Comments of Pacific Gas and Electric Company on Imbalance Conformance Enhancements Straw Proposal

Submitted by	Company	Date Submitted
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Pacific Gas and Electric Company (PG&E) appreciates the opportunity to comment on CAISO's Imbalance Conformance Enhancements Issue Paper and Straw Proposal, published November 29, 2017.

As long as imbalance conformances are used to adjust the load forecasts used in the real-time scheduling and pricing passes, PG&E believes the conformance limiter is an important tool to mitigate instances where operator imbalance conformance creates an artificial scarcity. PG&E, however, stresses that manual imbalance conformances should be used sparingly, only when market products and solutions cannot ensure adequate capacity is available to meet system needs. PG&E offers the following comments:

1. **To the extent that imbalance conformances are used to correct for shortcomings in the energy market design including VER forecasts, the CAISO should prioritize enhancements to those market-based designs.**
2. **Prior to implementing the proposed change to the imbalance conformance limiter logic which will likely increase the occurrence of penalty pricing, the CAISO should consider stepped penalty pricing as a complimentary market design change.**

Detailed Comments:

1. **<u>To the extent that imbalance conformances are used to correct for shortcomings in the energy market design including VER forecasts, the CAISO should prioritize enhancements to those market-based designs.</u>**

   While this initiative seeks to change logic behind the imbalance conformance limiter, PG&E raises a larger issue which is the frequency and magnitude that CAISO operators use manual imbalance conformances. In its Q4 2016 Report, the DMM highlighted the frequency and magnitude of Load Adjustments in CAISO and EIM BAAs.[1] This report showed that positive or negative adjustments to the CAISO load forecast were used in ~60% of all 15- and ~80% of all 5-minute market intervals in July to December 2016. On average, positive CAISO load adjustments were 529MW in the 15-minute

[1] http://www.caiso.com/Documents/2016FourthQuarterReport-MarketIssuesandPerformanceMarch2017.pdf, Page 50.

market and 437MW in the 5-minute market. On average, negative load adjustments were -274MW in the 15-minute market and -279MW in the 5-minute market. The DMM's Q3 2017 Report on Market Issues and Performance also shows that imbalance conformances have increased in magnitude in 2017 over 2016 in the hour ahead and 15-minute markets[2]. PG&E questions the frequency and magnitude of imbalance conformances as additional market products such as flexible ramp have been introduced and as reserve requirements have been adjusted.

- Are reserve and flexible ramp requirements insufficient, or not high enough for operational needs?
- Has the trend of imbalance conformance frequency and magnitude changed at all as other products have been introduced, or as regulation and ancillary service requirements change?
    - If not, is there a gap in training or procedures that should be enhanced to mitigate imbalance conformances and restore confidence in market solutions?
- How are VER forecasts contributing to imbalances in RT and can these forecasts be improved?

PG&E believes higher –level issues driving use of imbalance conformance should be prioritized and addressed.

Additionally, while adjustments to the load forecast induce "market-based" solutions as the market solves to load forecast in real-time, PG&E is concerned that market solutions are based on artificial system conditions if the market solves to a load level significantly different than actual load. For example, the CAISO recently highlighted real-time operational issues incurred on April 25, 2017 in the December 18th Market Performance and Planning Forum[3]. On this day, an adjustment to the load forecast was made to mitigate an excursion in ACE. The CAISO reduced load forecast to induce resources to curtail. Resources economically curtailed, meaning that the load adjustment resulted in backing resources off economically, lowering market prices. Stepping back, the root of the operational issues were twofold – poor VER forecasts and a depletion of regulation down. PG&E believes improvements to the VER forecast to better align DOTs to actual outputs and an increase in Reg Down procurement are more optimal solutions to address this day's type of system issues rather than relying on load adjustments to correct system imbalances.

CAISO should also consider whether exceptional dispatches should be used instead of load adjustments in certain instances. For example, if a resource trips or resources need to be backed down such as on 4/25/17, is it correct to alter price signals for the entire market via a BAA-wide load adjustment if the need is locational and/or arises because of rigidities in market runs or data processing? In some instances, EDs could result in less costly solutions and would not distort actual load conditions.

[2] http://www.caiso.com/Documents/2017ThirdQuarterReport-MarketIssuesandPerformance-December2017.pdf Page 18.
[3] http://www.caiso.com/Documents/Agenda-Presentation-MarketPerformance-PlanningForum-Dec18_2017.pdf. Slide 11.

In its paper, the CAISO also notes that imbalance conformances are used to correct not just for load forecast issues, but for other imbalances such as VER deviation, generator testing, outages, etc.[4] PG&E would like to understand what system imbalances most frequently drive the need to use imbalance conformance and recommends CAISO seek market solutions to mitigate those deficiencies in a targeted manner as opposed to relying on adjustments to the load forecast. Secondly, PG&E would like to understand how closely the load forecast as adjusted by imbalance conformances mirrors actual load.

2. **Prior to implementing the proposed change to the imbalance conformance limiter logic which will likely increase the occurrence of penalty pricing, the CAISO should consider stepped penalty pricing as a complimentary market design change.**

Based on CAISO analysis, the proposed change to the imbalance conformance limiter would have resulted in the limiter being triggered less often.[5] This means we would expect penalty pricing to occur more often. PG&E is concerned about the increased frequency of penalty pricing coupled with the potential increase in penalty prices upon CAISO's compliance with FERC Order 831. Should CAISO directly scale its penalty prices to conform to the new energy offer cap ($2,000/MWh), we would expect penalty pricing to become more frequent in both directions and more severe in the upward direction.

PG&E suggests CAISO consider stepped penalty pricing for power balance constraint violations. Today, 1MW of infeasibility is priced the same as 200MW of infeasibility. In the upward direction, stepped penalty pricing will add flexibility to RT market solutions, providing the optimization with less costly options than $1,000/MWh penalty pricing (likely increasing to $2,000/MWh in Fall 2018) when shortages are small and transient and regulating capacity or operating reserves are still available on the system. Since the CAISO's RT Market Enhancements Initiative will be deferred beyond 2018[6] and the Stepped Constraints Parameters initiative was previously deferred to RT Market Enhancements[7], PG&E suggests CAISO consider again stepped power balance constraint penalty pricing outside of the scope of RT Market Enhancements.

[4] http://www.caiso.com/Documents/IssuePaper-StrawProposal-ImbalanceConformanceEnhancements.pdf. Page 10.
[5] http://www.caiso.com/Documents/Agenda-Presentation-ImbalanceConformanceEnhancements-Dec8_2017.pdf. Page 29.
[6] http://www.caiso.com/Documents/2018DraftPolicyInitiativesRoadmap.pdf. Page 7.
[7] http://www.caiso.com/informed/Pages/StakeholderProcesses/CompletedClosedStakeholderInitiatives/SteppedConstraintParameters.aspx