CPUC Staff Initial Comments on CAISO's Business Practice Manual (BPM) Change PRR-1282

Submitted by	Company	Date Submitted
Michele Kito michele.kito@cpuc.ca.gov 415-703-2197	Energy Division, CPUC	October 20, 2020

I. Summary

CPUC Energy Division staff have numerous questions about CAISO's proposed changes to its Business Practice Manual (BPM) PRR 1282, which addresses "scheduling of exports in the real-time market." In particular, the BPM's language is very general and CPUC staff have reviewed CAISO's documentation provided in its September 6, 2020 Market Issues and Planning Forum slides. Based on these slides, CPUC staff requests clarification regarding the information contained in these slides. These clarifying questions are provided adjacent to the slides provided in Section III below.

II. Background

BPM PRR 1282 adds the following language to the Market Operations BPM:

- Both schedules and prices are derived from the pricing –run of the IFM market to ensure consistency between schedules and prices. This consistency is important for prices that are financially binding to settle energy schedules.

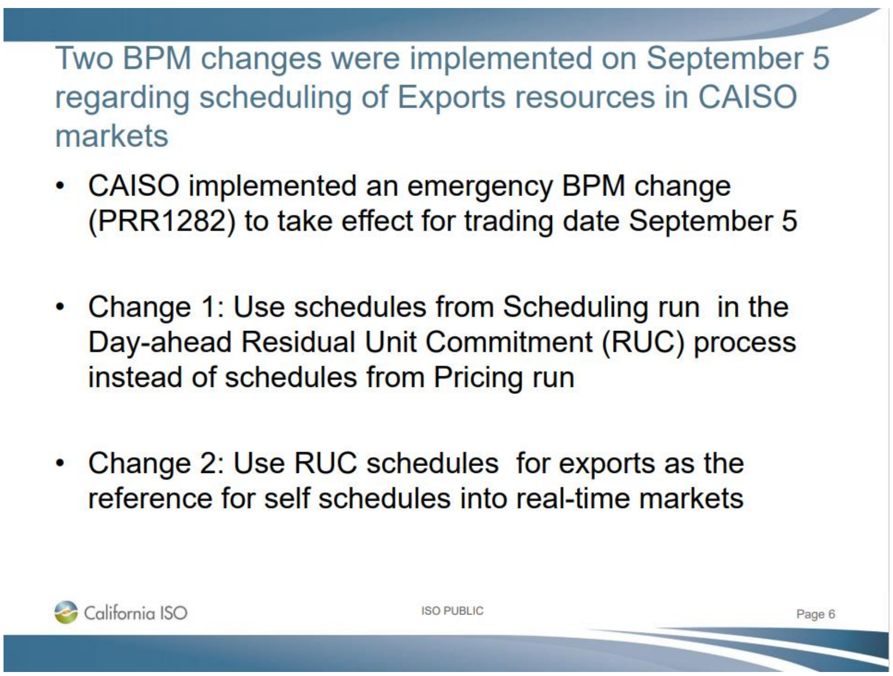
- RUC schedules are derived from the scheduling run to ensure schedules are physically feasible.

- Consistent with section 34.1.1 o[f] the CAISO tariff, the CAISO takes the Day-Market results as inputs into the Real-Tame Market. As discussed in Section 31.8.1 of the CAISO Tariff, the CAISO enforces a constraint at each Intertie such that physical imports net of physical exports must be less than or equal to the scheduling limit at the Scheduling Point in the applicable direction. Through this RUC constraint the CAISO determines what portion of what Day-Ahead Schedules can have an E-Tag submitted Day-Ahead. Accordingly, for all resources but exports, the self schedules in the real-time will be based on the IFM schedules. For exports, self-–schedules in real-time will be based on the RUC schedules. Any self-schedule in real-time above this level will not have a day-ahead self- schedules priority.

III. CAISO Slides and CPUC Questions Regarding Implementation of the BPM PRR 1282

CAISO provided additional clarify in slides presented at its Market Planning and Performance Forum on September 9, 2020. The CPUC staff's questions are in text boxes to the right of each slide.

Other than the specific questions, some overall questions include the following: CAISO has indicated that it wants to use the scheduling run from RUC because the penalty parameters used in the optimization there better align with the intent of serving California load before exports compared to the pricing run. Is this correct? If this is the case, why switch to a different set of results for RUC instead of switching to different penalty parameter structure in the pricing run? Why would CAISO use penalty parameters in the pricing run that do not support the goal of serving California load before exports?



Change 1: Use of schedules from scheduling run better reflect intended uneconomical adjustments

- CAISO's markets uses two market runs in each market
  - The scheduling run sets the uneconomical adjustments based on predefined priorities
  - Pricing run uses prices based on caps and floors to clear for economically meaningful prices
- Since implementation of Price Inconsistency Market Enhancements (PIME) policy, schedules and prices are based from pricing run
- PIME logic was intended to address mainly differences between schedules and aggregated prices for Default Load Aggregation Point (DLAP) and Trading (TH) in the integrated forward market and real-time market but is not relevant to RUC settlement

California ISO ISO PUBLIC Page 7

--Can CAISO explain what it means by "The scheduling run sets the uneconomical adjustments based on predefined priorities"?

--What are these predefined priorities and where are they found in the BPM or tariff?

Under stressed conditions, like those in August, there were noticeable differences in uneconomical adjustments between the two runs in RUC

- Schedule differences led to export cuts in scheduling run that were not realized in pricing run.
- When the ISO implemented PIME, it also applied it the RUC process for consistent treatment across all markets
- One of the consequences of using PIME is that the CAISO uses the schedules from pricing run
- RUC process includes enforcement of a physical interchange constraint
- The CAISO determined that it is more effective to use the scheduling run in RUC to ensure export curtailments are reflected correctly in the total day-ahead market solution
- The BPM change clarifies that going forward, the CAISO will use the schedules from scheduling run and prices from pricing run for the RUC process. This allows the solution to reflect better the potential export cuts in RUC results.
- This does not affect the MPM,IFM and real-time markets, which are material for the energy settlements and remain under PIME logic

California ISO ISO PUBLIC Page 8

--CAISO states that, going-forward, it will use the "schedules from scheduling run and prices from the pricing run for the RUC process and that this "allows the solution to reflect better the potential export cuts in RUC results." Does this mean 1) that CAISO will cut exports in the RUC process or 2) that the exports will just be given different priority in the real-time process? (See also questions on slides 12 and 13 below).

Change 2: Use RUC schedules for exports as the reference for self schedules into real-time markets

- The day-ahead market consist of the financial (IFM) market, and the residual (RUC) market. Each one produces schedules.
- IFM schedules are use to settle energy; RUC schedules above IFM schedules allow to settle for capacity procured (RUC awards).
- Participants with a day-ahead position can use self schedules to secure their day-ahead position in the real-time market
- Tariff section 31.8 requires market Export schedules up to the cleared RUC schedule determine what part of the day-ahead schedule is feasible;
- The BPM change clarifies that going forward the ISO will provide the day-ahead priority to Exports based on the RUC supported amounts in the real-time market

California ISO ISO PUBLIC Page 9

--Note that in the previous slide CAISO discussed "potential export cuts in RUC results" and here discusses "day-ahead priority to Exports based on the RUC supported amounts in the real-time market." What is the difference between export cuts and not having day-ahead priority?

With this change, any day-ahead exports self scheduled into real-time will have a day-ahead priority only up to the RUC schedule

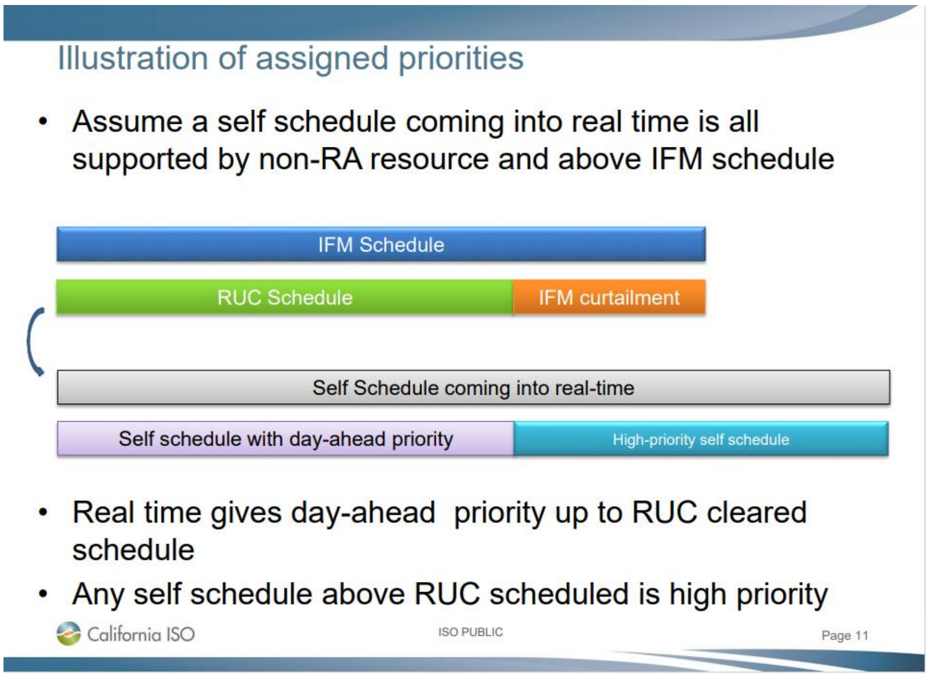
- Prior to this change the self schedule had a day ahead priority up to the IFM schedule.
- When RUC assesses the need to curtail exports, RUC schedules will be lower than IFM schedules
- Coming into the real-time market:
  - Self schedule up to RUC schedule will have day-ahead priority
  - Any self schedule above RUC level will not have a day-ahead priority.
    - If supported by non-RA, it will have high priority
    - If not supported by non-RA, it will have lowest priority
- The market utilizes the defined priorities and will start making uneconomical adjustment from lowest to highest priority

California ISO ISO PUBLIC Page 10

--What does it mean to have "day-ahead priority"? Do export self-schedules up to the RUC schedule have "day-ahead priority" over load, if load is higher in the real-time than estimated in the RUC process?

--What does it mean that self-scheduled exports will not have day-ahead priority? Does this mean they would be cut before load in the real-time processes if load comes in as expected from the RUC process?

--How does CAISO determine if exports are supported by non-RA?



--Again, how does CAISO define non-RA?

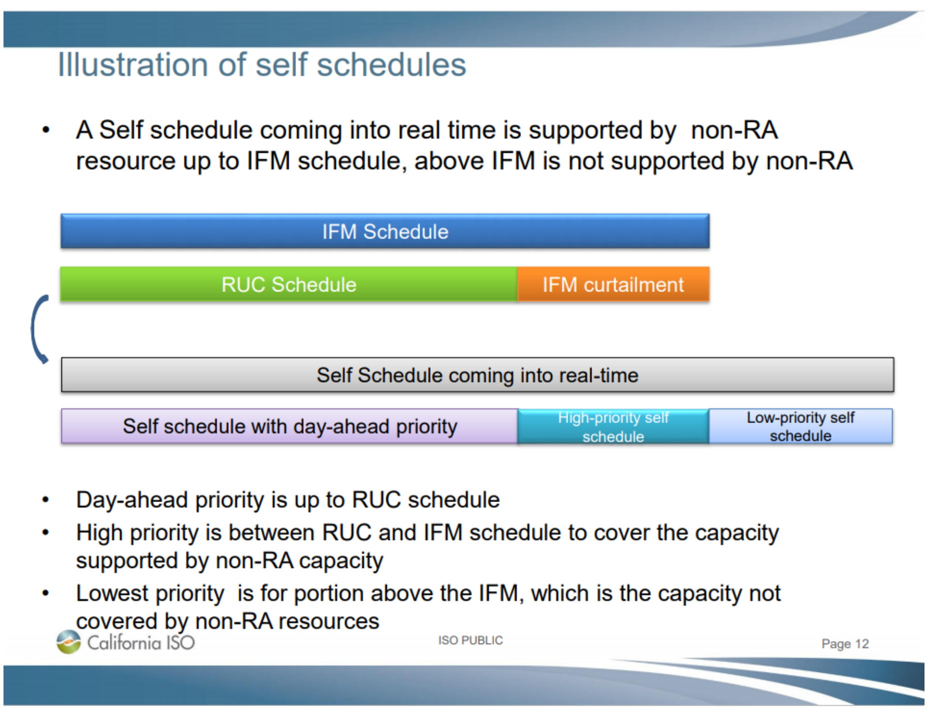
--How does CAISO treat energy above the net qualifying capacity – is this considered non-RA (e.g., for a hydro unit or an energy-only wind or solar contract)?

--Why is the self-schedule greater than the IFM schedule?

--Why is the self-schedule allowed above the RUC schedule if it was previously an "IFM curtailment"?

--Is the self-schedule with "day-ahead priority" given higher priority than load in the real-time?

--In this example, we assume that a "high priority self-schedule" is not given priority over load in the real-time –is this correct?



--Again, how does CAISO define non-RA?

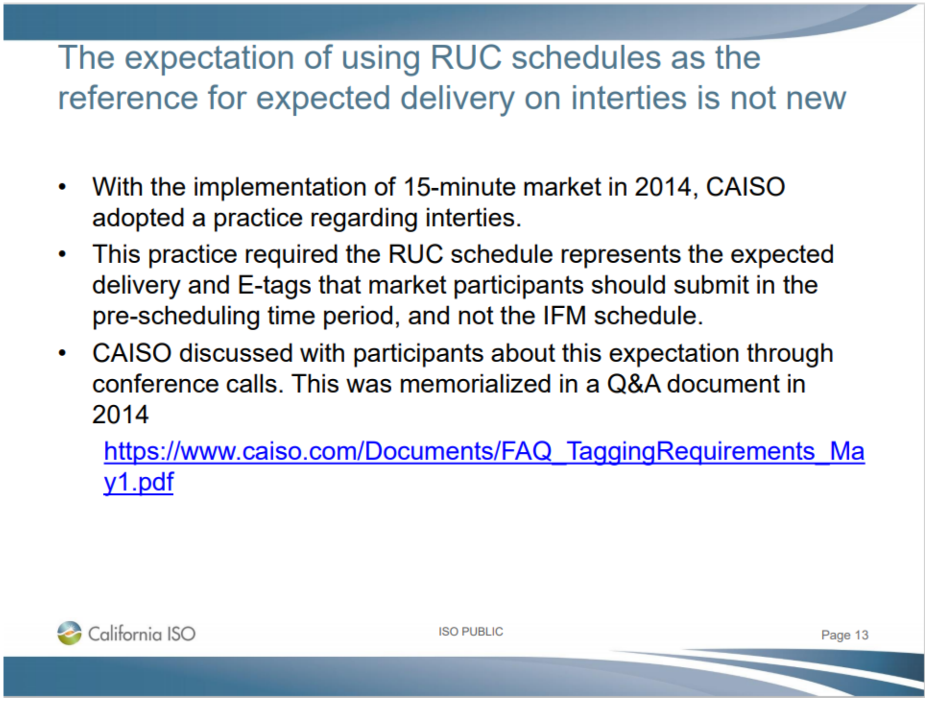
--How does CAISO treat energy above the net qualifying capacity – is this considered non-RA (e.g., for a hydro unit or an energy-only wind or solar contract)?

--Why is the self-schedule greater than the IFM schedule?

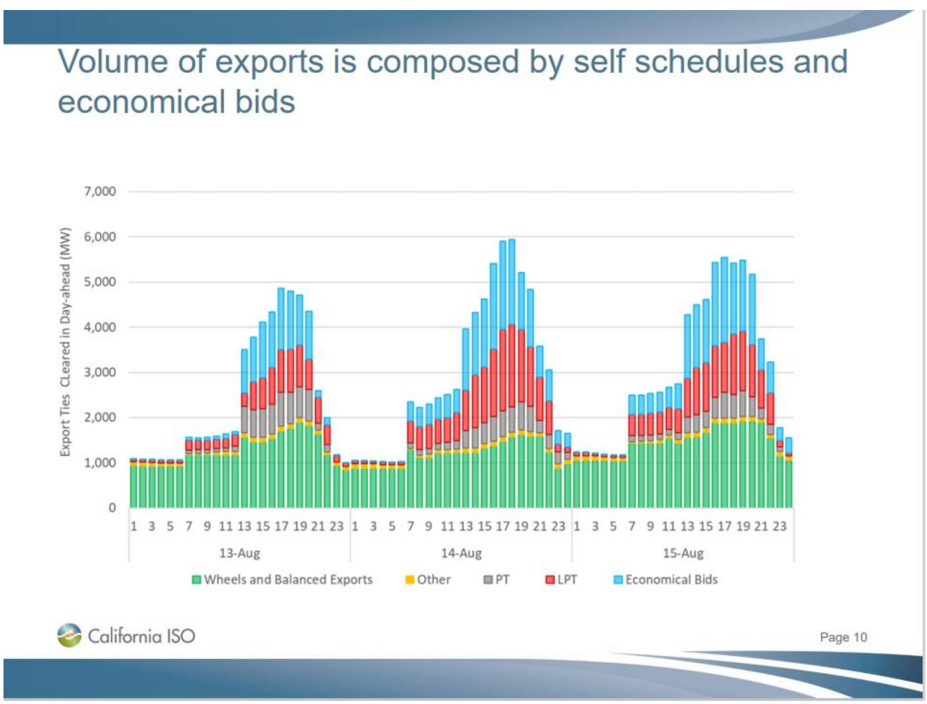
--Why is the self-schedule allowed above the RUC schedule if it was previously an "IFM curtailment"?

--Is the self-schedule with "day-ahead priority" given higher priority than load in the real-time?

--Can CAISO explain how load is prioritized with regard to exports with "day-ahead priority," "high priority," and "low priority"?



In addition, CAISO presented slides on the August rotating outages at the Market Surveillance Committee meeting and the CPUC's questions regarding some of these slides are in text boxes to the right.



--What do PT and LPT stand for? And how are these defined or determined?

--If CAISO's revised BPM PRR 1282 process had been working on August 14 and 15, which categories of exports would have been cut (e.g., economical followed by PT and then LPT)?

--And if exports are cut, during what process would this occur – RUC? Real-time?

Finally, CPUC staff requests that CAISO consider as part of this process, or another, publishing data on exports and imports through OASIS, rather than just "net imports" at each tie. This would provide helpful transparency and is consistent with publishing the export and import data for EIM transfers.