



Extended Day-Ahead Market Working Group 2: *Transmission Commitment and Congestion Rent Allocation*

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March 3, 2022

Meeting Cadence: Tuesdays and Thursdays, 9 – 11 a.m.

Reminders:

- These collaborative working groups are intended to foster open dialogue and sharing of ideas and perspectives
- Please raise your hand if you have a question or comment at any time during the meeting and the facilitator will call on you
 - Please start by stating your name and affiliation
- Meetings are recorded and video files posted on corresponding working group webpages
- Stakeholders are welcome to present perspectives at these meetings
 - Please submit a request to present using the link located on the EDAM Resources slide at the end of this presentation

Agenda:

Time:	Topic:	Presenter:
9:00 - 9:05	Welcome/introductions	Elizandra Casillas
9:05 - 9:10	Kick-off meeting	Deb Le Vine
9:10 – 10:55	Working Group 2 – Status Check	Deb Le Vine
10:55 - 11:00	Upcoming topics	Deb Le Vine



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EDAM WG#2 – Transmission Commitment and Congestion Rent – Status Check

March 3, 2022

Agenda - Reviewing Working Group Progress

- Internal transmission optimization in EDAM
- Transmission supporting EDAM Transfers
- Making transmission available to market
- Compensation framework
- CAISO transmission in EDAM
- Intertie Bidding

Glossary

- ATC – Availability Transfer Capability
- BAA – Balancing Authority Area
- CRN – Contract Reference Number for existing contracts
- EDAM – Extended Day Ahead Market
- EDAM Entity – a BAA that has joined EDAM
- ETSR – Energy Transfer System Resource
- OATT – Open Access Transmission Tariff
- RSE – Resource Sufficiency Evaluation
- Transfer – transactions between two EDAM Entities
- WEIM – Western Energy Imbalance Market



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1. Existing contracts and optimization
of transmission within an EDAM
Balancing Authority Area

Contract types EDAM needs to honor

- Buckets 1/2/3: – Transfers from BAA to BAA
 - Use ETSR to define transfer paths
- Internal transmission rights
 - Not part of the buckets
 - Included in Full Network Model – FNM
 - Use Contract Reference Numbers (CRNs) for source and sink pairs

Transmission registration roles

- TSP or EDAM Entity will register the transmission contract
 - Have the knowledge of the terms and conditions
 - Know who transmission was sold to
 - Have the knowledge of any special terms
- Transmission customer or EDAM Entity will be provided an ETSR or CRN to ensure appropriate settlement
- Long-term contracts will use Master File
- If insufficient time to register in Master File, another mechanism will be made available (SIBR?)

Transmission contract (TC) registration

- Master File registration
 - Source (supply or import)/sink (load or export) resources, Scheduling Coordinator(s), and associated resource capacity
 - Requires specific load resources (custom LAP with custom LMP)
 - Contract path (schedule not physical flow)
 - Point-to-Point (nor necessarily the TC source/sinks) Transmission or a flowgate
 - May be shared by multiple transmission contracts
 - May include intertie(s); requires specific Bucket-1/2/3 Transfers
 - Type
 - Physical right (higher scheduling priority)
 - Financial right (congestion and/or transmission loss cost refund)
 - Entitlement (total capacity on contract path)
 - Expiration (DAM, HASP, or T-20)

Transmission contract validation in the market

- Exercise a transmission contract submitting self-schedules associated with that transmission contract
- Transmission contract (TC) self-schedule validation
 - Resource (source or sink) is registered under the TC
 - TC self-schedule does not exceed the registered resource TC capacity
 - TC is balanced (total source equals total sink)
 - Load meters are used for load sinks in RTM
 - TC is within its entitlement (total source does not exceed TC entitlement)
 - TC has not expired (RTM)

Options for transmission contracts

- Exercise the TC by self-scheduling on it
 - If the contract path includes a transfer, release the associated Bucket-1 Transfer capacity (submit a scheduling limit to accommodate the TC use)
 - Transfer revenue offsets schedule cost
- Not exercise the TC by submitting economic bids
 - If the contract path includes a transfer, release the associated Bucket-2/3 Transfer capacity (submit a scheduling limit to accommodate the bid)
- Not exercise the TC and not submitting bids or self-schedules
 - If the contract path includes a transfer, release Bucket-2/3 Transfer capacity or reserve for release/use in EIM
 - Internal BAA transmission cannot currently be reserved, but TC is still honored in EIM while other resources are dispatched to accommodate its use



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2. Transmission supporting transfers between EDAM Balancing Authority Areas (Transmission Buckets)

Transmission “Buckets” Framework – EDAM Transfers

Bucket 1

- Supports delivery of resource sufficiency capacity across EDAM BAA interfaces
- Eligible for congestion rents
- Firm, Conditional Firm (PTP and NITS)

Bucket 2

- Voluntarily made available to market by transmission right holders
- Eligible for congestion rents
- Firm, Conditional Firm (PTP)

Note: introduced consideration of “unscheduled PTP” availability in Bucket 2.

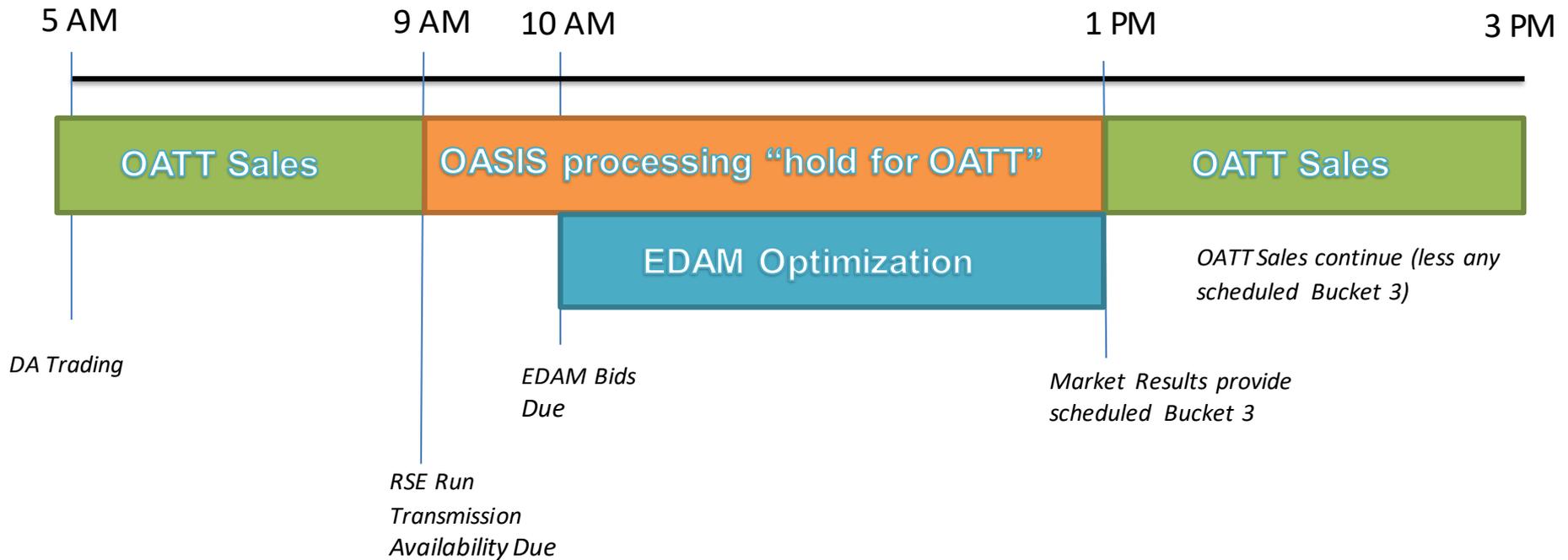
Bucket 3

- Unsold, unreserved, Firm, Conditional Firm, or “otherwise highly reliable” ATC
- Made available by Transmission Provider
- Subject to OATT usage rate.

Note: introduced consideration of potentially non-firm ATC.

High quality transmission supporting transfers supports reliability and dependability of transfers.

EDAM Timeline for Transmission



EDAM Process

- First saves transmission for existing contracts that are self-scheduled
- Optimizes remaining transmission that is made available
- Cost of transmission becomes a component of the LMP, Custom Load Aggregation Point or Default Load Aggregation Point
- Results are published by 1 PM
- EDAM schedules roll over to EIM base schedules
- Use of Capacity Benefit Margin (“CBM”) or Transmission Reserve Margin (“TRM”) will be up to each EDAM BAA

Bucket 1 transmission

- Network and point-to-point energy transfer
- Resource external to BAA and used to serve load and RSE, therefore mandatory for EDAM
- No usage fee since transmission already contracted
- Receives transfer revenue for binding scheduling limit
- OATT customers able to continue to self-schedule their own resources and loads
- Ability for market to recognize that some Bucket 1 transmission may not be optimized
- Quantity reflects contract limits
- Customer receives transfer revenue

Bucket 2 transmission

- Point-to-point interchange transmission
- Not otherwise used for Bucket 1
- Voluntarily made available to EDAM and receives transfer revenue for binding scheduling limit
 - Elect in advance to make it available to EDAM, and cannot recall transmission once optimized in EDAM.
 - Transmission made available to EDAM can not be separately sold between the close of EDAM and the release of transmission not used in EDAM
- Quantity reflects contract limits
- Transmission not used is returned to transmission provider for sale
 - ISO will design a report that defines what transmission is used and what is still available

Bucket 3 transmission

- Unsold, unreserved, firm ATC made available by the transmission provider.
- Not otherwise used for Bucket 1 or Bucket 2
- Transmission previously unsold
- Compensated at OATT rate
- Transmission not optimized by EDAM would be released back to the transmission provider
- Open question –
 - Could non-firm ATC be optimized in Bucket 3? If so, what are the implications of inserting non-firm transmission, lower quality, into the mix.

How transfers can be used in EDAM

- Bucket-1 Transfer is used to transfer RSE requirement from target BAA to source BAA
 - Energy Transfer transfers demand forecast
 - IRU/IRD Transfer transfers IRU/IRD requirement (assuming DAME as base)
 - RU/RD/CR Transfer transfers RU/RD/CR requirement
- Bucket-1 and Bucket-2 Transfers are optimized in IFM at no cost
 - Excluding Bucket-1 RU/RD/CR Transfers in Phase-1 (AS co-optimization in Phase-2)
- Bucket-3 Transfers are optimized in IFM at the transmission fee
- Transfer revenue from Bucket-3 use or binding scheduling limits
- Left-over transfer capacity can be used in RUC

EDAM resource and transfer schedules in WEIM

- Resource EDAM schedules roll over to WEIM as self-schedules or bids
 - Automatic for EDAM BAAs; no need to submit in WEIM
- EDAM transfers roll over to WEIM as day-ahead transfers
 - They are treated like base transfers
 - Additional transfer capacity can be released in WEIM for dynamic transfers
 - Possibly in the counter flow direction of day-ahead transfers
 - Using existing rights-holder or ATC method
 - Single existing transmission product in WEIM (akin to Bucket-2)
- EIM settlement for imbalance energy deviations from day ahead schedules, day-ahead transfers (EDAM BAAs), and base transfers (WEIM BAAs)
 - Adopt EDAM transfer settlement in WEIM



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3. Transmission Compensation

Transfer revenue framework recap

- Congestion Rents associated with internal transmission shall be allocated to EDAM Entity
- Transfer Revenue, which includes congestion rents, shall be calculated at each transfer location
 - Distribution will be dependent on the type of transmission provide to facilitate the transfer
- Transfers without a hurdle rate will receive Transfer revenue based upon LMP differentials between the export and import transfers
- Transfers with a hurdle rate shall receive a minimal compensated equal product of hurdle rate and transfer MWs

What is Transfer Revenue

- Transfer Revenue: The difference between the settlement amount of export transfer resource and import transfer resource at each transfer location
 - It is the Marginal Cost of Energy (power balance shadow price) difference between receiving and sending BAA
 - It includes the transmission fee for bucket 3
 - Includes
 - Differences between Marginal Cost of Congestion
 - Differences between Marginal Cost of Energy
 - Differences between Marginal Cost of Losses
 - Transmission Hurdle Rate, if applicable
 - Distribute prorata to the BAA TSP/TC based on ownership

Compensation and allocation

- Objective is to hold transmission customers harmless without creating uplifts.
- Transfer revenue between EDAM BAAs where both BAAs provide transmission to the transfer location to facilitate transfer
 - Typically split 50/50
- Transfer revenue between EDAM BAAs where one BAA provides the transmission thru the transfer location
 - 100% compensation to EDAM BAA providing the transfer capability
 - Internal ITC congestion shall retain allocation within CAISO BAA
 - CAISO will maintain existing congestion revenue right rules

Compensation for bucket transfers

- Bucket 2 open question
 - Should there be a hurdle rate in addition to congestion rent?
- Bucket 3 transmission is compensated at
 - *OATT rate?*
 - Each BAA/Transmission Provider retains autonomy over its OATT rate and charges for transmission used;
 - *Results in pancaked rate*
 - *Only OATT rate of sending BAA charged to transaction; or*
 - *Only OATT rate of receiving BAA charged to transaction*



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4. CAISO Transmission in EDAM

Concept of Reciprocal Hurdle-Free Transmission

- The CAISO could look to make available a reciprocal amount of hurdle-free bucket 2 transmission in the export direction, at interfaces with EDAM BAAs, to optimize transfers.
- Hurdle free transmission bucket 2 in the export direction is based upon the amount of hurdle free bucket 1 transmission in the import direction the adjoining EDAM BAA makes available to EDAM RSE.
- The CAISO can support hurdle-free bucket 1 transmission in the export direction at interfaces with EDAM BAAs for RSE if it is sourced from non-RA capacity
- Remaining amount of transfer capability in export direction from CAISO is Bucket 3 transmission.

Concept of Reciprocal Hurdle-Free Transmission

- Open Questions:
 - How is the reciprocal amount of hurdle free transmission in export direction determined?
 - Are there variations to the approach for deriving reciprocal amount of transmission.
 - Are reciprocal amounts of transmission in export direction made available on an hourly basis, across 24 hour period?
 - Starting point – yes, could vary hourly based on reciprocal matching of hurdle free transmission.



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5. Intertie Bidding (External Resource Participation)

Intertie Bidding in EDAM

- Intertie bidding – self scheduling and economic bids – remains a feature at the border of CAISO BAA.
- Intertie bidding on the interties with the EDAM footprint:
 - Self scheduling continues to be supported.
 - Reflects existing contracts that have paid for transmission.
 - Economic bidding not supported.
 - Reliability concerns of non-source specific energy bid at the tie points of EDAM BAAs.
 - Free-rider concerns with lack of transmission compensation.

Intertie Bidding – Open Questions

- Exports from the EDAM footprint:
 - Is there a transmission fee/rate to export from the EDAM footprint or wheeling through the EDAM footprint?
- If there is such a fee or rate:
 - Is there a single fee/rate for the for the EDAM footprint?
 - Is there a rate at the individual EDAM entity level?
- CAISO scheduling point *will/will not* remain



EDAM Resources

- List of [*Common EDAM design principles and concepts*](#)
- Initiative and working webpages:
 - EDAM initiative webpage:
<https://stakeholdercenter.caiso.com/StakeholderInitiatives/Extended-day-ahead-market>
 - Working Group 2 webpage:
<https://stakeholdercenter.caiso.com/StakeholderInitiatives/Extended-Day-Ahead-Market-Working-Group-2-Transmission-Commitment-Congestion-Revenue-Allocation>
 - The working group webpages include meeting materials, initial scope items, and weekly summary reports
- Please submit EDAM WG inquiries and/or requests to present at <https://www.surveymonkey.com/r/EDAMWG-Inquiries>
 - Presentations due 5 business days prior to the meeting where they are scheduled to present, if time allows
- [Register](#) for working groups to help the ISO gauge interest and facilitate communication throughout process.
- Nov 30, 2021 Day-Ahead Market Overview Training: <https://youtu.be/lbXRsfVbCg>