1. I still am reading a mixed message. The Revised Straw Proposal begins, “[a]n Energy Imbalance Market (EIM) manages real-time imbalances on the grid economically, reliably, and automatically.”

> Does the EIM re-dispatch resource purely for economics, or only as required to manage “real-time imbalances”?

The numeric examples in Sec 3.12.1, beginning on p 54, add to the confusion, as they appear to presume complete economic dispatch (subject, of course, to transmission congestion).

> Please ask if the examples use that as a premise for the sake of convenience in comparing the outcomes of different examples, or will the EIM do MORE than manage real-time energy imbalances?

2. Sec 3, p 6. “If necessary, the base schedules for the generating units that the EIM Entity Scheduling Coordinator has provided will be adjusted by the Market Operator prior to the start of the imbalance energy market optimization to alleviate transmission congestion * * *.”

> How/who will implement these schedule adjustments? That is, if a generator has transmission rights from a TP within PACE, how will the MO ensure such adjustments are consistent with the TP’s tariff or other transmission service contracts?

3. Sec 3.1.1, p 6. “Current functions * * * will be handled by the ISO.” They’ve had two passes at this language and still leave it vague. It seems like the sentence should say, “Current functions for the CAISO BAA * * * will be handled by the ISO.”

4. Sec. 3.1.3, p 7. “c. Ensuring all base interchange schedules are below the associated inter-tie limits and make any reliability curtailments as required. The EIM Entity will also be responsible for base interchange tagging functions and validations.” Who will be responsible for responsible if MO dispatch instructions create these violations? Will the MO not be on the tag and not reviewing/approving tags?

5. Big picture: Will PAC merchant be treated as any other LSE in PACE in terms of its interaction with the EIM? If so, how will its metered load be determined? (E.g., will it be determined as the BAA load less the metered loads of non-PAC LSEs within PACE?) Will PAC merchant also be submitting balanced schedules to the MO?

6. Sec 3.2, p 10. “EIM Entity Scheduling Coordinators with registered resources will be required to submit resource plans and to keep the plans up to date throughout the operating day.” What does “with registered resources” mean in the context of there being EIM Participating Resource Scheduling Coordinators for those entities with resources that voluntary choose to participate in the EIM. E.g., if Deseret is an EIM PRSC, is Deseret submitting schedules to PAC, the EIM ESC, or directly to the MO? See the language, “Base schedules, with a granularity of 15 minutes, must be submitted by the EIM Entity Scheduling Coordinator no later than 75 minutes prior to the beginning of each Trading Hour,” which again sounds like PAC, not Deseret will be submitting schedules to the MO.
7. Sec 3.2, p 10. “Energy bids for each Trading Hour of a given Trading Day may be submitted after the Day-Ahead Market results are published for that Trading Day, usually by 13:00 PPT the day before; the bids can be subsequently revised or cancelled until 75 minutes prior to the start of the Trading Hour when the real-time market closes.” **Who is submitting the energy bids and are these inc and dec bids, or only dec bids?**

> The examples (in Sec 3.12.1) all seem to be based on a single bid, i.e., an inc bid, to operate above some base level. Deseret typically uses a different inc price from its dec price in making dispatch decisions. Does the MO structure accommodate that? Also, as in Sec 3.3.6, pp 23-24, the term “Energy Bid” seems to apply for the entire range of potential operation, rather than for a specific amount. For example, if Deseret wants to offer no more than 30 MW of incremental or decremental dispatch on Bonanza, can it submit bids that limit the dispatch range associated with the bid to +/-30 MW?

8. Sec 3.2, pp 10-11. Based on bids, an EIM PRSC will receive a 15-minute schedule from the RTUC process. In addition, the RTD will produce dispatch instructions for the EIM PRSC that bid into the EIM. **How is the 15-min energy schedule different from the 5-min dispatch instruction? That is, if Bonanza is bid for 30 MW and all 30 MW is scheduled in the RTUC process, how does the 5-min dispatch affect the 15-min schedule, if at all?**

9. Sec 3.2, p 11. “RTUC contains a pre-process before the market optimization to ensure that 15-minute base schedules are balanced and feasible with respect to transmission losses * * *. Are these losses based on application an OATT loss rate and contract path, or a power flow simulation of the actual scheduled load and resources? If the later, how is load broken down by delivery point in the forecast (I hope not using some sort of static distribution factors)?

10. Sec 3.2, p 11 “The balanced and transmission feasibility pre-process will not include inter-temporal constraints or commitment adjustments to calculate the financial reference points or the so called adjusted base schedules.” **What does the term “the financial reference points” mean in this context?**

11. Sec 3.2, p 11 “The EIM 15-minute imbalance energy and 5-minute imbalance energy settlement is based on the difference between the 15-minute and 5-minute dispatch, respectively and the calculated 15-minute adjusted base schedules.” **We need some examples of what this sentence means. That is, use some illustrative load and resource base schedules, some amount of bid, and some illustrative variation of load and resource and acceptance of the amount bid to show how the 15-min and 5-min imbalance energy amounts are calculated. I would suggest that the examples not include dollars, just MWhs.**

12. Activities Prior to Operating Hour, p 13. “By OH–75 minutes” “EIM Entity Scheduling Coordinator submits Submission base schedules and resource plans for OH.” **What’s a “base schedule” vs “resource plans”?**

> Is there a difference between the terms and, if not, why isn’t the same term used throughout?

> Who “updates the demand forecast dispatch interval,” the EIM ESC or the MO? If the TC/EIM PRSC is not submitting the update, how is the updated demand forecasts used, if at all, in imbalance settlement with the TC/EIM PRSC?


15. Operating Hour Activities, p 13. “Beginning of dispatch interval – 7.5 minutes” “4. Run Security Constrained Economic Dispatch (SCED)” Same as question 1 above, does this mean the EIM is re-dispatching the entire market footprint based on submitted bids, irrespective of imbalance for the dispatch period?

16. Operating Hour Activities, p 14. “Within OH + 15 minutes” “LMP for hourly settlement interval for net interchange available, including meter settlement locations.” Should this be taken literally, that is, the LMPs are only available for interchange and not for load aggregation points? If so, when do the LMPs for other points become available?

17. Operating Hour Activities, pp 13-14. The initial Design Straw Proposal had 14 rows of activities; the revised document only has 7 rows. One of the rows deleted in the revised document was the “Approximately every 4 seconds” the MO would update NSI for the EIM Entity. Will that still occur or was the row deleted in the revised document because the initial document was inaccurate in that respect?

18. Big picture, somewhat related to Question 17: How will the EIM Entity having its (i.e., PAC) merchant units move on AGC and manually to control ACE and meet NERC standards be accounted for in the imbalance settlement with PAC merchant?

19. Figure 3, p 17. The diagram for the first interval (T to T+15’) with respect to “financially binding” is unclear. Does the market optimization for each 15-minute interval that becomes “financially binding: always start 37.5 minutes prior to the beginning of a 15-minute interval?

20. Figures 3 and 4, p 17. Figure 3 portrays a 15-minute interval that becomes “financially binding” and Figure 4 portrays a 5-minute interval that becomes “financially binding.” Provide an example for a TC that is not also a EIM PRSC (that is, it is not submitting bids for any of its resources) as to the interplay between the “financially binding” 15-minute interval and “financially binding” for any one of the 5-minute intervals within that 15-minute interval.
21. Sec 3.3.1, p 19. The initial Design Straw Proposal included a statement regarding mill points for coal fired generating units. That statement was removed in the revised document. Why?

22. Sec 3.3.2, p 20 “The EIM Entity Scheduling Coordinator must submit base schedules for all EIM Entity BAA * * *.” So, PAC and not the EIM PRSC are submitting resource schedules to the MO?

23. Sec 3.3.3, p 20. “The EIM Entity Scheduling Coordinator may elect the option to provide their own demand forecast as part of the base schedules or adopt the Market Operator’s demand forecast for the EIM Entity BAA.” This is confusing. The initial document (in Sec 3.3.5) indicated that the EIM Participant had the option to use or not use the MO’s demand forecast in submitting its resource plan. Now it appears that the EIM ESC is being given that option. Clarify who has the option.

24. Big Picture: It would helpful if diagrams could be developed indicating what each entity’s responsibility is in terms of providing or receiving information and with whom it has the interaction. These diagrams could, in essence, be a third dimension to the timing diagrams provided in Figures 1-3. That is, in two-dimensions, there is (i) what is done and (ii) when it’s done; the third dimension is who does it and to whom do the information flows.

25. Sec 3.3.5, p 21. All these section (incl. 3.3.5.1, 3.3.5.2, etc.) refer to the EIM ESC’s imbalance being under or over and inside a 4% band or outside the band. But the EIM ESC is defined as the scheduling coordinator for the EIM Entity, which is, in turn, defined as a BA. Does this mean the MO is settling with the BA, meaning PAC transmission as the operator of PACE and PACW, or is the MO determining (if not also settling) imbalance for each LSE and TC within PACE and PACW? (I don’t know if this is poor drafting or a significant change of direction from the initial draft.)

26. Sec 3.3.7, p 23. “For interchange transactions included in a resource plan, the EIM Entity Scheduling Coordinators create and process e-Tags * * *.” My understanding is that BAs, which are defined in Sec 2.1, p 3, as the EIM Entity, doesn’t create e-Tags. What e-tag creation is this language referring to?

27. Sec 3.3.7, pp 23-24. “EIM Entity Scheduling Coordinators must satisfy their energy obligations by scheduling energy from third parties and/or having sufficient bids submitted by EIM Participating Resource Scheduling Coordinators for dispatch by EIM with sufficient dispatchable operating range.” Since actual load will not be known until after the fact (e.g., the normal load forecast error may be +20 MW, but could be +50 MW), how will the MO determine in advance whether, in fact, the EIM ESC had a “sufficient dispatchable operating range”? 