



EIM Sub-Entity Scheduling Coordinator

Draft Final Proposal

Danny Johnson

James Lynn

John Anders

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CAISO policy initiative stakeholder process



Agenda

Topic	Presenter
Welcome and stakeholder process	Kristina Osborne
Stakeholder comments and changes to the proposal	Danny Johnson
Proposal	Danny Johnson
EIM classification and next steps	Kristina Osborne

STAKEHOLDER COMMENTS & CHANGES TO PROPOSAL

Stakeholders requested additional clarification on the types of entities that qualify as an EIM sub-entity due to regional difference. The CAISO proposes the following two clarifications

- An electric utility embedded within an EIM entity balancing authority area (BAA) and not receiving long-term wholesale **full** requirements services from the EIM Entity
- An entity operating a distribution system **or transmission facilities directly connected to the transmission system of the EIM entity for the purpose of serving eligible customers in its capacity as a local publicly owned electric utility**

Stakeholders asked for additional settlements detail

- The draft final proposal provides an over/under scheduling assessment example

Area	T-40 Forecast (MW)	Net Supply (MW)	Hourly Base Schedule (MW)	Meter Demand (MW)	UIE Quantity (MW)	CLAP Price (\$/MW)	Penalty Price (\$)	Charge (\$)
EIM SC 1	118	120	117.6	128.75	11.15	20	5	55.75
EIM SESC 1	154	158	154.80	159.50	4.70	19	4.75	22.33
EIM SESC 2	79	78	76.44	78.50	2.06	21	5.25	10.81
ELAP	351	356	348.84	366.75	17.91	NA	NA	NA

The over/under scheduling forecast requirement of 1% is exceeded. 5MW > 3.51MW

The metered UIE exceeded the 5% test applied to the hourly base schedule. 17.91 MW > 17.44 MW

Stakeholders requested clarification on when EIM entities can make changes to EIM sub-entity base schedules or manually dispatch resources that a sub-entity is registered as the scheduling coordinator for

- The draft final proposal does not put bounds on these actions as they are a part of the EIM entity's BAA operator role
- Any criterion for, or financial results of these actions should be specified in the appropriate entity's tariff or applicable agreement

Stakeholders requested additional detail on how price formation will be performed for EIM sub-entities

- EIM sub-entity will receive their own customized load aggregation point for determining their aggregated pricing node
- The implications for load serving entities within the EIM entity BAA should be considered as part of the decision to pursue sub-entity functionality
- Should not result in any cost shifting between BAA's

The CAISO refined its proposal to charge EIM sub-entities the costs associated with onboarding

- EIM sub-entity onboarding will follow modified version of existing CAISO EIM onboarding process
- Costs will vary significantly depending on factors such as, but not limited to, if the BAA is already an EIM participant as well as the level of independence that the EIM entity gives the sub-entity in relation to FNM submission/maintenance, forecasting and outage submission

DRAFT FINAL PROPOSAL

EIM sub-entity eligibility (1 of 2)

The CAISO proposes an EIM sub-entity scheduling coordinator must:

- be an electric utility embedded within an EIM entity BAA and not receive long-term wholesale full requirements services from the EIM Entity;
- own a distribution system or transmission facilities directly connected to the transmission system of the EIM entity for the purpose of providing (a) regulated electric service to eligible retail or wholesale customers, or (b) serve eligible customers in its capacity as a local publicly owned electric utility; and
- own or control one or more resources for the primary purpose of serving its eligible customers

EIM sub-entity eligibility (2 of 2)

The CAISO proposes an EIM entity can elect to allow any of the following:

- No sub-entities
 - An EIM entity may not have eligible sub-entities or the financial or operational capabilities to support sub-entities
- All entities that meet the CAISO definition of a sub-entity
- All entities that meet the CAISO definition of a sub-entity that have an existing contractual or tariff based practice for accounting for imbalance energy that is unique among its transmissions service customers

Resource Sufficiency Evaluation (RSE)

- Will continue to be performed at the BAA level.
 - Ensuring supply/load balance is a BAA function.
 - Results of the RSE determine the entire BAA's ability to access incremental EIM transfers
- EIM sub-entity scheduling coordinators will be able to submit base schedules prior to the T-55 RSE
 - Exact timing will be specified in an EIM entity's OATT
- The EIM entity scheduling coordinator will retain the ability to make changes to those schedules after T-55
 - Any financial results of these actions should be specified in the appropriate entity's tariff or applicable agreement

Full Network Model

- The draft final proposal proposes that the network model submission is the responsibility of the EIM entity
- The CAISO proposes that an EIM entity can allow a EIM sub-entity to submit the sub-entity's network model directly to the CAISO
 - The EIM sub-entity will be responsible for providing any network model changes to the EIM entity and the CAISO
- All resources the EIM sub-entity is functioning as the participating scheduling coordinator for must be included in the model
- All model submissions are subject to already established CAISO full network model updating process.

Dispatch Options

- Automated dispatch system
 - The CAISO proposes the automated dispatch system will continue to communicate resource specific dispatch information
 - This dispatch information will be available to both the EIM sub-entity and the EIM entity
- Manual dispatch
 - The CAISO proposes both a EIM sub-entity and EIM entity will have the ability to perform manual dispatch
 - Any criterion for, or financial results of these actions should be specified in the appropriate entity's tariff or applicable agreement

Forecasting - Supply

- The CAISO proposes that an EIM entity retain the ability to require an EIM sub-entity to use the CAISO provided forecast, or to allow the sub-entity to use its own forecast
- The CAISO proposes to provide the ability for the EIM entity to view, in a summed format, the forecast of all of the variable energy resources within its BAA
- Forecasts used in the RSE will be locked at T-55

Forecasting - Load

- The CAISO proposal allows EIM entities to determine if they will be responsible for the load forecast for their entire area, or if they will allow the EIM sub-entities to determine their own load forecast
- If any EIM sub-entity within a BAA elects to submit its own load forecast, the entire balancing authority area will automatically be subject to over/under scheduling evaluation

Over / Under Scheduling

The CAISO proposes that:

- The over/under scheduling assessment is determined based on the net BAA load deviation
- Over/under scheduling is performed at the BAA level while the penalties are assessed at the EIM sub-entity level
- EIM sub-entities will be allocated a portion of the over-scheduling and under-scheduling total costs based on the metered demand within the sub-entity and the sub-entity's submitted base schedule

Bid cost recovery (BCR), real time offset and flexible ramp movement

- The CAISO proposes to continue allocating BCR charges and real time offset charges at the EIM entity level with sub-allocations to EIM sub-entity scheduling coordinators performed per the EIM entity's OATT
 - These charges are calculated at a BAA level
- The CAISO proposes flexible ramp movement allocation and flexible ramp uncertainty allocation will be settled at the EIM sub-entity level for resources the sub-entity is serving as the scheduling coordinator for
 - These charges are calculated at a resource level

Invoicing

- The CAISO proposes the EIM entity shall have the ability to access the EIM entity statements and invoices as well as all EIM sub-entity statements and invoices for sub-entities within their BAA. The EIM sub-entity is only able to access their own statement
- The EIM sub-entity will be invoiced based upon settlement of the resources associated with the sub-entity

Energy Transfers

- The CAISO proposes to continue to only model energy transfers at the BAA level
 - Only EIM entities are able to submit transfer base schedules
 - Explicitly modeling intra-BAA energy transfers is not consistent with the CAISO's markets modeling
- Interchange between sub-entities and external parties will be reflected in the EIM entity scheduling coordinator's base schedule
 - Ensures the EIM entity retains the ability to resolve overscheduling on an intertie

Outage Management (1 of 2)

The CAISO proposes:

- EIM entities and EIM sub-entities will submit outages using the CAISO webOMS application
- All EIM entity and EIM sub-entities that are RC West participants will submit outages per RC-0320
- For an EIM entity or EIM sub-entity that are not RC West participants
 - EIM entity scheduling coordinator will be responsible for the submission of all generation outages for their area. They will have the option to delegate this authority to sub-entity
 - EIM sub-entity scheduling coordinators will submit to the CAISO transmission outages for equipment they are the Transmission Operator for

Outage Management (2 of 2)

- The CAISO will block outage data from neighboring Reliability Coordinators for non RC West members who are EIM participants
 - The EIM entity and EIM sub-entities are responsible for ensuring that outages submitted to the CAISO and neighboring RC's are consistent
- The EIM outage submission process does not replace the BAA and transmission operator coordination required by neighboring Reliability Coordinator areas

Sub-entity onboarding (1 of 3)

The CAISO is proposing that:

- Should an entity elect to pursue EIM sub-entity functionality they must notify the CAISO that
 - has been authorized by the EIM entity to participate as an EIM sub-entity Scheduling Coordinator,
 - meets the CAISO qualifications for participation as an EIM sub-entity, and
 - has executed the applicable *pro forma* service agreement
- An implementation date between 12-24 months will be determined by the CAISO based upon the complexity and compatibility of the associated transmission and technology systems

Sub-entity onboarding (2 of 3)

- The CAISO proposes to charge new EIM sub-entities for their implementations at cost of service
- Projects onboarding costs are projected between \$216,000 and \$304,000 depending on the complexity of the onboarding
- The CAISO proposes to require a deposit of \$260,000 and additional incremental deposits of \$25,000 should the initial deposit be exceeded
- At the conclusion of the project the CAISO proposes to provide detailed documentation of the costs incurred and to return any unused funds.
 - Should a EIM sub-entity agreement be terminated the CAISO proposes to return any unused funds

Sub-entity onboarding (3 of 3)

The CAISO proposes onboarding will be preformed using six district work streams. These work streams will be modified as necessary depending upon the scope of the implementation

- Planning and Program Management
- Policy, Legal and Contracts
- Full Network Model and Resources
- System Integration and Testing
- Metering and Settlements
- Operations Readiness and Training

EIM CLASSIFICATION AND NEXT STEPS

EIM Governing Body (GB) classification

- The CAISO believes the EIM Governing Body should have primary authority in the approval of the proposed changes
 - The initiative satisfies both tests. The tariff rules to create a new type of scheduling coordinator role would be EIM-specific, because it would be available only to represent market participants within the balancing authority areas of EIM Entities and not across the entire market footprint. In addition, the primary driver for addressing this topic is to resolve an issue that is specific to one EIM balancing authority area. Accordingly, this initiative would fall within the primary authority of the EIM Governing Body.
- Based upon stakeholder comments on the straw and revised straw proposals, the CAISO will continue to proceed under the assumption that this initiative resides within the EIM GB's primary approval authority

Next Steps

Date	Event
March 25, 2021	Stakeholder Call
April 9, 2021	Comments on Draft Final Proposal
April 13, 2021*	Post draft tariff language
April 27, 2021*	Comments due on draft tariff language
May 5, 2021*	Stakeholder call on draft tariff language
May 6, 2021	EIM Governing Body Meeting
May 12, 2021*	Post revised draft tariff language
May 19-20, 2021	CAISO Board Meeting
May 21, 2021*	Comments due on revised draft tariff language
May 27, 2021*	Stakeholder call on revised draft tariff language

*Tentative

Please use the template on the initiative webpage to submit comments on the draft final proposal: <https://stakeholdercenter.caiso.com/StakeholderInitiatives/Western-EIM-sub-entity-scheduling-coordinator-role>