

Western EIM base schedule submission deadline

PG&E's comments on Issue Paper / Straw Proposal

1. Provide a summary of your organization's comments on the issue paper/straw proposal.

PG&E understands the intent of this initiative is to provide EIM scheduling coordinators with additional flexibility to submit more accurate base schedules closer to the operating hour and base schedules that reflect start-up energy. Specifically, CAISO is proposing two changes:

- i) To delay the deadline for submitting a base schedule by ten minutes to "T-30" from today's deadline of "T-40". It is suggested that the proposed change should allow for more accurate base schedules and therefore an increase in market efficiency associated with changing forecasts of load, renewables, and contractual obligations that might only realize close to real-time. This proposed change would be possible by truncating the time available to solve the market optimization for Interval 1 of the Real-Time Pre-Dispatch market run. This truncation in run-time could come at the cost of additional instances where the optimization does not yield a feasible result for the RTPD interval 1 and results in suboptimal results.

PG&E respectfully requests that CAISO to consider the following two comments:

- a) CAISO should provide a discussion of the potential costs and benefits of associated with this change.
 - who is benefiting from this change and the order of magnitude of any benefits?
 - summary of the feasibility tests and their results that CAISO has already run.
 - a detailed explanation of the negative market impacts of the RTPD interval 1 not solving in time and the potential impact of a loss of run-time on future market design enhancements
 - b) CAISO should be able to spot issues and revert to the "T-40" timeline if issues arise.
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- ii) To allow EIM base schedules to reflect Start-Up energy. This proposed change would require a change to the formula for allocation of bid-cost recovery payments with the goal of ensuring equity among those that are full CAISO members and those that are EIM entities. This change would reduce EIM participants uninstructed energy (UIE) which currently captures the start-up energy. It is PG&E's understanding, that for some EIM entities, the start-up energy is a non-trivial portion of load and making this change would directly benefit those participants.

PG&E does not have any substantive comments on the proposal to reflect start-up energy in EIM base schedules.

2. Provide your organization's comments on the proposal to change the final financially binding base schedule submitted by the Western EIM entity scheduling coordinator from T-40 to T-30 of the operating hour.

Changing the submission deadline from "T-40" to "T-30" would give the market optimization ten fewer minutes to solve the RTPD interval 1. PG&E is primarily concerned with truncating the run-time for RTPD interval 1. While this change potentially provides benefits to some of the market participants or to the market as a whole, it also comes with a potential cost. With this inherent trade-off in mind, PG&E would like to express the following comments:

- i) PG&E would like to see a more detailed explanation of the benefits. PG&E is unclear on what types of benefits will result from delaying the base schedule submission deadline by ten minutes and to whom those benefits accrue. Could the CAISO or the EIM participants provide any estimate of the benefits to participants or to the market?
- ii) PG&E would like to see more detail on the feasibility tests and test results for truncating RTPD interval 1. PG&E understands that CAISO has performed feasibility tests and we'd like to understand these tests and their results in more detail. PG&E believes this will help inform the decision by providing perspective on the potential costs associated with truncating the run-time for RTPD interval 1.

PG&E did a quick analysis to assess the current rate at which RTPD interval 1 doesn't solve within its allotted time. It is our understanding that when an RTPD interval does not solve, the model reverts to a DC-OPF model and yields LMP data all losses at a value of \$0. Based CAISO OASIS data, the losses component of the PG&E DLAP LMP has a zero value approximately 10% of the time (see Table 1 below). This is the current failure rate.

Table 1. Estimate of the rate at which the market optimization does not solve during its allotted time for RTPD Interval 1. The rate is calculated as the percentage of RTPD Interval 1's that have a marginal losses component of LMP equal to zero.

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year Average
2014	-	-	-	-	1%	3%	0%	1%	1%	1%	2%	10%	2%
2015	5%	0%	3%	2%	2%	5%	7%	23%	33%	26%	9%	4%	10%
2016	3%	3%	2%	3%	3%	5%	6%	4%	5%	28%	7%	7%	6%
2017	24%	16%	8%	7%	6%	33%	15%	41%	1%	3%	13%	11%	15%
2018	9%	14%	8%	3%	7%	10%	13%	7%	7%	7%	10%	15%	9%
2019	4%	19%	10%	11%	19%	19%	15%	13%	13%	14%	15%	17%	14%
2020	11%	9%	8%	7%	7%	8%	7%	6%	5%	7%	0%	0%	7%
Average Over Years	9%	10%	7%	6%	6%	12%	9%	13%	9%	12%	9%	11%	10%

iii) CAISO should explain the negative market impacts associated with RTPD not solving in time

PG&E is concerned that further limiting the run-time for RTPD interval 1 will significantly increase the frequency of non-convergence, potentially to the point where RTPD interval 1 is mostly or solely relying on DC-OPF. PG&E believes further discussions are warranted on the consequences of solving RTPD interval 1 mostly, or solely, using DC-OPF. CAISO should detail the effects that relying on DC-OPF might cause to market dispatch, market efficiency, and settlements. CAISO should also discuss the potential impact of a loss of run-time on future market design enhancements.

iv) CASIO should be able to spot issues and revert to the “T-40” timeline.

It is often said that *one cannot manage what one does not measure*. PG&E would like to suggest that CAISO monitor key metrics associated with this change (*e.g.*, frequency off non-convergence of RTDP interval 1, or other metric optimization performance for RTDP interval 1). This could provide CAISO with advanced warning if this truncated run-time is causing market issues and allow CAISO to intervene.

One key intervention is the option to revert to the old timeline. CAISO has, at times, needed to revert to old methods. PG&E is suggesting that CAISO ensure that it can revert to the older “T-40” deadline by making sure that any changes (software, tariffs, business practice manuals, ..., *etc.*) reflect this ability to revert to the “T-40” timeline.

3. Provide your organization’s comments on the proposal to allow resources’ startup energy to be included within all EIM entities’ hourly resource plans.

PG&E does not have any substantive comments on to provide on this question

4. Provide your organization’s comments on the proposed EIM Governing Body classification to have primary approval authority for this initiative.

PG&E does not have any substantive comments on to provide on this question.

5. Provide any additional comments on the issue paper/straw proposal for the Western EIM Base Schedule Submission Deadline initiative.

PG&E does not have any additional comments on to provide on this question.