRP leaves the CAISO with no downward ramping product or constraint. Recall that the upward ramping constraint was implemented in December of 2011. The upward ramping constraint (FRC) was placed in service for two purposes, first to address alleged reliability concerns, but also to address the price impacts of Power Balance violations. These Power Balance violations occur when there is insufficient upward ramping capability and the penalty price of $1000 in imposed.

Data indicate that the downward ramping Power Balance violations are much more frequent than upward violations[2]. These downward violations currently peg the supply price at $-30. A downward ramping product (or compensated constraint) would tend to insulate supply from the same reliability and price impacts as the upward constraint has accomplished. However, with this proposal, the ISO may delay substantially that supplier protection.

Compounding the harm of delay will be the proposed (not filed) reduction to the decremental energy bid floor. This change (from $-30 to $-150) will set the new low bar for Power Balance violations and will expose internal generation to unavoidable and deeply negative prices. Should the CAISO defer or delay implementation of FRP, it should also delay the implementation of the dec bid floor reduction. Doing so would be a demonstration of the CAISO's equal and unbiased concern for undue price impacts – whether they affect load or supply.

What is the Cost-Benefit Ratio of the Big Bang

The ISO's proposal is comprehensive, and would substantially change RT operations modeling, information requirements, interfaces and back office functions. As a substantial contributor to the CAISO's flow-based GMC, we ask to see cost estimates of the ISO's instant proposal and alternative forms of compliance with Order 764.

In addition, we would like to see a specific quantification of the benefits of this big-bang approach to compliance.

[2] Look for example at the Market Performance and Planning Workshop presentation materials

Focusing on Technical Design Matters Seems Premature

While there are many, many technical issues with the instant proposal to be explored and discussed (some of which have been submitted by WPTF), Calpine has not focused on implementation issues. We propose that the ISO consider alternative forms of compliance rather than focus solely on the instant proposal. Such alternatives, along with cost estimates, should be developed sufficiently to present to the Board for consideration.

Thanks