



Consolidated EIM Initiatives Draft Final Proposal

Stakeholder Conference Call
September 12, 2017

Megan Poage & Don Tretheway
Market Design Policy

Agenda

Time	Topic	Presenter
1:00pm – 1:15pm	Introduction and Purpose	Kristina Osborne
1:15pm – 1:30pm	Scope Changes	Megan Poage
1:30pm – 2:45pm	New EIM Functionalities	Megan Poage & Don Tretheway
2:45pm – 3:00pm	Next Steps	Kristina Osborne

Consolidated EIM Initiatives

INTRODUCTION AND PURPOSE

ISO Policy Initiative Stakeholder Process



Plan for stakeholder engagement

Milestone	Date
Post Issue Paper	June 13, 2017
Stakeholder Conference Call	June 20, 2017
Stakeholder Written Comments Due	June 30, 2017
Post Straw Proposal	July 31, 2017
Stakeholder Meeting	August 7, 2017
Stakeholder Written Comments Due	August 17, 2017
Post Draft Final Proposal	September 5, 2017
Stakeholder Conference Call	September 12, 2017
Stakeholder Written Comments Due	September 22, 2017
EIM Governing Body Meeting	October 10, 2017
Board of Governors Meeting	November 1-2, 2017



Purpose of this initiative is to consolidate EIM related items into one effort

- Items in this initiative:
 - Third Party Transmission Contribution – *removed from scope*
 - Management Bilateral Schedule Changes – *removed from scope*
 - Equitable Sharing of Wheeling Benefits – *removed from scope*
 - New EIM Functionalities

EIM Governing Body – E1 & E2 classification (Primary Authority & Advisory Role)

- The EIM Governing Body will have **primary authority** in approving the policy resulting from the following EIM functionalities:
 - Automated matching of import/export schedule changes with a single EIM non-participating resource
 - Automated mirror system resources at ISO intertie scheduling points
 - Base EIM transfer system resource imbalance settlement
 - Allow submission of base generation distribution factors (GDFs) for aggregated EIM non-participating resources
- The EIM Governing Body will have **advisory authority** in approving the policy resulting from the following EIM functionality:
 - Leverage new non-generator resource (NGR) modeling functionality

<http://www.caiso.com/Documents/GuidanceforHandlingPolicyInitiatives-EIMGoverningBody.pdf>

Consolidated EIM Initiatives

SCOPE CHANGES

Third Party Transmission Contribution – removed from scope in the straw proposal

- Stakeholder feedback agreed with decision to remove item from scope
- Item will be included in annual policy initiatives catalog
- If prioritized, implementation at a later date:
 - May be a solution to address concerns regarding net wheeling
 - EIM transfer cost could be leveraged to allow transmission contribution

Management of Bilateral Schedule Changes – removed from scope in the draft final proposal

- Straw proposal outlined solution to manage bilateral schedule changes in EIM Entity OATTs and business practices
- Stakeholders requested the ISO enhance the market timeline to move the base schedule deadline up by 10 minutes
- Stakeholder feedback proposed it is unnecessary to move forward with this initiative

Equitable Sharing of Wheeling Benefits – removed from scope in the draft final proposal

- Stakeholders generally opposed implementation of a hurdle rate or ex-post settlement
- ISO will monitor net wheeling and publish results in the Quarterly Benefits Report
- Item will be included in annual policy initiatives catalog

Consolidated EIM Initiatives

NEW EIM FUNCTIONALITIES

Additional details published in EIM Enhancements Winter 2017 BRS

- Draft Final Proposal explains benefit provided to EIM Entities
- BRS explains business rules and details:
<http://www.caiso.com/Documents/BusinessRequirementsSpecification-EIMWinter2017Enhancements.pdf>

Automated matching of import/export schedule changes with a single EIM non-participating resource (1 of 6)

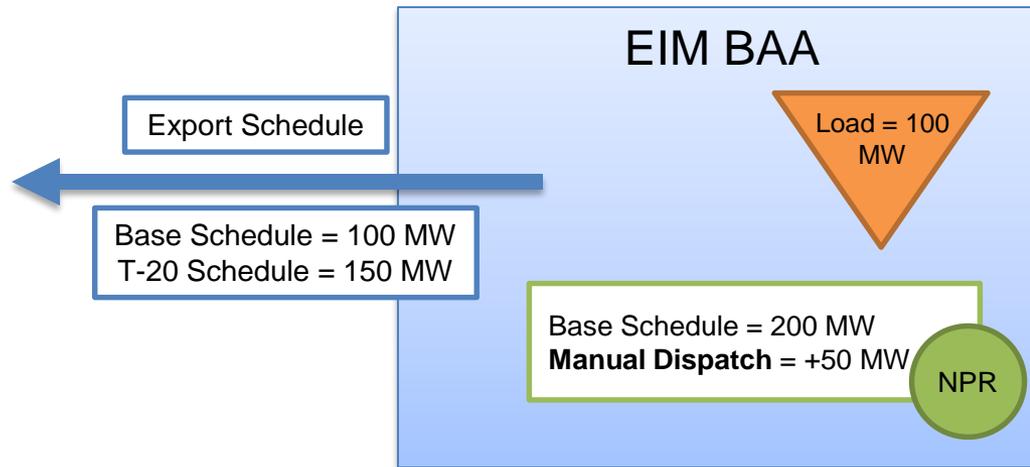
- Auto-adjustment of non-participating resource schedules to match import or export schedule changes after T-40
- Eliminates the need for EIM BAA Operator to issue manual dispatch instructions to the non-participating resource
- Facilitates management of changes to base schedules

Automated matching of import/export schedule changes with a single EIM non-participating resource (2 of 6)

- Currently two solutions to resolve imbalance due to a schedule changes after T-40
 1. BAA Operator manually dispatches a generator
 2. EIM entity allows market to resolve imbalance using participating resource bid stack
- New functionality presents third option:
 3. Allow a NPR's schedule to automatically adjust when an intertie schedule change occurs

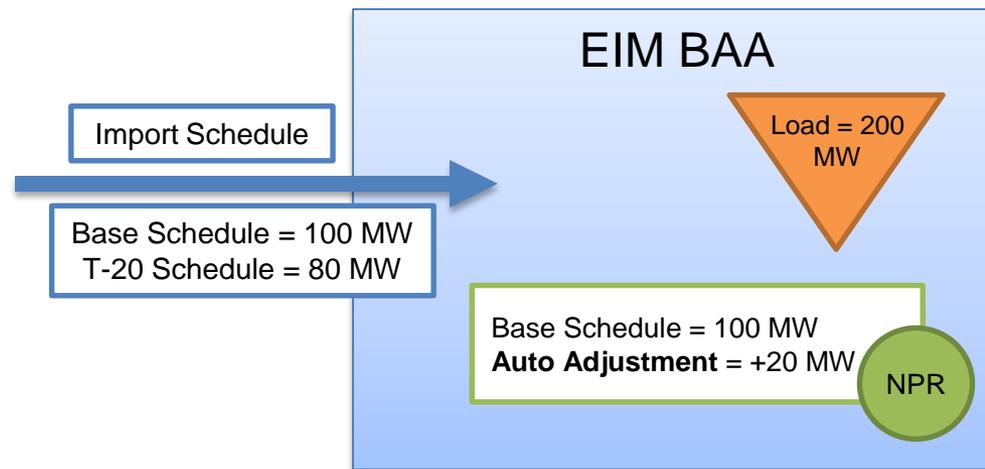
Automated matching of import/export schedule changes with a single EIM non-participating resource (3 of 6)

- Manual dispatch required to balance export base schedule change after T-40



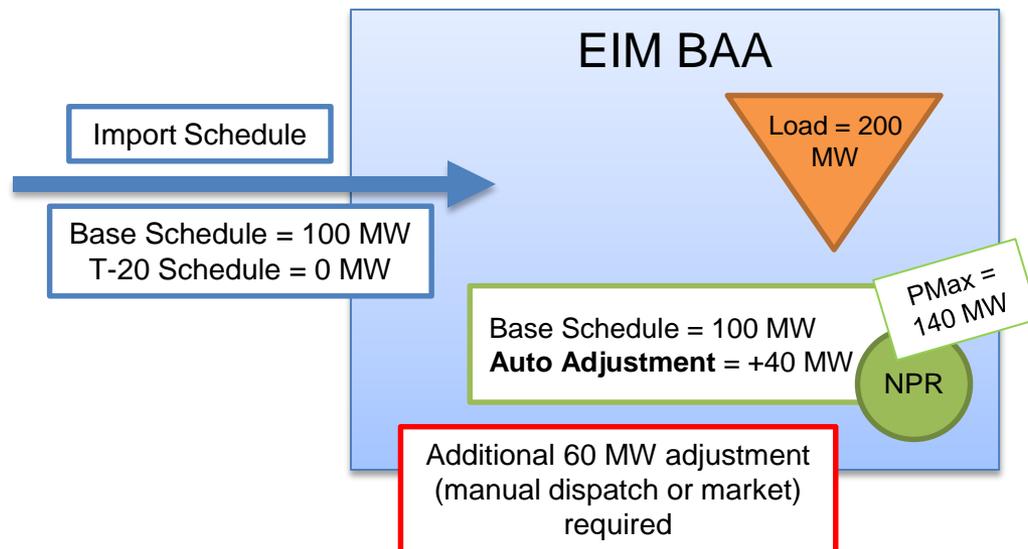
Automated matching of import/export schedule changes with a single EIM non-participating resource (4 of 6)

- Automatic adjustment to NPR schedule balances import base schedule change after T-40



Automated matching of import/export schedule changes with a single EIM non-participating resource (5 of 6)

- Identified NPR will be used up to generator constraints

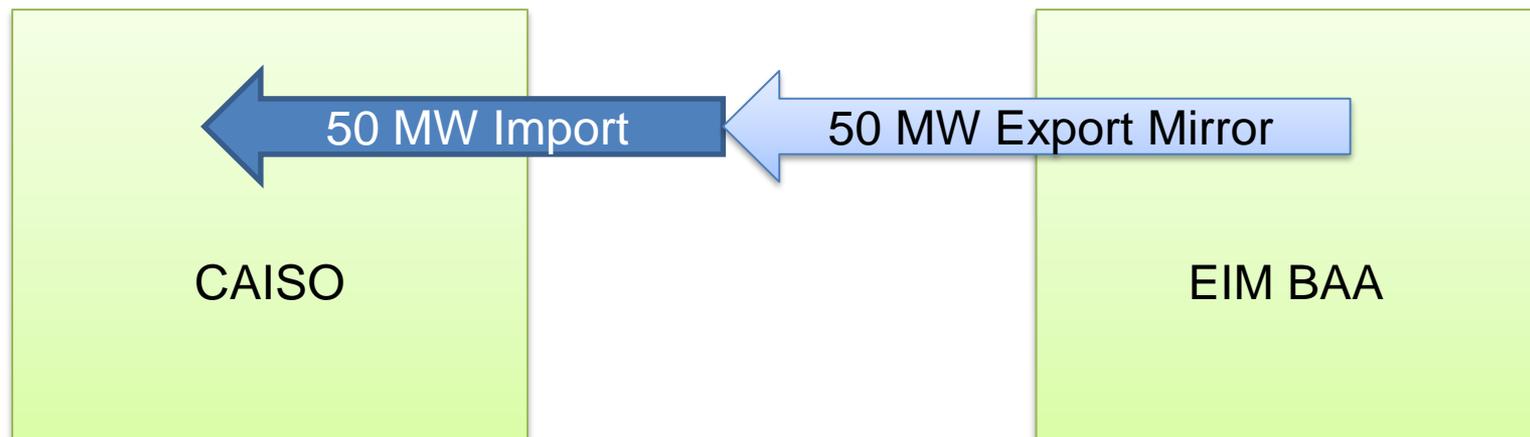


Automated matching of import/export schedule changes with a single EIM non-participating resource (6 of 6)

- Implemented in two phases:
 1. Only one NPR to intertie schedule change set
 2. Multiple NPR and intertie schedule change sets
- Enables most efficient use of resources and preserves participating resource bid range
 - Settled as a manual dispatch instruction
 - Auto-matched changes won't impact capacity test requirement
- Minimizes errors that may result from operator manual dispatches

Automated mirror system resources at ISO intertie scheduling points (1 of 3)

- Mirror system resources allow the market to solve for the ISO and another EIM Entity at the same time
- 50 MW import to the ISO BAA and corresponding 50 MW mirror export schedule out of an EIM BAA at an ISO intertie scheduling point



Automated mirror system resources at ISO intertie scheduling points (2 of 3)

- Currently, EIM Entity Scheduling Coordinators are responsible to submit base schedules and manually update them for mirror system resources
- This enhancement will automate the mirroring of ISO import/export schedule changes at ISO scheduling points after T-40

Automated mirror system resources at ISO intertie scheduling points (3 of 3)

- Eliminates required manual adjustment to mirror when schedule changes occurs after T-40
- Automated mirror system resource must only mirror ISO import/export self-schedules
- Can be auto-matched to a NPR

Base EIM transfer system resource imbalance settlement

- Will provide EIM entities with settlement information for base ETSR schedule changes
 - Determine financial location of LMP of base ETSR
 - Source and Sink entities must agree upon and provide information to the ISO
- The ISO will not require EIM entities use this data but it may facilitate settlement of bilateral transactions

Allow submission of base generation distribution factors (GDFs) for aggregated EIM non-participating resources

- The market will distribute the base schedule and any imbalances of aggregate EIM non-participating resources using the submitted base GDFs
- Base GDFs will also be used to calculate the aggregate LMP for the aggregate EIM non-participating resource
- Enables accurate modeling on an hourly basis and allows the market to run efficiently and economically

Leveraging non-generator resource (Generic NGR) modeling functionality (1 of 3)

- Generic NGR modeling functionality available in all ISO markets (IFM, FMM, RTD)
 - Aggregated and non-aggregated
 - Market does not observe state of charge limits or constraints
- Generic NGRs can provide positive and negative energy
 - Must have generating capabilities
- Not subject to demand charges for negative generation

Leveraging non-generator resource (NGR) modeling functionality (2 of 3)

- Will be subject to local market power mitigation (LMPPM) based upon underlying technology
 - Traditional generators will be subject to mitigation
 - DER, PDR, & storage will continue to not be subject to mitigation
- Is not eligible for resource adequacy at this time
- Can provide AS and RUC
 - Intertie resource w/out a forward energy schedule will be able to provide regulation down to the ISO

Leveraging non-generator resource (NGR) modeling functionality (3 of 3)

- Additional description of NGR enhancements can be found in section 6.2 of the Energy Storage Distributed Energy Resources (ESDER) Phase 2 draft final proposal:

http://www.caiso.com/Documents/DraftFinalProposal-EnergyStorage_DistributedEnergyResourcesPhase2.pdf

Consolidated EIM Initiatives

NEXT STEPS

ISO requests written comments by September 19th, 2017

- Stakeholders should submit written comments to InitiativeComments@caiso.com

Milestone	Date
Post Issue Paper	June 13, 2017
Stakeholder Conference Call	June 20, 2017
Stakeholder Written Comments Due	June 30, 2017
Post Straw Proposal	July 31, 2017
Stakeholder Meeting	August 7, 2017
Stakeholder Written Comments Due	August 17, 2017
Post Draft Final Proposal	September 5, 2017
Stakeholder Conference Call	September 12, 2017
Stakeholder Written Comments Due	September 22, 2017
EIM Governing Body Meeting	October 10, 2017
Board of Governors Meeting*	November 1-2, 2017

