



**Western Area
Power Administration**

**CAISO Energy Imbalance Information Session Questions & Answers
November 12, 2019**

Q: Is the \$801 million benefit that was referenced a gross amount? And how is it calculated?

A: Yes, it is a gross benefit. To calculate it, CAISO runs a separate simulation as if there is no market and compares that simulation to the actual market. The benefits are broken down by participating entity. More information is available on CAISO's Western Energy Imbalance Market (EIM) website.

Q: When you say training is available for the "entity" who does that mean?

A: Balancing Authority's (BA) but also third parties within the BA that have third-party agreements with CAISO. When Balancing Area of Northern California (BANC) Sacramento Municipal Utility District joined CAISO considered the uniqueness of the entities (sub-BA, etc.) and ensured training was available. The entity going through the onboarding process can request to have access provided to EIM computer based training. Third party entities can also reach out to CAISO so additional training needs can be identified.

Q: What is the timing for on-boarding?

A: Eighteen months is typical. CAISO is working on train-the-trainer which they believe will help with timing. Training to early risks needing to train again closer to going live. There are six tracks that an entity must go through, each that have different requirements. A project manager from CAISO is assigned and a kick-off meeting is set to identify the specific needs of the entity and adjust timing as necessary.

Q: Do you see challenges with the Western Area Lower Colorado BA being hydro rich?

A: No, but an understanding of the hydro restrictions will be necessary to model them correctly. Hydro is the fastest, responsive resource.

Q: Who does the term "end user" describe?

A: Operators, whoever is using our tools needs to be trained. CAISO will work with all customers who are going to be directly or indirectly in EIM. Training does not stop where your job stops, it stops where your interest stops. End users may also be synonymous with customers. CAISO is always looking to create training that meets their customer's needs, so they ask that training requests be submitted to CustomerTraining@caiso.com.

Q: Are there any EIM classroom training opportunities?

A: CAISO's computer based training captures the EIM fundamentals. Prior to an entity going live there is in-person training. Unfortunately, CAISO has a small group of trainers and it would be difficult to do a lot of one-on-one training. That is why CAISO is focused on their train-the-trainer program. Individuals will attend classroom sessions to become trainers and bring that knowledge back to their entity. In addition to EIM-specific training



outlined in the Track 6 Training document (available on the Western EIM website), the CAISO Customer Readiness team provides a variety of in-person and online training that covers general market and settlements concepts that are open to anyone. For a calendar of training, visit the Learning Center page on the CAISO document (link provided in the CAISO presentation slide deck). Custom training is also available upon request.

Q: In EIM, are resources bid in at the unit or plant level?

A: It depends if you have the ability to control each unit individually and how you register them. If the operator only knows what comes out of the total plant then you would register and bid in as an aggregate. Another factor is at what level a resource can be metered at.

Q: How do you register a Joint Owned Unit (JOU)?

A: It is more complicated. CAISO works with the BA to determine how to best represent the energy/unit. It is worked on a case by case basis. CAISO considers information about the percentage and type of ownership, transmission rights of each individual owner, and the home BA (for energy that is pseudo tied out of the BA) of each owner.

Q: Do you need separate meters for each unit?

A: Yes, if not aggregated. EIM does allow for calculated metered values by incorporating a settlement formula if there is an aggregate that needs separated out.

Q: How would EIM model Hoover?

A: When a JOU resource exists in a non-EIM participating BA, it is modeled as an injection. If that changes and the BA moves into EIM it becomes more challenging and CAISO will need to discuss how to model it properly. Similar to JOU, for dynamic generation CAISO considers information about percentage ownership, type of ownership, transmission rights of each individual owner, and the home BA (for energy that is pseudo tied out of the BA) of each owner.

Q: Are the quarterly settlements meeting announcements on CAISO's website?

A: No, but contact CAISO if you would like more information. Submit requests for invitations to EIM Settlements quarterly meetings to CustomerTraining@caiso.com, attention Heidi Carder. Your contact information will be sent to the appropriate client representative to be added to the distribution list.

Q: How are settlements for non-participating entities handled?

A: CAISO sends invoices to the EIM BA and the non-BA EIM entity has an agreement with the BA. BANC has entities within their BA with participating resources with base schedules, so the settlement is done directly with CAISO.

Q: Does the tariff address this type of settlement arrangement?



A: No, this was offered by BANC. CAISO is working on more enhancements for transparency. CAISO understands that the total cost compared to cost being passed on to third party entities is important.

Q: How can third party entities get training on settlements?

A: There is some general EIM settlements training on CAISO's website. PacifiCorp has three large third party entities within their BA and they did settlements training for them. CAISO encourage third party entities to discuss this with their applicable EIM entity and CAISO so that third party needs can be identified and potential solutions determined. You may start by contacting your EIM entity or CustomerTraining@caiso.com, attention Heidi Carder, to initiate a discussion.

Q: How are schedules generated between EIM participants?

A: It is a BA to BA transfer. It is scheduled over existing interties (Point of Receipt/Point of Delivery). This is similar to a dynamic schedule tag; the energy is delivered to the border of the BA, not to specific load pockets of a BA.

Q: Have you noticed any chronic resource deficiency problems historically?

A: CAISO is performing more studies on Resource Adequacy (RA) as they are seeing changes due to behind the meter solar. The California Public Utilities Commission (CPUC) dictates RA provisions so CAISO is working with them.

Q: Would a reserve sharing group arrangement help with RA deficiency?

A: Not for EIM, but maybe for the Extended Day-ahead Market (EDAM).

Q: What is the result of a resource sufficiency failure?

A: There may be settlement implications. You can also be locked out during 15 minute intervals within the operating hour that are failed and you go back to operating like a single BA. This ensures that BAs that do not have sufficient generation available do not lean on neighbors, and that neighbors do not lean on the BA that meet the sufficiency.

Q: What level does a forecast go down to?

A: Currently it is at the BA level. In the future it will be at the sub-BA level. CAISO can model at a low level and then aggregate it and the market looks at it in total.

Q: Is this breakout available anywhere publicly?

A: It is currently not published but CAISO is checking if this is something that can be provided in the future.

Q: Regarding Balancing Authority Area Operations Portal (BAAOP) tool, if you are not a BA can you see the information?



A: No, BAAOP is available to the EIM Entity system operator/dispatcher only because there is transmission information that marketers are prohibited from seeing. Some screens may be available for publication upon request. BAAOP is a real-time tool, but is not intended to be the system of record. Scheduling Coordinator (SC) which includes EIM SC and Participating Resource SC, specific data can be found on the Customer Market Results Interface (CMRI) application or more general public information on the Open Access Same-Time Information System (OASIS) available on the CAISO website.

