Markets Refresher Training: DAME, EDAM, and EDAM CAISO Balancing Authority Participation Rules

04/20/2026, 9am-12pm, Webinar

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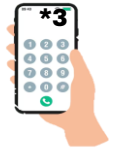

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Who is the target audience for this training session?

- Scheduling Coordinators within the ISO Balancing Authority Area (BAA)
- Extended Day-Ahead Market (EDAM) Scheduling Coordinators
- Stakeholders engaged in Western energy markets who want to stay informed

Learning Objectives

- **Define** how Market Pricing is established
- **Identify** timelines associated with EDAM
- **Identify** requirements for Transfer System Resources
- **Explain** requirements associated with Imbalance Reserves
- **Explain** requirements associated with Reliability Capacity
- **Explain** requirements associated with Ancillary Services
- **Identify** bidding configurations for meeting the Real-Time Must Offer Obligation
- **Describe** parameters of the Resource Sufficiency Evaluation
- **Identify** application changes

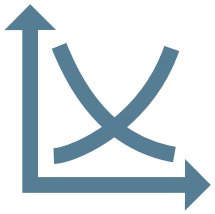
Defining Roles & Responsibilities

Role	Definition
EDAM Entity	A Balancing Authority (BA) that participates in the EDAM market (this includes the CAISO BA). EDAM entities provide inputs such as market limits, outages and transmission constraints specifically for their Balancing Authority Area (BAA). EDAM entities can also be an SC representing loads and resources within their BA should they hold such responsibilities.
Scheduling Coordinator (SC)	The SC is a certified entity that participates in the market by submitting bids and outages and managing the coordinated operations of its facilities.

DAME, EDAM & EDAM ISO BAA PARTICIPATION RULES INITIATIVES

Initiatives Review → Market Pricing → EDAM Processes → Transfer System Resources → Bidding Examples → Application Changes

DAME, **EDAM**, and **EDAM ISO BAA Participation Rules** initiatives



Day-Ahead Market Enhancements (DAME)

Enhancements to the existing Day-Ahead Market with new market products

Extended Day-Ahead Market (EDAM)

Extends Day-Ahead market capabilities to a wider market footprint

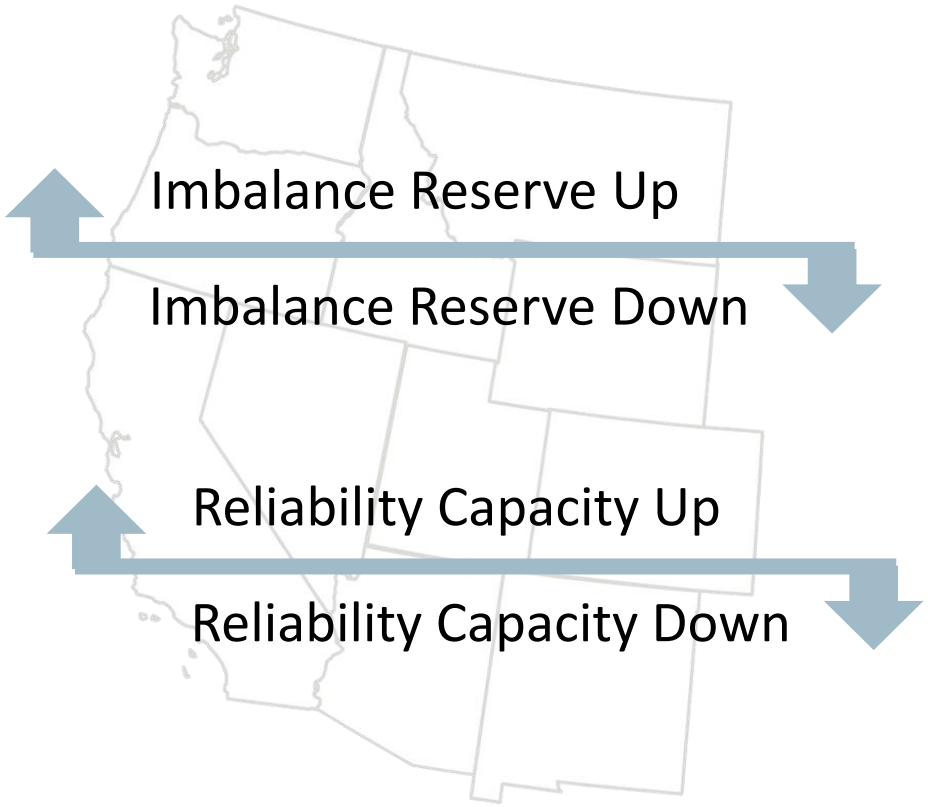
EDAM ISO BAA Participation Rules

Addresses unique aspects of how the CAISO BAA will participate in EDAM

ACTIVATION DATE: 05.01.2026

DAY AHEAD MARKET ENHANCEMENTS (DAME)

Day-Ahead Market Enhancements (DAME)



- 2 key new market products:
  - Imbalance Reserves (Up/Down)
  - Reliability Capacity (Up/Down)
- DAME enhancements are also included in EDAM

EXTENDED DAY AHEAD MARKET (EDAM)

Extended Day-Ahead Market (EDAM)

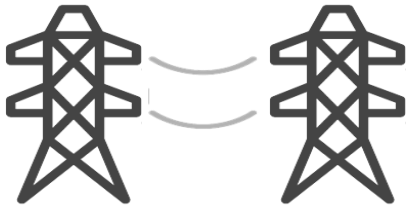
- Expands access to full complement of wholesale energy market services, offering Day Ahead capabilities.
- ISO will manage energy schedules and optimize efficient transfers of energy between BAAs

Elements of EDAM

- **Resource Sufficiency Evaluation (RSE)** across full 24-hour time horizon
  - RSE is universal adaptor that connects entities with varying resource adequacy programs to efficiently commit/dispatch resources

- **Transmission capability** on internal system and interties with other EDAM BAAs made available to optimize transfers between participating areas

- Bidding and attribution to multiple state **Greenhouse Gas (GHG)** regulation areas as well as accommodation for non-priced GHG programs

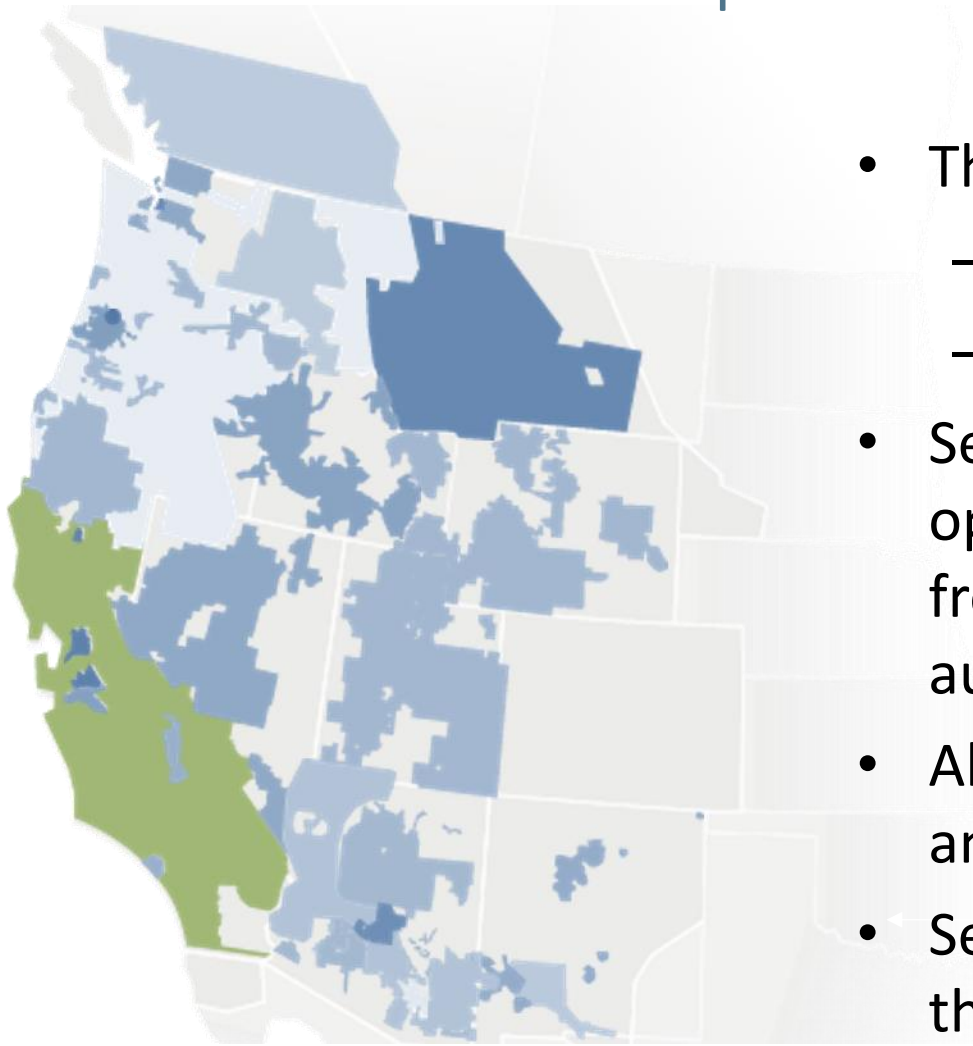


What are some benefits of EDAM ?

- Enhances, supports, and complements bilateral trading activity that takes place today
- Increases reliability due to greater situational awareness
- Lowers greenhouse gas emissions
- Allows participants to share surplus renewable energy across a broad footprint
- Participating Entities retain resource planning, transmission planning, and reliability functions

ISO EDAM BAA PARTICIPATING RULES

EDAM ISO BAA Participation Rules



- The ISO's participation in EDAM includes rules related to:
  - Financial settlements.
  - Use of **net export transfer constraints**.
- Settlement of transfers that result from the EDAM optimization, as well as transfer revenue that accrues from congestion between participating balancing authority areas.
- Allocation of historical transmission revenue recovered amounts.
- Settlement for revenues and surcharges associated with the EDAM resource sufficiency evaluation (RSE).

What should be kept in mind when joining EDAM?

What changes?

- All loads and resources in EDAM area submit offers (economic or self-schedule).
- No more “base schedules”
- No more “non-participating” resources.
- New market products: Imbalance Reserves, Reliability Capacity.
- Settlement of day-ahead transactions.

What stays the same?

- EDAM entities continue to retain their resource planning, transmission planning and reliability functions.

Decisions to make:

- EDAM entities to determine who will schedule:
  - Third-party resources
  - Third-party load

MARKET PRICING

Initiative Review | Market Pricing | EDAM Processes | Transfer System Resources | Bidding Examples | Application Changes

What is Locational Marginal Pricing?

The **Locational Marginal Price (LMP)** for wholesale electricity is based on local supply and demand conditions. Locational Marginal Pricing reflects the price of energy at the time it is supplied to the grid or when it is used by load serving entities.

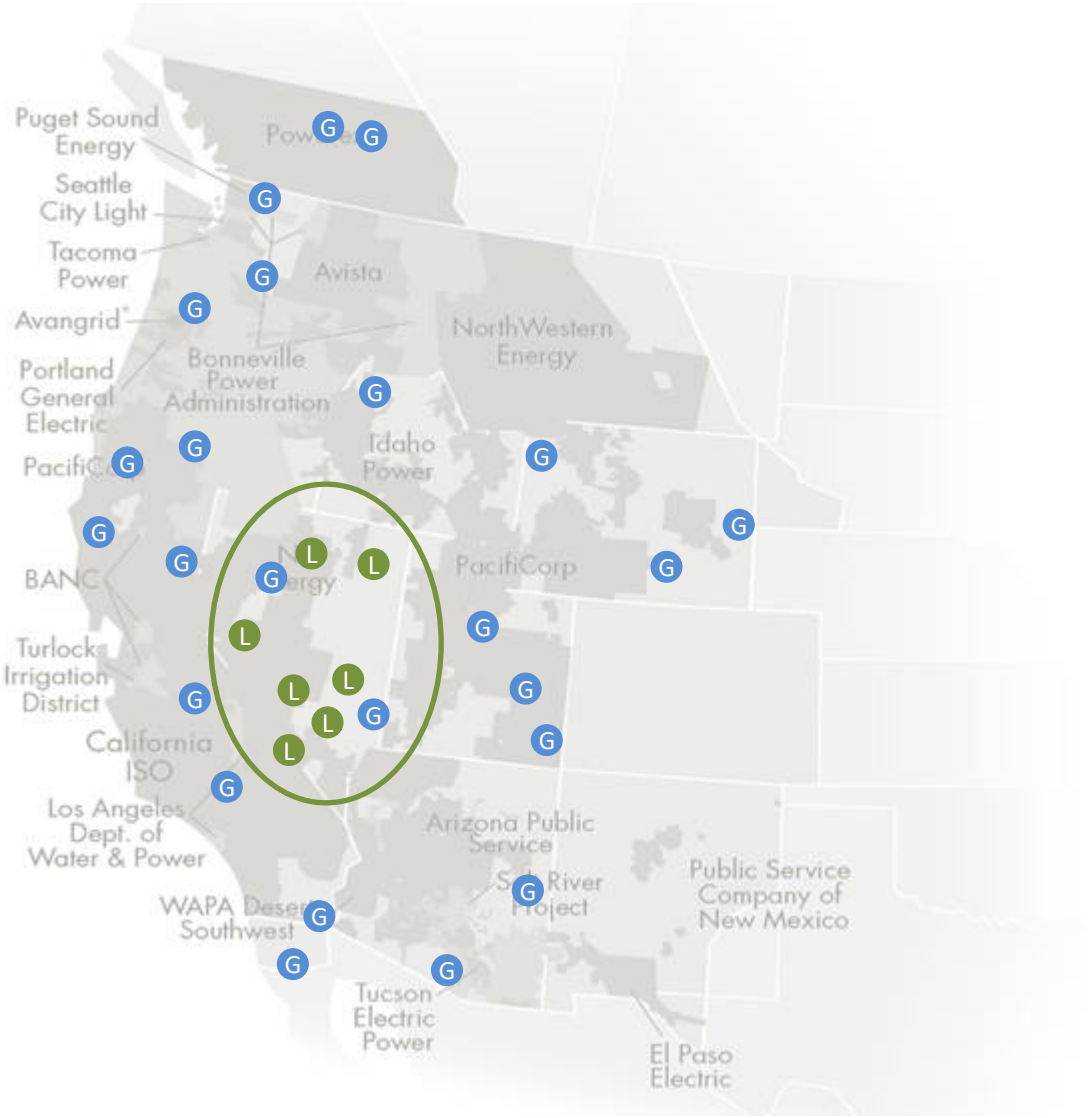
Depending on power flows, transmission lines may become congested. In these situations, it costs more to deliver energy to a congested location. More expensive generation may be used to mitigate congestion and deliver electricity to the destination.

Nodal pricing is the price paid for electricity generated or consumed at a specific location

Resources are paid the nodal price

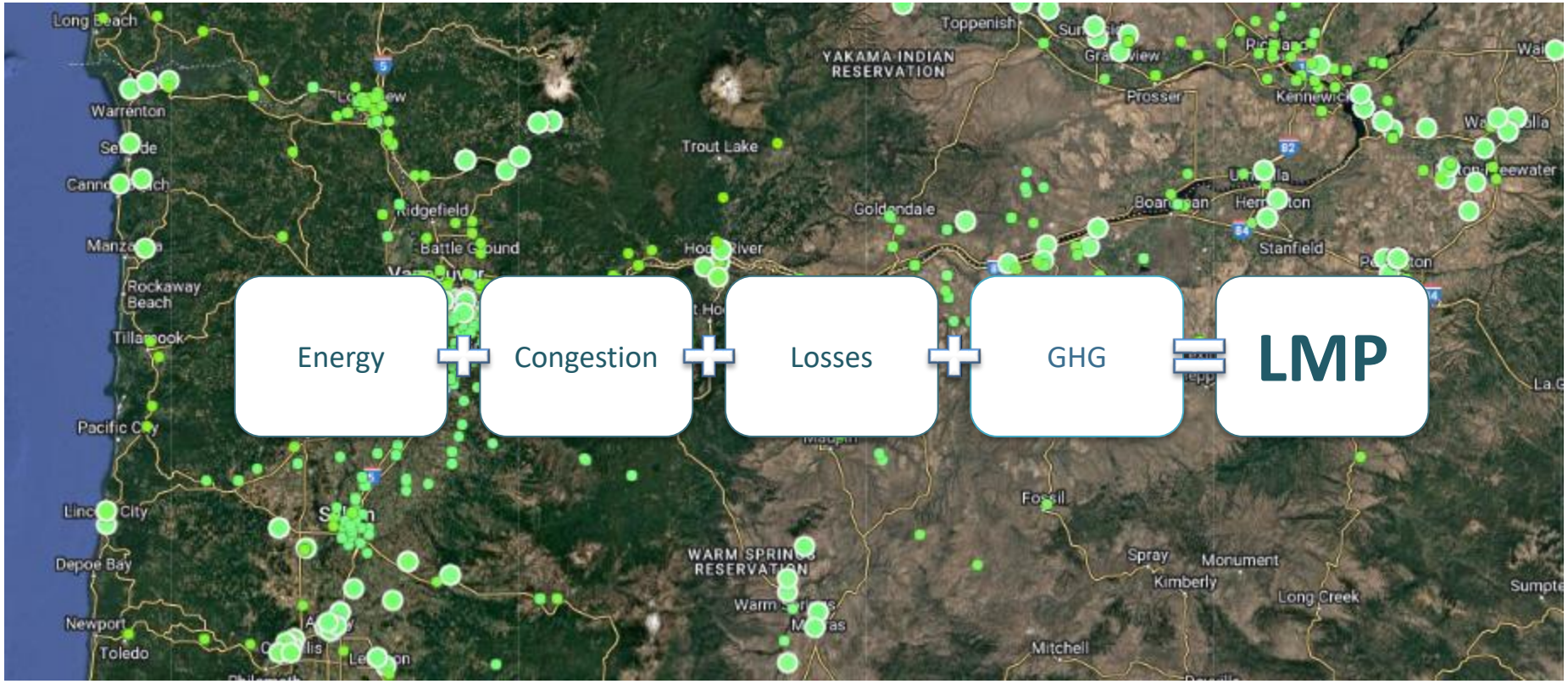
Load pays the weighed average price of all load nodes in its specific load aggregation

- Default Load Aggregation Point (DLAP)
- Custom Load Aggregation Point (CLAP)
- External Load Aggregation Point (ELAP)



Components of the Locational Marginal Price

Locational Marginal Pricing enables the actual operating conditions on the transmission system to be factored into the price of electricity at different locations.



Locational Marginal Price: Energy

Locational Marginal Price

Energy

Congestion

Losses

GHG

EDAM schedules energy for each hour of the next day by matching bid-in supply with bid-in demand.

Energy prices can vary by hour and across different Balancing Authority Areas.

Transmission capacity is optimized to enable energy transfers limited by scheduling limits.

When transfer limits are reached, price differences occur between Balancing Authority Areas, resulting in distinct energy prices for each area.

Locational Marginal Price: Congestion

Locational Marginal Price

Energy

Congestion

Losses

GHG

Congestion occurs when electricity cannot flow freely to an area due to high transmission use, limited capacity, or outages.

To mitigate congestion, more expensive generation may be used, increasing load-serving costs.

These costs are reflected in the congestion component of the LMP, affecting charges to demand and payments to supply.

Locational Marginal Price: Losses

Locational Marginal Price

Energy

Congestion

Losses

GHG

Energy losses occur as electricity is transmitted across transmission lines due to wire resistance.

Losses are similar to a light dimming as you move farther away from the source.

The market uses the Full Network Model to calculate actual losses but bases the LMP loss component at a node on marginal losses from serving an additional increment of load from an injection at that node.

Locational Marginal Price: Greenhouse Gas (GHG)

Locational Marginal Price

Energy

Congestion

Losses

GHG

Participants can use voluntary bid adders to indicate their willingness to serve demand in GHG regulation areas.

EDAM's GHG regulation model minimizes market-wide costs using price signals that account for different state regulations that price GHG emissions.

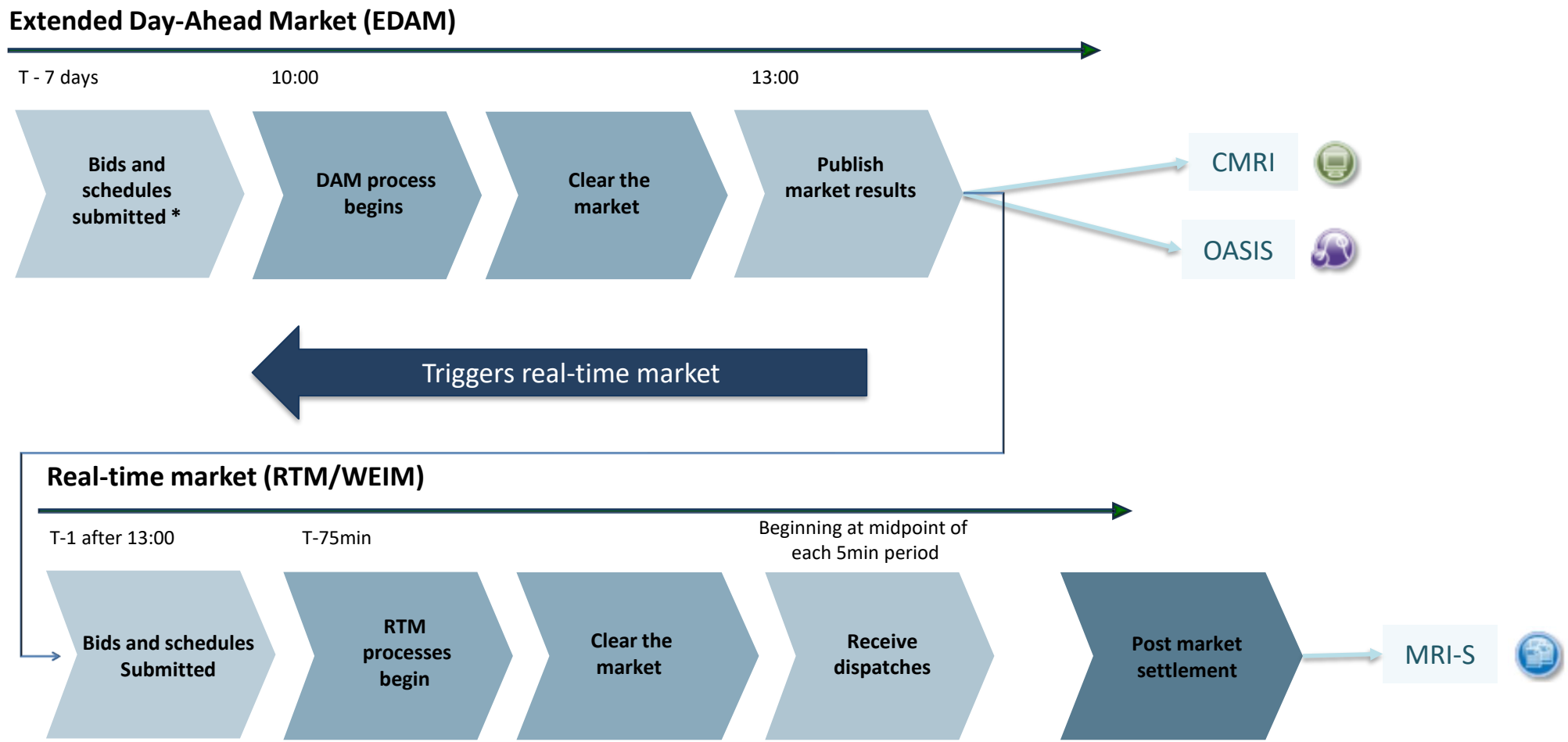
The GHG component is separate to ensure that supply and demand in non-GHG areas avoid GHG costs, while resources outside GHG areas can earn additional revenue to offset GHG regulation costs.

Energy delivered to GHG areas will have an LMP that includes GHG costs for imports.

EXTENDED DAY-AHEAD MARKET PROCESSES

Initiative Review | Market Pricing | EDAM Processes | Transfer System Resources | Bidding Examples | Application Changes

Market timeline and data flow from bid to settlement



Comparison of the current Day-Ahead Market processes vs. EDAM processes

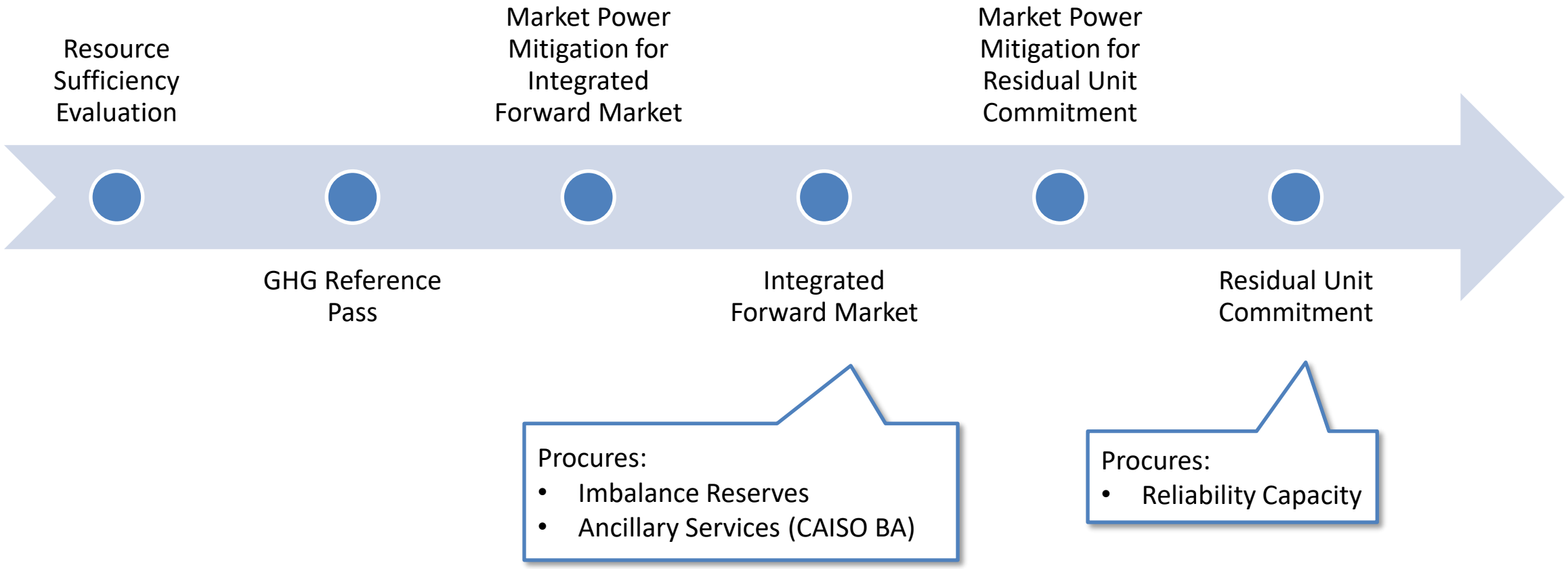
Current Day-Ahead Market Processes

MPM	• Market Power Mitigation
IFM	• Integrated Forward Market
RUC	• Residual Unit Commitment

Extended Day-Ahead Market Processes

RSE	• Resource Sufficiency Evaluation
GHG	• Greenhouse Gas Reference Pass
MPM-IFM	• Market Power Mitigation for Integrated Forward Market
IFM	• Integrated Forward Market
MPM-RUC	• Market Power Mitigation for Residual Unit Commitment
RUC	• Residual Unit Commitment

Which processes procure each new market product?



GREENHOUSE GAS (GHG)

GHG Processes: GHG Model

- EDAM allows utilities and other market participants to bid on energy for the next day, facilitating efficient resource allocation.
- Emissions from the identified resources are considered in market optimization processes
- GHG regulation area boundaries are determined by state mandates rather than BAs
- Model is scalable to allow for future non-overlapping GHG regulation areas

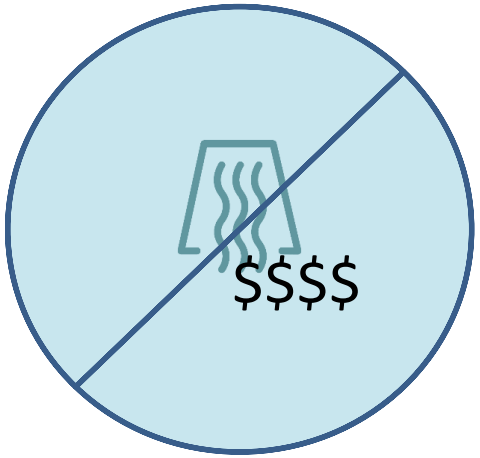
Greenhouse Gas (GHG) Reference Pass

- EDAM's expanded GHG regulation model incentivizes resources from multiple western states to supply energy to climate-focused states.
- Participants can indicate their willingness to serve demand in GHG regulation areas through voluntary bid adders to their energy bids.
- The market conducts a GHG reference pass to establish the attribution baseline for serving load in GHG regulation areas.
- The GHG reference pass, conducted without GHG bids, establishes a reference point for resources and is not financially binding.

MARKET POWER MITIGATION (MPM)

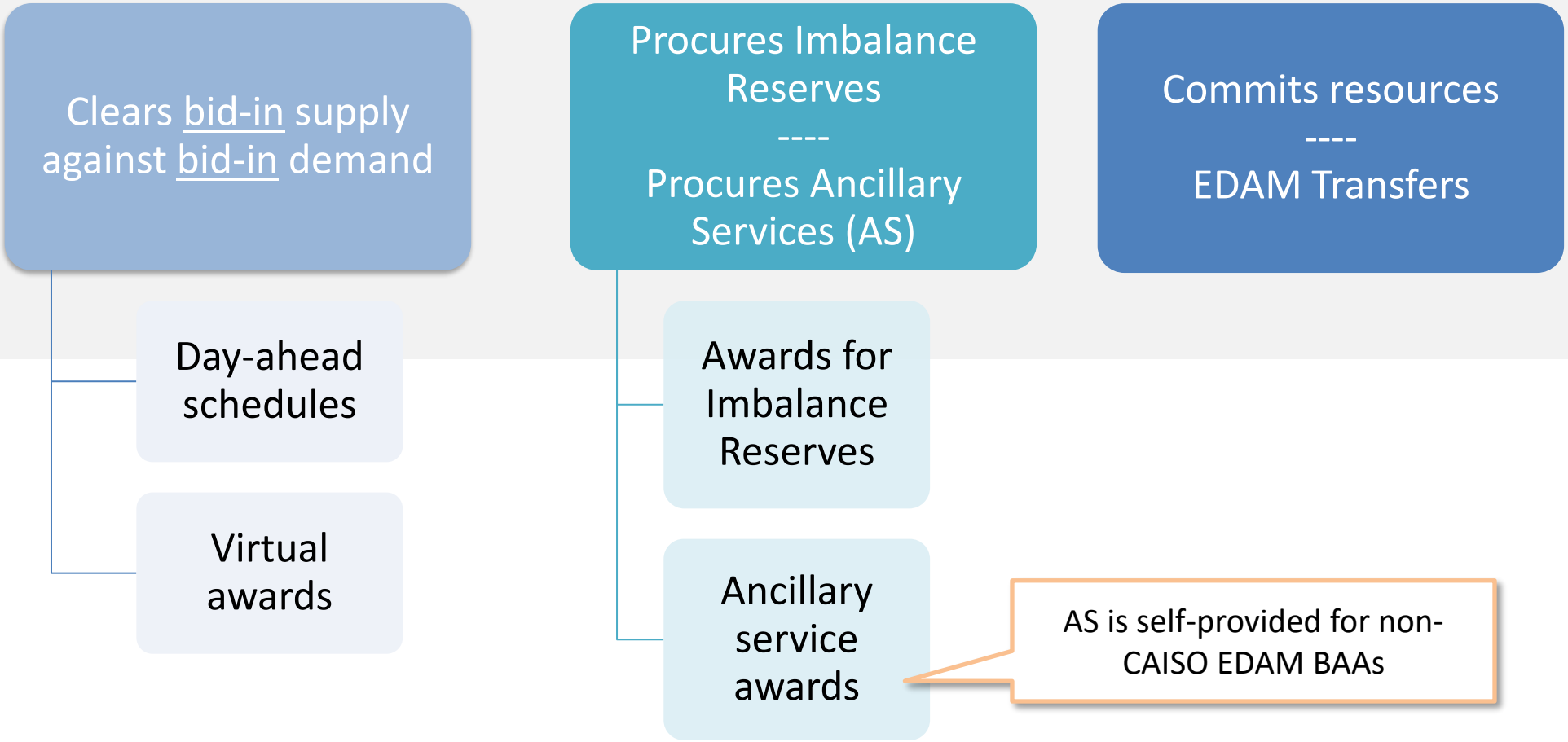
Market Power Mitigation (MPM)

- At times there can be localized congestion that can result in market power being exercised.
- MPM detects and mitigates (lowers) the bids in those localized cases to ensure prices remain competitive throughout the system.



INTEGRATED FORWARD MARKET (IFM)

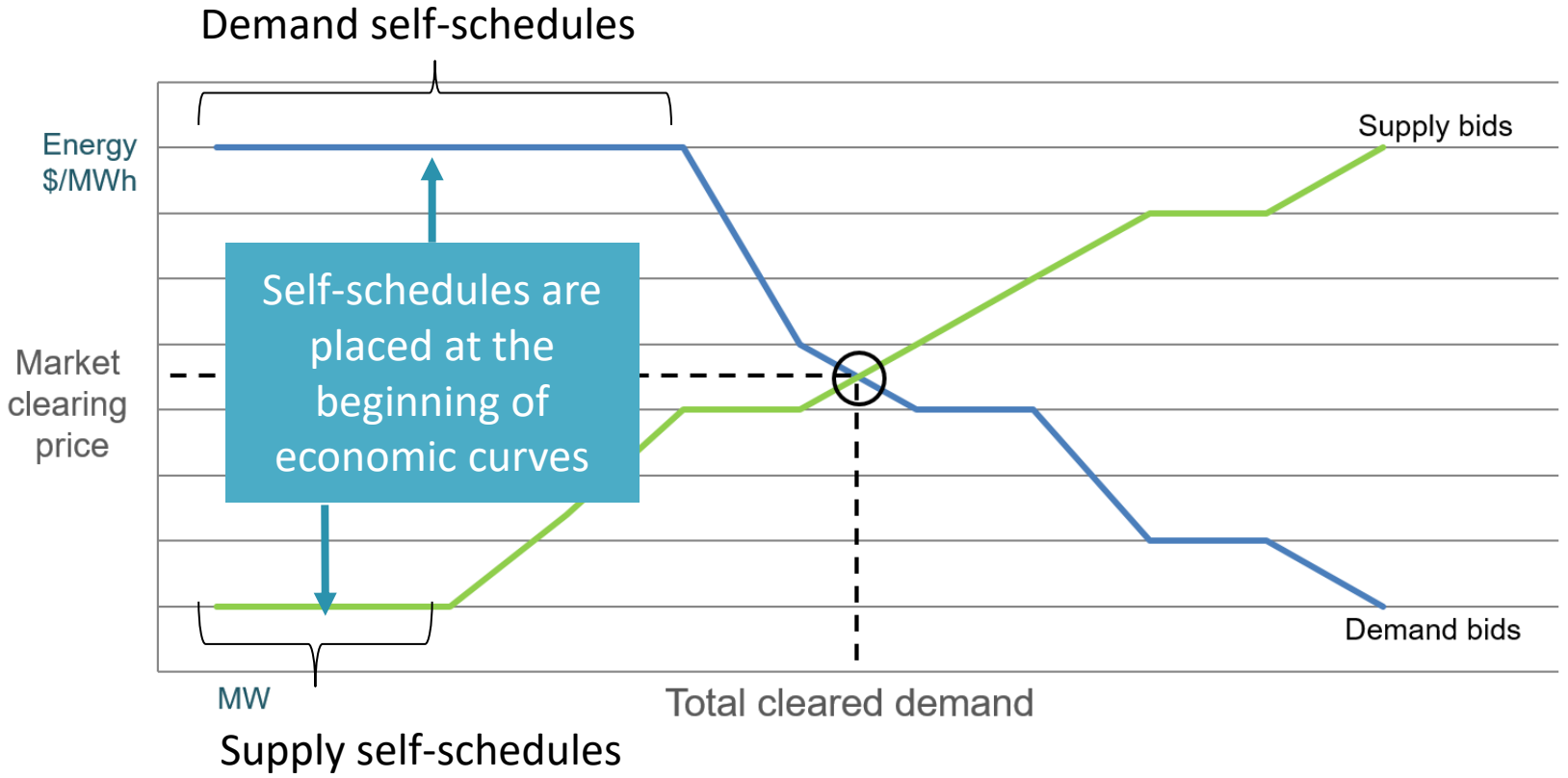
What is procured in the Integrated forward market (IFM)?



How does the IFM clear supply bids against demand bids?

Day-ahead supply bids clear against demand bids.

Real-time supply clears against load forecast.

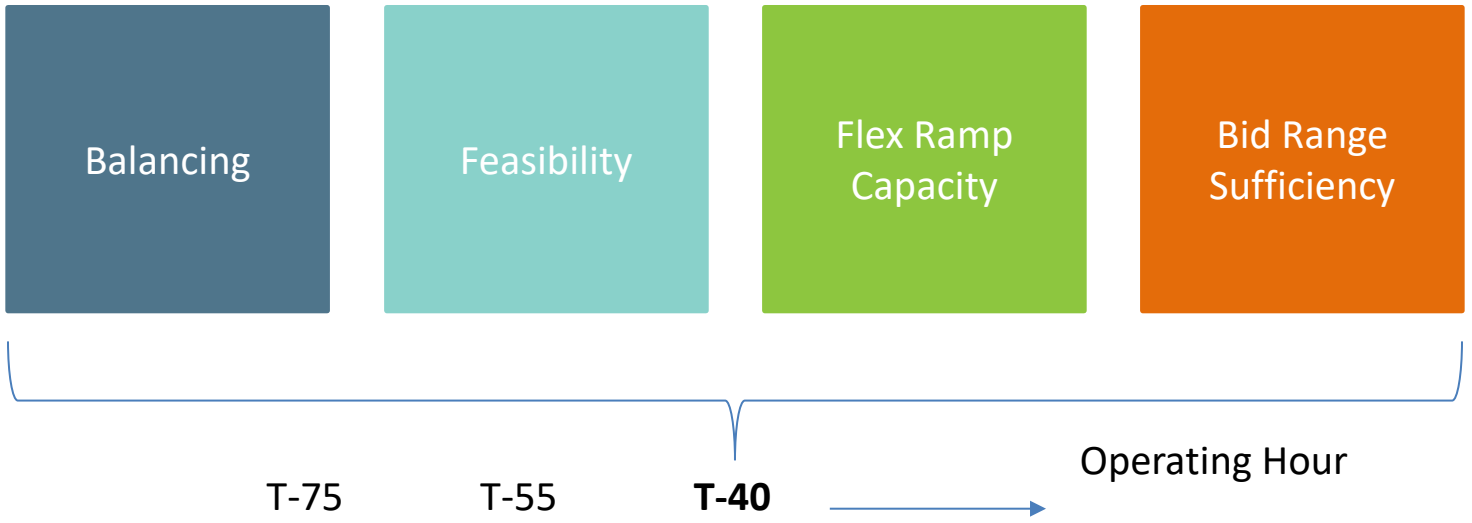


RESOURCE SUFFICIENCY EVALUATION (GHG)

Resource Sufficiency Evaluation: **Real-Time (WEIM)**

To ensure that Balancing Authorities come into each real-time hour able to support their own load with their native or imported generation, the WEIM created the Resource Sufficiency Evaluation (RSE).

The WEIM Real-Time Resource Sufficiency Evaluation Tests:



Evaluations for each operating hour

Resource Sufficiency Evaluation: **EDAM**

The binding day-ahead RSE test occurs each day, prior to running the Day-Ahead Market. The Day-Ahead Market RSE evaluates three different aspects:

1

Bids: assesses whether there are sufficient energy bids or self-schedules to meet an EDAM entity's forecasted load needs.

2

Ancillary Services: ensures that a BA has sufficient contingency reserve capacity available per AS requirements.

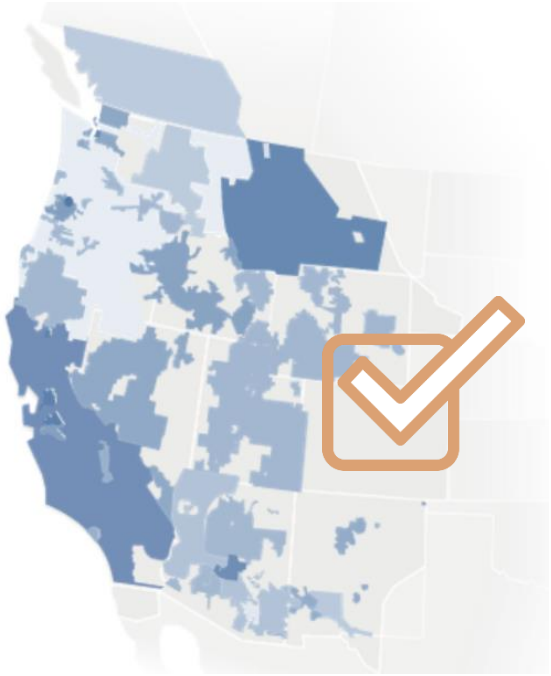
3

Imbalance Reserves: ensures the EDAM entity has sufficient bid-in capacity to meet uncertainty between day-ahead and real-time. Like real-time Flex Ramp Sufficiency test, with key differences

- **EDAM Entity:** bids in specific values for both Imbalance Reserve Up and Imbalance Reserve Down
- **WEIM Entity:** value is determined by the market based on energy bids

Evaluations for 24-hour period

Resource Sufficiency Evaluation (RSE) for each BAA



Each BAA's offered supply is evaluated against its demand forecast, imbalance reserve requirements and ancillary service requirements across the 24-hour intervals of the day-ahead market.

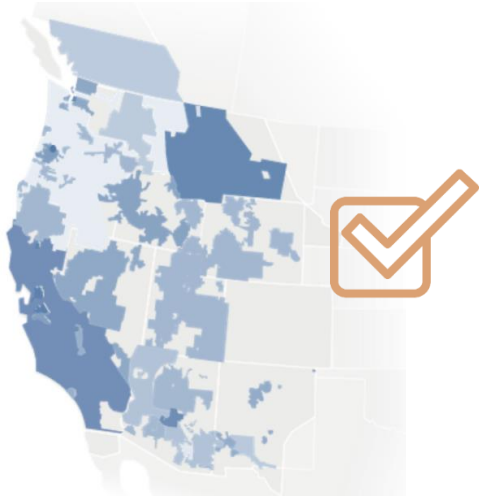
For EDAM, the RSE process is designed to ensure that each entity has enough supply to meet the next day's obligations.

If an EDAM entity fails the RSE, the entity may be exposed to a financial penalty which incentivizes to take proactive actions to meet the RSE requirements.

1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 24:00

24-hour time horizon

Day Ahead RSE Timeline



Freeze forecast and imbalance reserve requirements

Advisory RSE every 30min

1. Final RSE
2. GHG Reference
3. MPM-IFM
4. IFM
5. MPM-RUC
6. RUC

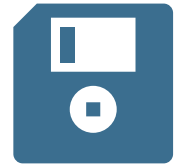
Pre-Market

Market

6:00 6:30 7:00 7:30 8:00 8:30 9:00 9:30 10:00 13:00

Day Ahead RSE Inputs

- RSE eligible resources (MF defined) bid:
  - EN/IRU/IRD MWs
  - Self schedules (protected)
- Imports/Exports with non-EDAM BAAs
- Forecasts
- Outages
- TSRs Contract Reference Number Self schedules (Type 1 TSR)
- AS requirement
- RSE eligible resource Anciliary Services (AS) self provision
- RSE eligible Transfer System Resource (TSR) Capacity Limit (Type 3 TSR)
- RSE eligible Transfer System Resource (TSR) AS self provision (Type 3 TSR)
- SIBR bids (10 AM RSE run use the DA final clean bid)
- IR requirement adjusted by diversity benefit



Day Ahead RSE Outputs

- RSE results are posted in in CMRI and OASIS
  - PASS/FAIL hourly status
  - Total MW Demand
  - MW Insufficiency (if FAIL)
- Resource detailed contributions available in CMRI reports

Note:

- DA-RSE **FAIL** status does not limit BAA's transfer capability in IFM/RUC (different from RTM RSE failure)
- DA-RSE **FAIL =** Surcharge/Revenue Allocation

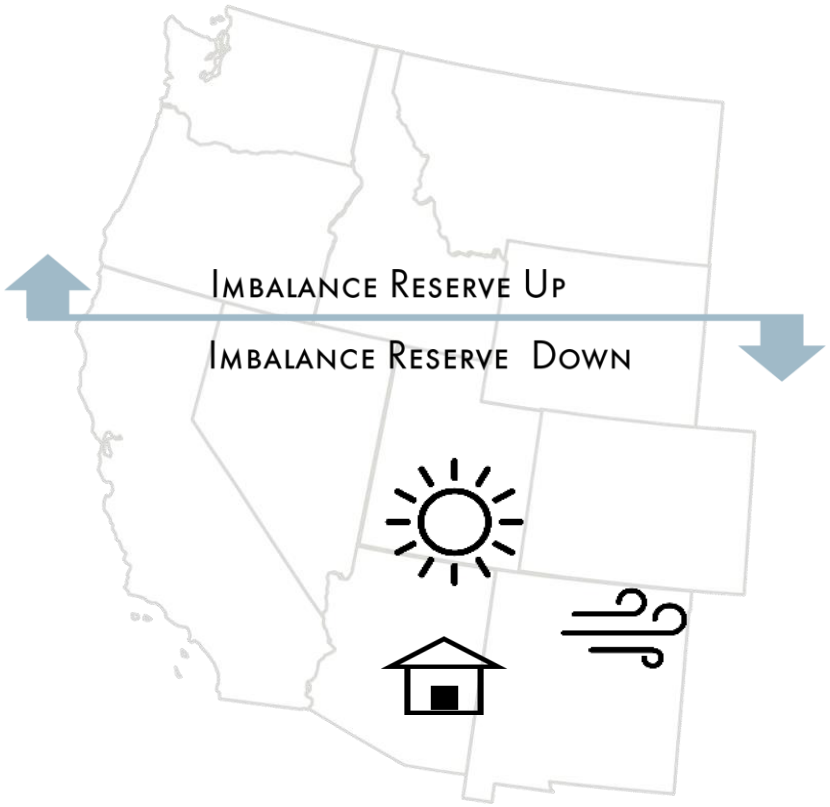
Day Ahead RSE Reports

- OASIS
  - IR regression coefficients
  - IR threshold

- CMRI/OASIS *(after the fact)*
  - Aggregated BAA RSE results report for advisory and binding RSE runs, including
    - upward requirement by commodity, downward requirement by commodity
    - IR requirement and adjusted IR requirement (by diversity benefit)
    - Passing status
    - Deficiency MW (by commodity)
- CMRI
  - TSR Limit, RSE flag, pathway 2 (similar to existing EIM Transfer System Resource Limits)
  - Resource schedules (EN, IR, AS), max capacity for advisory and RSE runs

IMBALANCE RESERVES (IR)

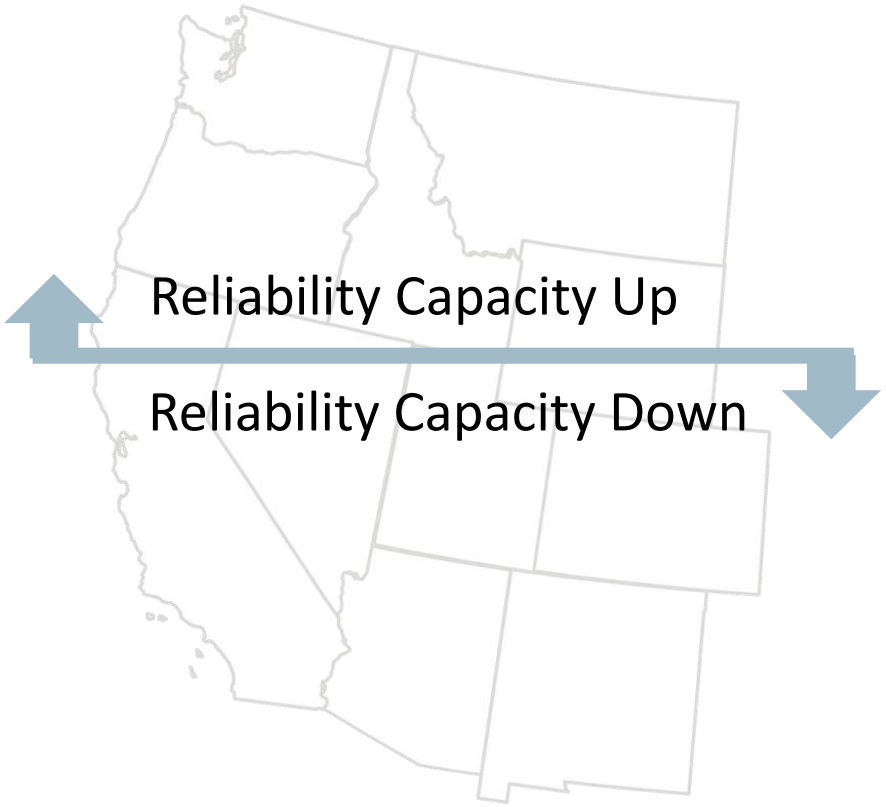
Imbalance Reserves provide consistent method for evaluating & addressing uncertainty needs in each BA



- Procured on an hourly basis for each area
- Requirements based on tomorrow's forecast and the historical uncertainty in the day-ahead load, solar, and wind forecasts
- Bids for imbalance reserves are submitted by participants across the EDAM footprint which maximizes diversity benefit
- SCs submit bids for **Imbalance Reserves UP** and **DOWN**
- May receive hourly awards for **one or both** products.

RELIABILITY CAPACITY (RC)

Reliability Capacity ensures sufficient physical supply is scheduled in the DA

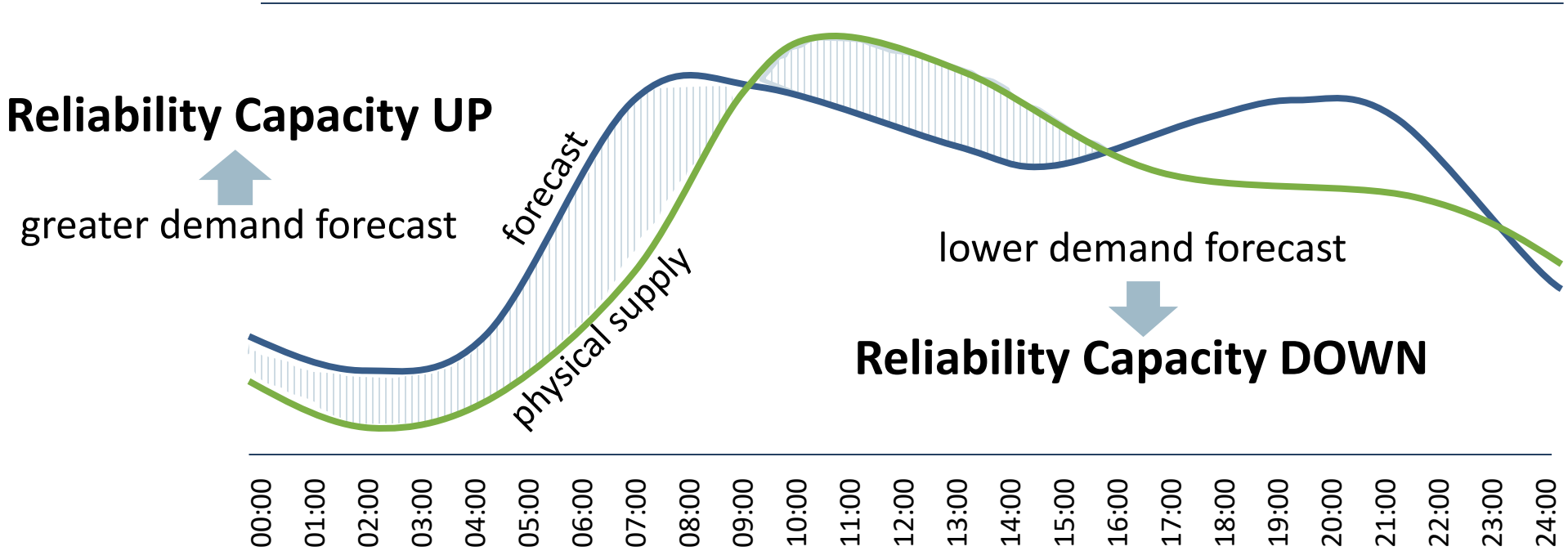


With EDAM, reliability capacity provides BAs with upward **or** downward dispatch capability, ensuring sufficient physical supply scheduled in day-ahead.

Procurement of Reliability Capacity is done on an hourly basis for each BA from the bids that are submitted by SCs across the EDAM footprint.

SCs submit bids for **Reliability Capacity UP (RCU)** and **Reliability Capacity DOWN (RCD)** and may receive hourly awards for **only one** of the products.

Reliability Capacity: UP (RCU) and DOWN (RCD)



Day-Ahead: Market Outcomes

Day-ahead awards can be for:

- Energy
- Ancillary Services (self-provided for non-CAISO EDAM BAA)
- Imbalance Reserves
- Reliability Capacity

Comparison of Ancillary Services, Imbalance Reserves, and Reliability Capacity

Feature	Ancillary Services (AS)	Imbalance Reserves (IR)	Reliability Capacity (RC)
Purpose	Maintain grid reliability through frequency regulation and spinning/non-spinning reserves.	Address net load uncertainty and real-time ramping needs not covered by hourly day-ahead schedules.	Ensure sufficient physical supply to meet differences between cleared supply and net load forecast.
Market Timing	**CAISO BAA:** Procured in both Day-Ahead and Real-Time Markets. **EDAM BAA:** self-provided in Day-Ahead Market.	Procured in the Day-Ahead Market, co-optimized with energy and ancillary services (CAISO BA).	Procured in the Day-Ahead Market via enhanced Residual Unit Commitment (RUC) process.
Dispatchability Requirement	Must be able to respond within seconds to minutes depending on service type.	Must be dispatchable within 15 minutes; awards capped at 15-minute ramping capability.	Must be dispatchable within 60 minutes; awards capped at 60-minute ramping capability.
Bid Structure	Price and quantity bids for each service type.	Separate bids for upward and downward IR.	Separate bids for upward and downward RC.
Eligibility	Typically includes fast-responding resources like batteries, gas turbines, and demand response.	Resources capable of 15-minute ramping; excludes self-scheduled resources.	Resources capable of 60-minute ramping; includes multi-stage generating units.
Obligations	Must offer into real-time market if awarded (economic bid or self-schedule bid).	Must submit economic energy bids in real-time for awarded capacity.	Must submit economic energy bids in real-time for awarded capacity.

Things to Keep in Mind

The **Security Constrained Unit Commitment** methodology maximizes economic efficiency, relieves network congestion, and considers physical constraints to achieve least-cost resource commitment and scheduling across the full 24-hours of the trade date.

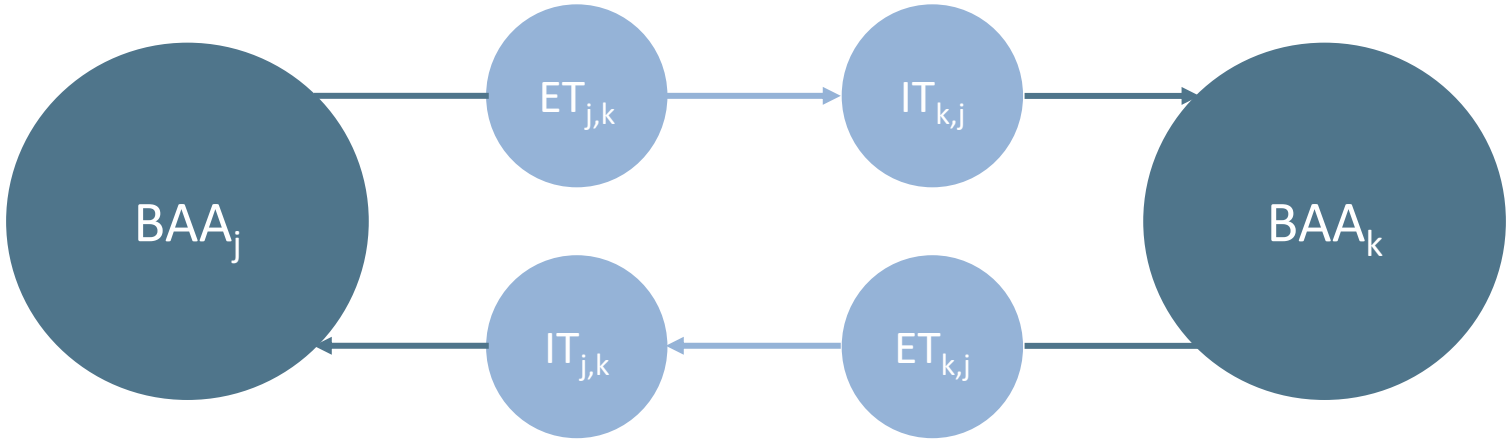
A resource's awards in the Day-Ahead (EDAM) timeframe have a **Real-Time** M**ust Offer Obligation (RTMOO)** to submit bids/self-schedules in real-time (WEIM) to cover the range of market awards. If the SC does not submit bids, the market will insert bids to ensure the resource meets the (RTMOO).

A unique aspect of **Ancillary Services** is that although they are included in the economic bid curve, the market will protect this capacity to be used by the EDAM Balancing Authority Area should the need arise.

TRANSFER SYSTEM RESOURCES (TSR)

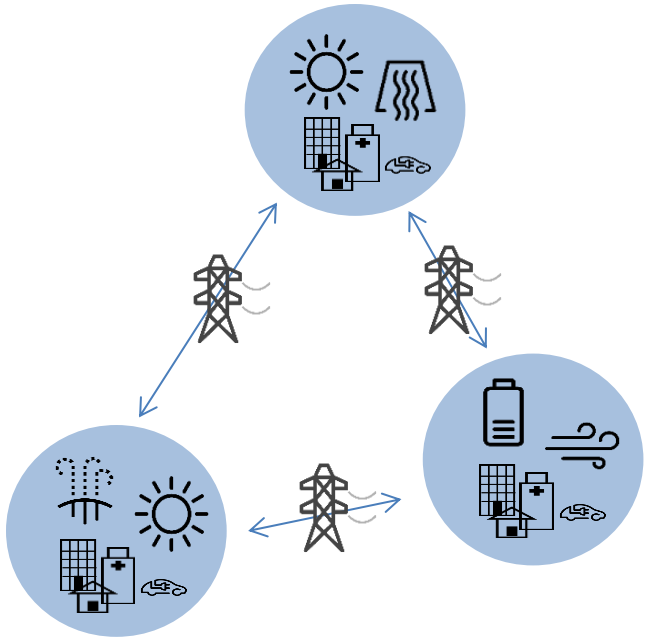
Initiative Review | Market Pricing | EDAM Processes | **Transfer System Resources** | Bidding Examples | Application Changes

What is a Transfer System Resource (TSR)?



Logical resources used to model the energy and capacity export from one Balancing Authority Area (BAA) to the other BAA, constrained by the power balance constraint of that BAA.

Transfer System Resource: Concept

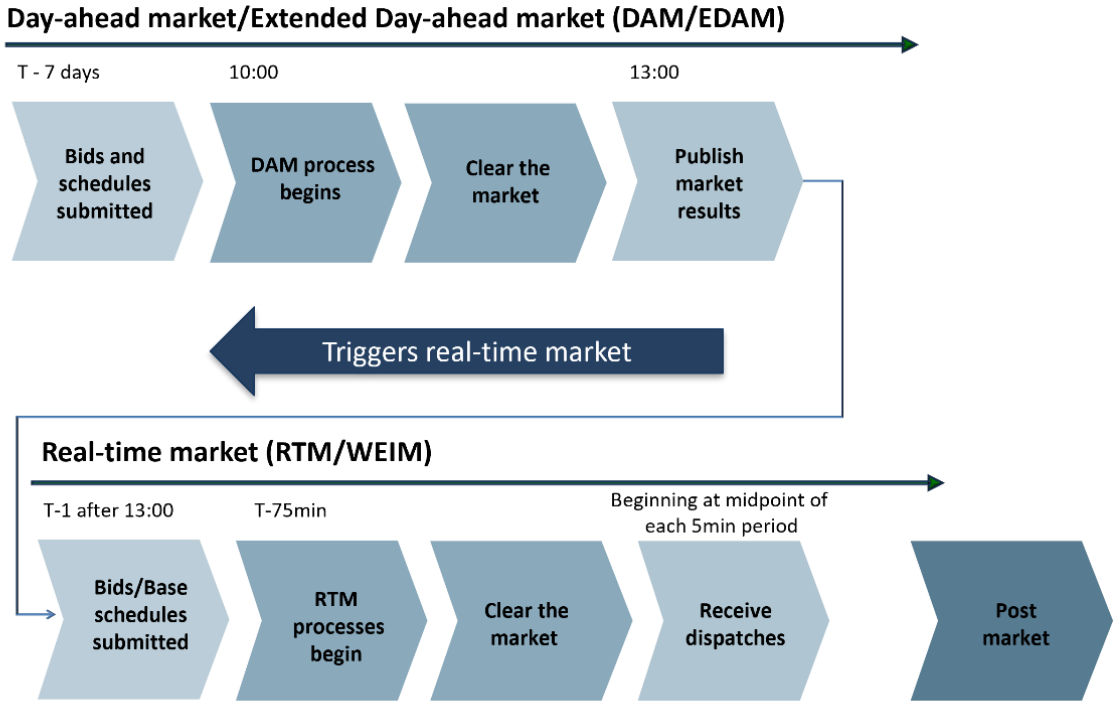


- EDAM and WEIM: Based on transfers between Balancing Authority Areas (BAAs).
- BAA Balance: Each BAA is kept in balance separately with a power balance constraint.
- Optimal Net Transfer: Positive for export or negative for import.

Note:
WEIM ETSR = Energy Transfer System Resource (energy only)
EDAM TSR = Transfer System Resource (energy & capacity)

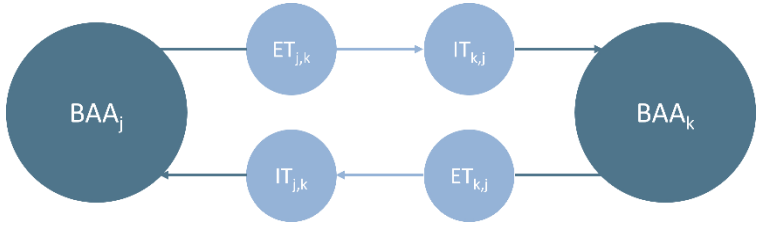
Transfer System Resource (TSR)

- Bid into the DAM
- All DAM schedules and awards roll over to RTM
- 4 types of TSRs, but only TSR Type 1 (Bilaterals) are rebid in RTM
- DA TSR schedules and awards are not optimized in the RTM
  - May be reduced for derates



The EDAM entity is responsible for registering all the TSRs in their BAA

- Paired TSRs must have the same TSR type on each side of transfer

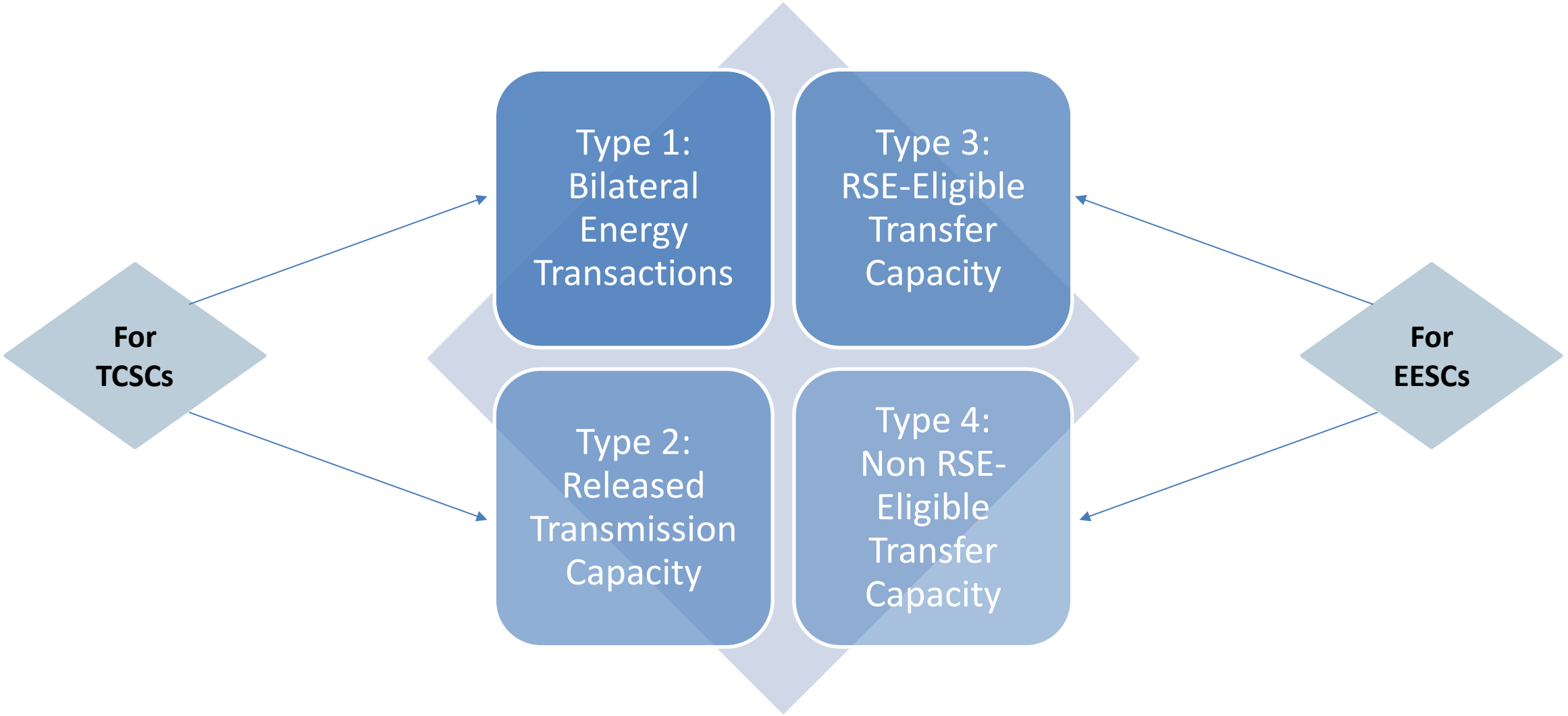


- Each TSR can be associated with either customer type:

Transmission Customer Scheduling Coordinator **(TCSC)**

EDAM Entity Scheduling Coordinator (EESC)

Types of Transfer System Resources (TSRs)



TSR TYPE 1

TSR Type 1: Bilateral Energy Transactions

Type 1 TSRs are for EDAM SCs (transmission customers) exercising physical and financial transmission rights on each side of a transfer.

Registration

- ✓ EDAM Entity on each side must register TSR for relevant EDAM SC in Master File.
- ✓ Or, EDAM SC may define TSR in SIBR for the trading day.

Self-Scheduling Rights

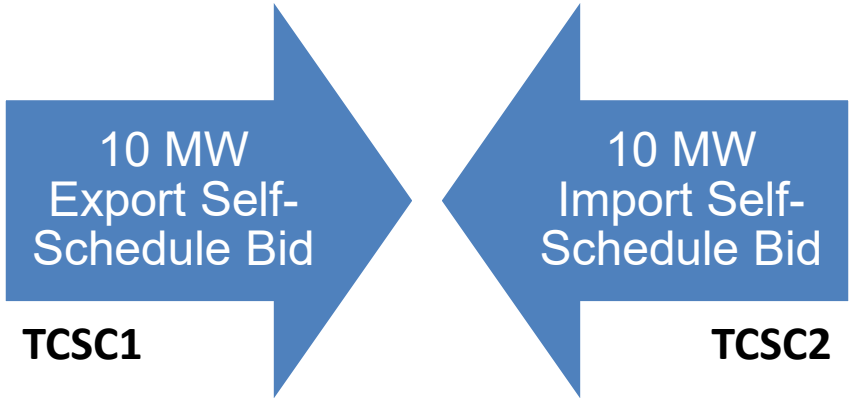
- EDAM SC may submit self-schedule bid under a unique Contract Reference Number (CRN) on respective TSR.
- All CRNs must be registered in Master File by relevant EDAM Entity.
- Self-schedule bids must be balanced and within CRN entitlement.
- Retains financial rights even if physical rights are lost.
- Self-schedule bids are RSE-eligible.

Using TSR Type 1: Bilateral Energy Transactions

Requirements

- TSR Type 1 is for self-schedule bids (not economic bids).
- Transfer revenue goes to EDAM Entity.
- Self-schedule bids must be balanced.
- EDAM SCs on both sides of the transaction have submitted matching self-schedule bids.

Example



SIBR Validation:

- Matching Intertie point, trade date/ trade hour
- Correct CRNs used
- MWs within CRN entitlement

TSR Definition and Validation

Definition and Matching

- Once an EDAM Entity submits a list of EDAM SCs and associated transmission right capacities by Contract Reference Number (CRN) at a transfer location, those EDAM SCs may define Type 1 Transfer System Resources (TSRs) for the Trading Day.
- When the corresponding EDAM SC submits a matching TSR, SIBR cross-validates the TSR pair and finalizes the TSR definition.

Bidding Requirements and Adjustments

- A Type 1 TSR bid must include an energy self-schedule that does not exceed the TSR's Maximum Capacity.
- If the EDAM Entity derates the CRN capacity before 9:00 am, SIBR will automatically reduce the TSR self-schedule bid to reflect the updated capacity.
- SIBR may also adjust the TSR self-schedule bid to match a lower value submitted for the matching TSR.

Rebidding of Type 1 TSRs in the Real-Time Market

EDAM SC Activity

- EDAM SC must rebid Type 1 TSRs in real-time to self-schedule under the CRN, unless the CRN has expired after day-ahead.
- If the CRN has expired or is “NONE,” a price-taker self-schedule bid is required.
- EDAM SCs may adjust real-time self-schedules from the day-ahead version.
- They may increase bids to use reserved (but unused) rights from day-ahead, up to the Maximum Capacity.

SIBR Validation

- CRNs are validated for entitlement (not balancing) in real-time; SIBR sets the Priority Indicator accordingly.
- SIBR ensures that the total of all Type 1 TSR self-schedule bids plus any released capacity does not exceed the CRN capacity set by the EDAM Entity for that SC and transfer location.

TSR TYPE 2

TSR Type 2: Released Transmission Capacity

Type 2 TSRs are for capacity from EDAM SCs (transmission customers) that release their transmission rights on each side of a transfer.

Registration

- ✓ EDAM Entity on each side of transfer has registered TSR in Master File for relevant EDAM SC.

SIBR-Defined

- ✓ Automatically generated by SIBR based on released capacity.

Notes regarding usage

- EDAM SC releases rights on the TSR.
  - EDAM SC may be same or different for both TSRs but released transfer capacities must be equal.
  - EDAM SCs eligible to receive 50% of transfer revenue.

Using TSR Type 2: Released Transmission Capacity

- TSR Type 2 offers transfer capacity intended to maximize the system's economic potential.
- Transfer revenue goes to EDAM SC.

- **Bid Requirements:**
  - Only accepted for TSRs registered in the Master File.
  - Must specify a Capacity Limit not exceeding the TSR's Maximum Capacity.
  - Capacity is released to EDAM for optimal scheduling.

SIBR-Defined Type 2 TSRs must be submitted by 9:00 am

EDAM SCs submit the MW amount of released capacity they want to make available for Type 2 before 9:00 am.

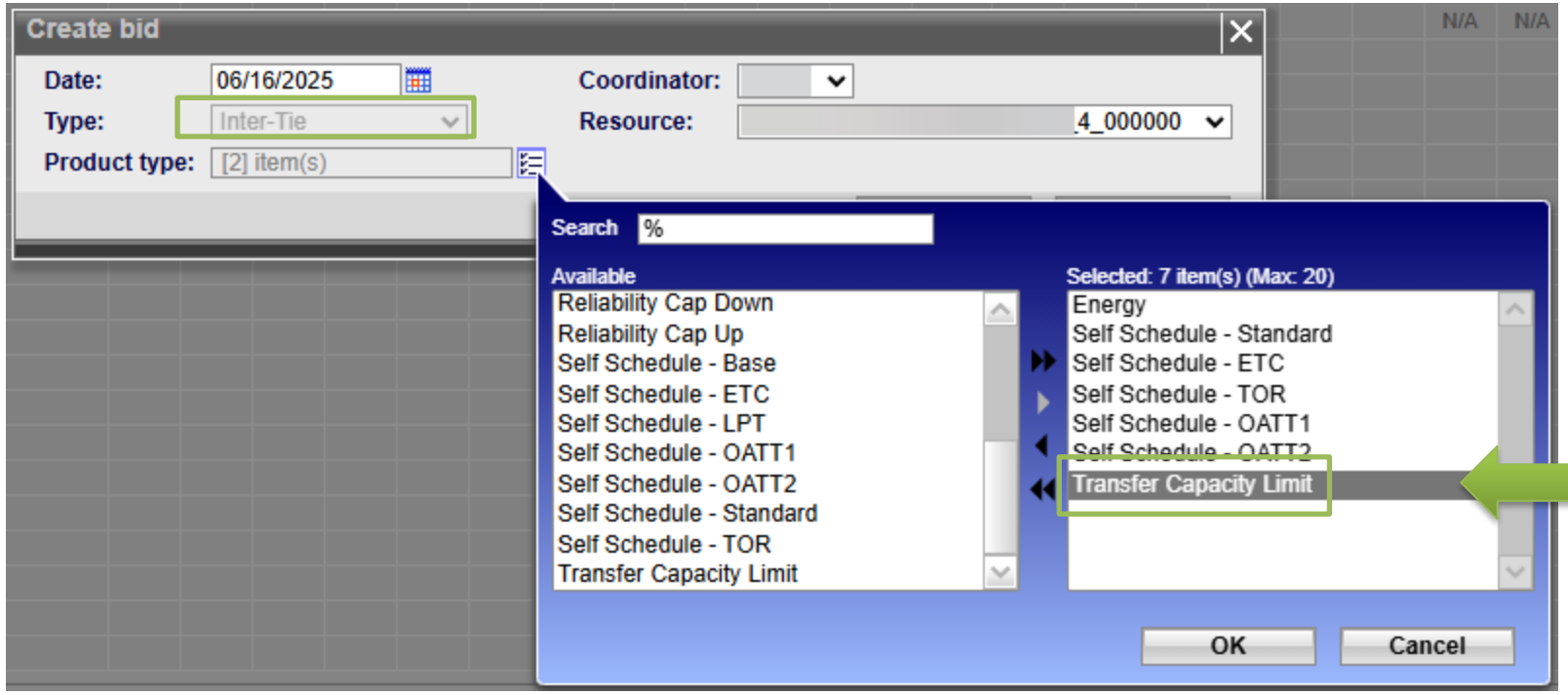
API submission details include:

- SC_ID: Registered EDAM SC
- TRANSFER_LOCATION: Registered transfer location
- TRADING_DAY: Up to 7 days in advance
- TRADING_HOUR: May vary by hour
- CRN_ID: Registered Contract Reference Number
- CRN_CAPACITY: Total transmission right for the CRN, usable for Type 1 or releasable for Type 2

SIBR Matching and TSR Generation

- **At 9:00 am, SIBR:**
  - Matches released capacity across the intertie.
  - Defines Type 2 TSR pairs for each Trading Hour.
  - Notifies the relevant EDAM SCs and EDAM Entities—no further action is required from EDAM SCs.
    - Matched pairs will display in SIBR.
- **Revenue Eligibility:**
  - EDAM SCs are eligible to receive 50% of the transfer revenue (unless otherwise specified in the Master File).

TSR Type 2 example



Release transfer capacity

TRANSIENT TSR

Transient TSRs

- Type 1 and Type 2 TSRs that are not registered in the Master File, rather they are defined in SIBR for a specific trade date.

- TSR definition in SIBR only persists for the Trading Day, and must be redefined for every day.

Transient TSRs Submission Process

1

An SC may submit in SIBR a TSR definition for a TSR registered in Master File to indicate a derate on the registered maximum capacity

2

An EESC may further restrict release capacity by submitting a TCSC list that defines transfer location, CRN being used, the SC and new max capacity. Derates are only accepted before 9:00am, and cross checked to ensure max capacity is not exceeded.

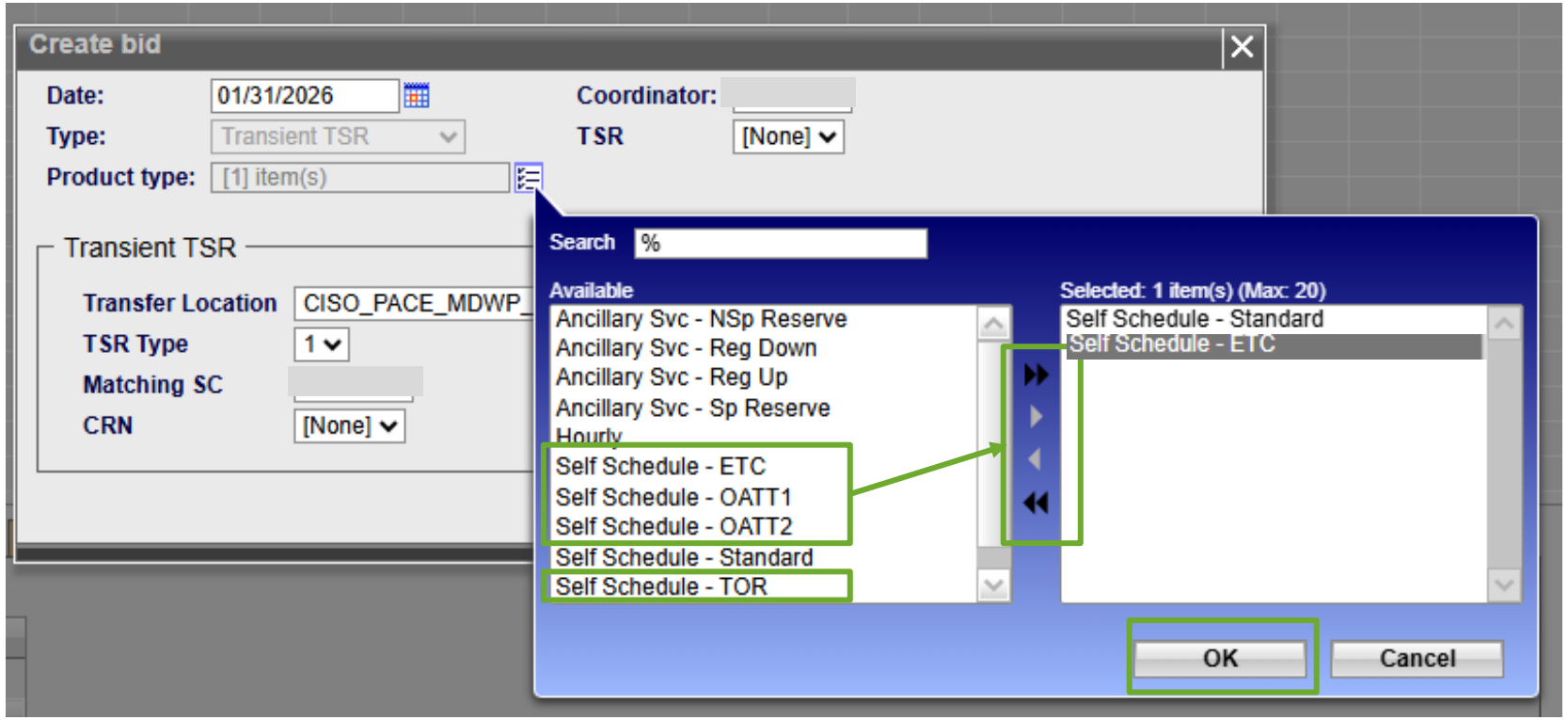
3

Important note: you cannot submit Transient Type 2 bids.

Transient Type 2 bids are generated based on released capacity submission and process to auto-match those pairs from the Transient Type 1 submission.

Transient Transfer System Resource (TSR) Example

- After selecting Transient TSR as your Type, select your Product type:
  - for Transient TSR, selection will be OATT1, OATT 2, ETC or TOR.



TSR TYPE 3

TSR Type 3: RSE-Eligible Transfer Capacity

TSR Type 3 represents resource-specific capacity used to support BA load, eligible for Resource Sufficiency Evaluation(RSE). [Source = Resource, Sink = Load]

Registration

- EDAM Entity on each side of transfer has registered TSR for itself in Master File.

Usage

- Transfer revenue goes to EDAM Entity.
  - Entity may sub-allocate revenue based on its Open Access Transmission Tariff (OATT).

Notes regarding usage

- EDAM Entity may self-provide ancillary services (AS) which transfers AS obligation from one BA to another.
- EDAM Entity may release transfer capacity on the TSR.
- Self-provided ancillary services and released transfer capacities must be equal across the transfer.

Using TSR Type 3: RSE-Eligible Transfer Capacity

Bid Requirements:

- Each Type 3 TSR bid must specify a Capacity Limit that does not exceed the TSR's Maximum Capacity.

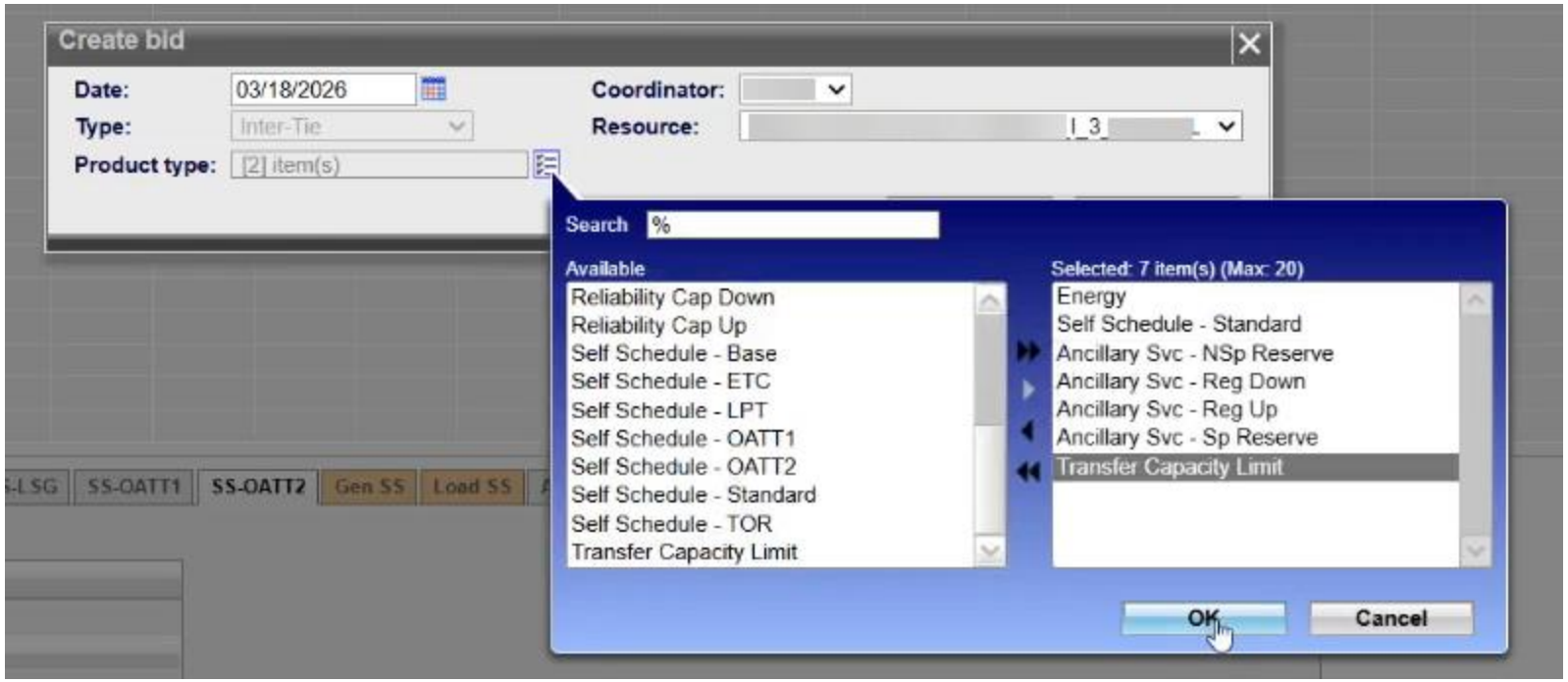
Bids may also include ancillary services self-provision for:

- Regulation Up (RU)
- Regulation Down (RD)
- Spinning Reserve (SR)
- Non-Spinning Reserve (NR)

Total ancillary services capacity must not exceed the specified Capacity Limit.

TSR Type 3

- Ability to select multiple product types in SIBR
- For Type 3, this includes Ancillary Service bids
- Transfer Capacity Limit can be included for Type 3



TSR TYPE 3

TSR Type 4: Non RSE-Eligible Transfer Capacity

Type 4 TSRs are released by EDAM Entities, and this capacity is **not** RSE-eligible.

Registration

✓ EDAM Entity on each side of transfer has registered TSR for itself in Master File.

Usage

- TSR Type 4 capacity is released to EDAM for optimal scheduling.
- Transfer revenue goes to EDAM Entity.
  - Entity may sub-allocate revenue based on its Open Access Transmission Tariff (OATT).

Notes regarding usage

- The EDAM Entity may release transfer capacity on the respective TSR.
- The released transfer capacities must be equal across the transfer.

Type 4 TSR Non RSE-Eligible Transfer Capacity Bids and Validation

Capacity Limit Rules

Type 4 TSR bids must include a Capacity Limit that does not exceed the TSR's Maximum Capacity.

SIBR Adjustments

- If the EDAM Entity derates the TSR Maximum Capacity before 9:00 am, SIBR will automatically adjust the Capacity Limit accordingly.
- SIBR may also reduce the Capacity Limit to align with a lower Capacity Limit submitted for the matching TSR.

Scheduling and Optimization

- The transfer capacity under the adjusted Capacity Limit is released to EDAM.
- EDAM uses this capacity for optimal scheduling in the Integrated Forward Market (IFM) and Residual Unit Commitment (RUC).

DAY AHEAD AWARDS FOR TSR

Day-Ahead Market Awards for TSRs

Depending on the TSR Type, a TSR may have the following schedules and awards:

Market Award	Type 1	Type 2	Type 3	Type 4
Energy Schedule	• Energy Schedule	• Energy Schedule	• Energy Schedule	• Energy Schedule
Ancillary Services Award	N/A	N/A	• Regulation Up • Regulation Down • Spinning • Non-Spinning	N/A
Imbalance Reserves	N/A	• Imbalance Reserve Up • Imbalance Reserve Down	• Imbalance Reserve Up • Imbalance Reserve Down	• Imbalance Reserve Up • Imbalance Reserve Down
Reliability Capacity	N/A	• Reliability Capacity Up • Reliability Capacity Down	• Reliability Capacity Up • Reliability Capacity Down	• Reliability Capacity Up • Reliability Capacity Down

TSRs in the Real-Time Market

- All Day-Ahead Market (DAM) schedules and awards are rolled over to the Real-Time Market (RTM).
- No TSR bids are submitted in RTM, except for Type 1 TSRs that must be rebid to re-affirm the exercise of CRNs via self-scheduling, subject to entitlement validation.
  - SIBR does not perform balancing validation in RTM because there are no load bids.
- SIBR generates TSR bids with the DAM schedules (as self-schedule bids) and DAM awards.
- DA TSR schedules and awards are not optimized in the RTM, but they may be reduced for derates in the TSR Maximum Capacity submitted to SIBR by EDAM Entities.
  - Reduced DAM schedules and awards are published by SIBR for transfer revenue deviation settlement.

Transfer Revenue Allocation in EDAM

Transfer Revenue Allocation: Except for Type 2 transfer capacity releases occurring before 9:00 am, transfer revenue is generally split evenly between the EDAM Entities on each side of the transfer.

Custom Revenue Splits: If a different revenue-sharing ratio is specified in the Master File (based on BAA pair, intertie, and direction) that ratio will override the default even split.

Revenue Distribution to EDAM SCs: Each EDAM Entity is responsible for distributing its share of the transfer revenue to its EDAM SCs in accordance with its Open Access Transmission Tariff (OATT).

Settlement Information: Will be provided in the training session that focuses on the settlements-related impacts of DAME, EDAM, and EDAM CAISO BAA Participation Rules.

Learn more in the **settlements-focused** training!

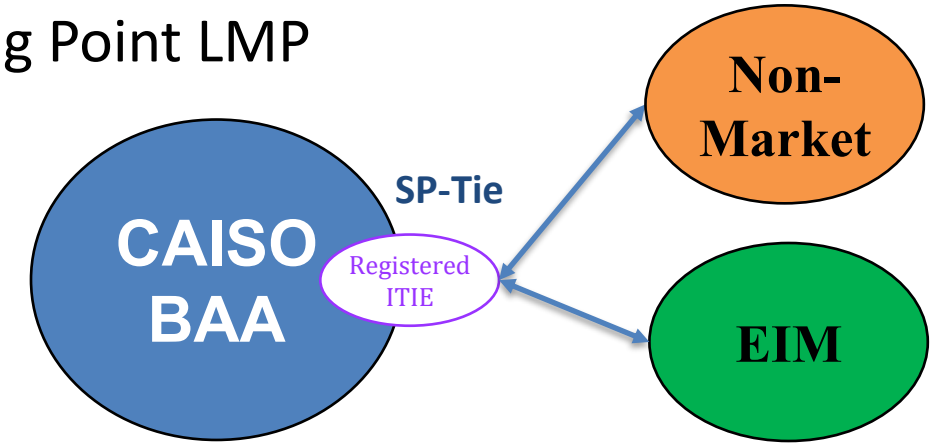
INTERTIE SCHEDULING & RA IMPORTS

Scheduling at CAISO BAA Interties with non-EDAM areas

Note: Scheduling Point intertie (SP-Tie) modeling for intertie schedules will remain in place at the CAISO BAA Interties with non-EDAM BAAs

In the Day-Ahead:

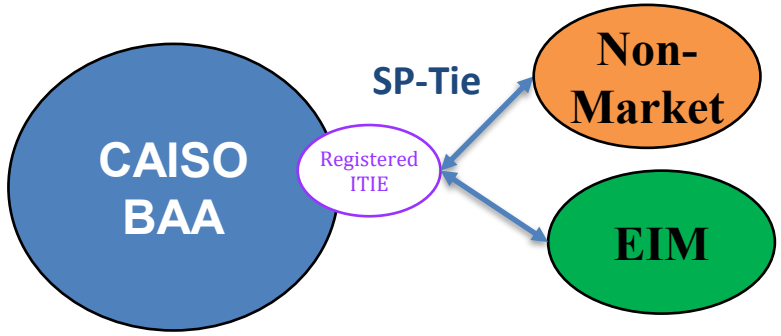
- Intertie scheduling and modeling practices remain as today
- Intertie schedules modeled as energy injections (i.e. import) directly at the SP-Tie location based on the modeling of a generator at that location
- Settlements will continue to be at the Scheduling Point LMP



Scheduling at CAISO BAA Interties with non-EDAM areas

In Real-Time:

- For intertie schedules with non-EDAM areas at the CAISO BAA interties
  - At interties with Non-Market areas, Optimization in the HASP (as today):
    - Schedules continue to be re-optimized through the Fifteen-Minute Market (FMM).
  - At interties with EIM areas, Optimization is at the HASP ONLY :
    - Schedules NOT re-optimized in the Fifteen-Minute Market (FMM).
    - Except for Dynamics:
      - Continue to be re-optimized in the FMM and RTD at their intertie locations



RA Imports at CAISO BAA Interties with Non-EDAM Areas

No changes:

- RA Import continue to be shown as today on Annual and Monthly Showings
- Bids, both in DA and RT, at the import interties continue to supported with existing Must Offer Obligations (MOO)
- No changes with how Pseudo-Ties, Dynamically scheduled and Non-Resource Specific imports are shown at the interties

RA Imports at CAISO BAA Interties with EDAM Areas

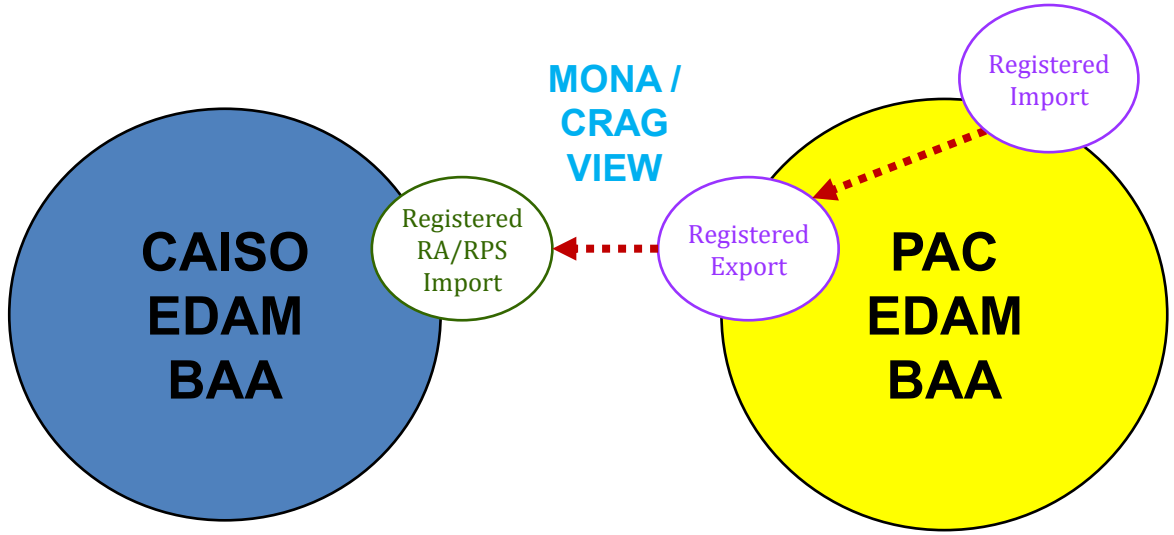
For MONA and CRAG VIEW interties:

- Continue to support RA import Showings at these locations
  - Need Maximum Import Capability (MIC) to support Showings at the locations
- Bidding:
  - If the Source Generator of the RA import is known prior to 08:00am PPT of the DAM run, the SC is expected to reassign to that specific Generator located in the PAC BAA.
  - If reassigned, no bid expected at shown ITIE registered ID
  - If the Source of the RA import is **NOT** known prior to 08:00am PPT of the DAM run, or is otherwise located outside of the EDAM footprint, the SC can bid at MONA and CRAG VIEW
    - Reassignment is not expected

Real-Time Market Expectations for bids at MONA & CRAG VIEW: Sourced outside of PAC BAA

Note: This is for Transactions where the Source Generator is not known in the Day Ahead

1. If awarded in the DAM, the SC may continue to bid in RT at MONA and CRAG VIEW (Optimization in HASP only)
2. Market Schedules should reflect the submitted e-tags for the transactions (as today)
3. In Real Time, if the source Generator is located outside of and wheeling through the PAC BAA, the SC is expected to submit both:
   1. An import SS to the PAC BAA
   2. An export SS from PAC BAA to CAISO BAA



Note: LMP's can vary at associated transaction points based on congestion and losses

When is the Scheduling Coordinator expected to “reassign” the RA obligation for a RA import?

- Source Generator supporting the RA obligation is located in an EDAM BAA
- Reassignment must be completed prior to 08:00 am PPT of the DAM run
- SC of reassigned resource must also accept reassignment by 08:00 am PPT of the DAM run
- The physical resource then has the RA Must Offer Obligation (MOO) associated with it for the duration of the reassignment (*similar to the RA substitution rules in place today*).
- Reassignments are processed and managed in CIRA

Exports from the CAISO BAA to non-EDAM interties

NOTE: At CAISO BAA interties with non-EDAM areas, Low priority and High priority exports constructs will continue to be support as today.

If the Sink BAA is a Non-EIM BAA:

- No change to how currently done today

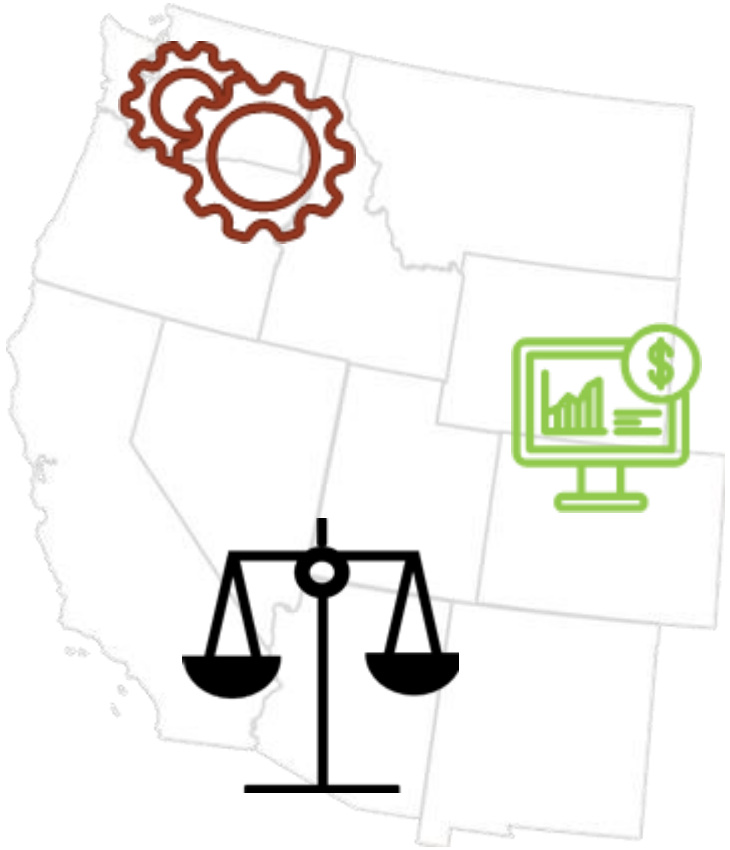
If the Sink BAA is a EIM BAA:

- Follow existing registration protocol of an “Export System Resource”
  - Via submission of an Intertie Resource Data Template (IRDT) in MasterFile
- Registration of the system resource will be associated with the specific mirror intertie
- Associated mirror IDs are to submit via export Self-Schedules at export locations to balance imports to the CAISO BAA for Day Ahead or HASP

BIDDING EXAMPLES

Initiative Review | Market Pricing | EDAM Processes | Transfer System Resources | **Bidding Examples** | Application Changes | Market Simulation

Market Optimization and Results



SCs bid their resources into a variety of market products and the market processes run to determine the optimal solution for the trade date.

The methodology used to determine market awards is called **Security Constrained Unit Commitment (SCUC)**. The SCUC methodology maximizes economic efficiency, relieves network congestion, and considers physical constraints to achieve least-cost resource commitment and scheduling across the full 24-hours of the trade date.

Market results are published to provide **demand** and **supply** with their day-ahead schedules and awards.

What are the bidding parameters for the different products?

ENERGY

- Maximum of 10 segments
- Supply bids ($/MWh) have a monotonically increasing bid curve
- Demand bids ($/MWh) have a monotonically decreasing bid curve
- Subject to energy soft bid cap of $1000/hard cap of $2000 and floor of -$150
- Default Energy Bid used for Market Power Mitigation

IMBALANCE RESERVES

- One segment curve, bid + MW
- Default Availability Bid used for Market Power Mitigation

RELIABILITY CAPACITY

- One segment curve, bid + MW
- Default Availability Bid used for Market Power Mitigation
- Automatic RCU bid insertion for certified resources

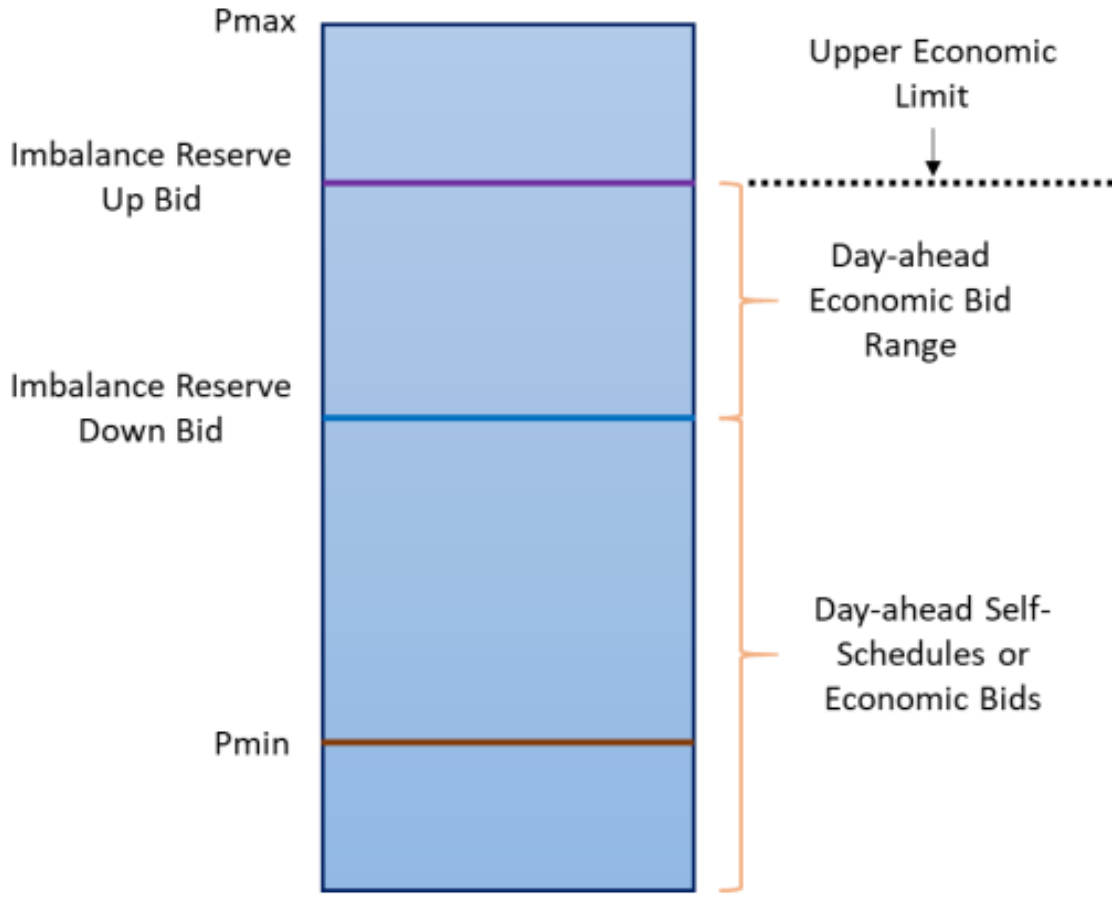
How does the day-ahead award affect a resource's real-time position?

- The Day-Ahead Market is a financial position only.
- Day-ahead awards directly affect the real-time position.
- Scheduling Coordinators are expected to deliver their day-ahead award in real-time or bid something else.
  - Day-ahead awards for energy becomes a resource's day-ahead schedule.
    - In real-time, these MWs can be either :
      1. Re-bid economically,
      2. Bid as a self-schedule, or
      3. A combination of self-schedule bids and economic bids.
    - TSR nuance: only Type 1 can re-bid in real-time. Day-ahead results for TSR types 2, 3, and 4 will flow into real-time.

Day-Ahead Bidding Rules for Imbalance Reserves and Reliability Capacity

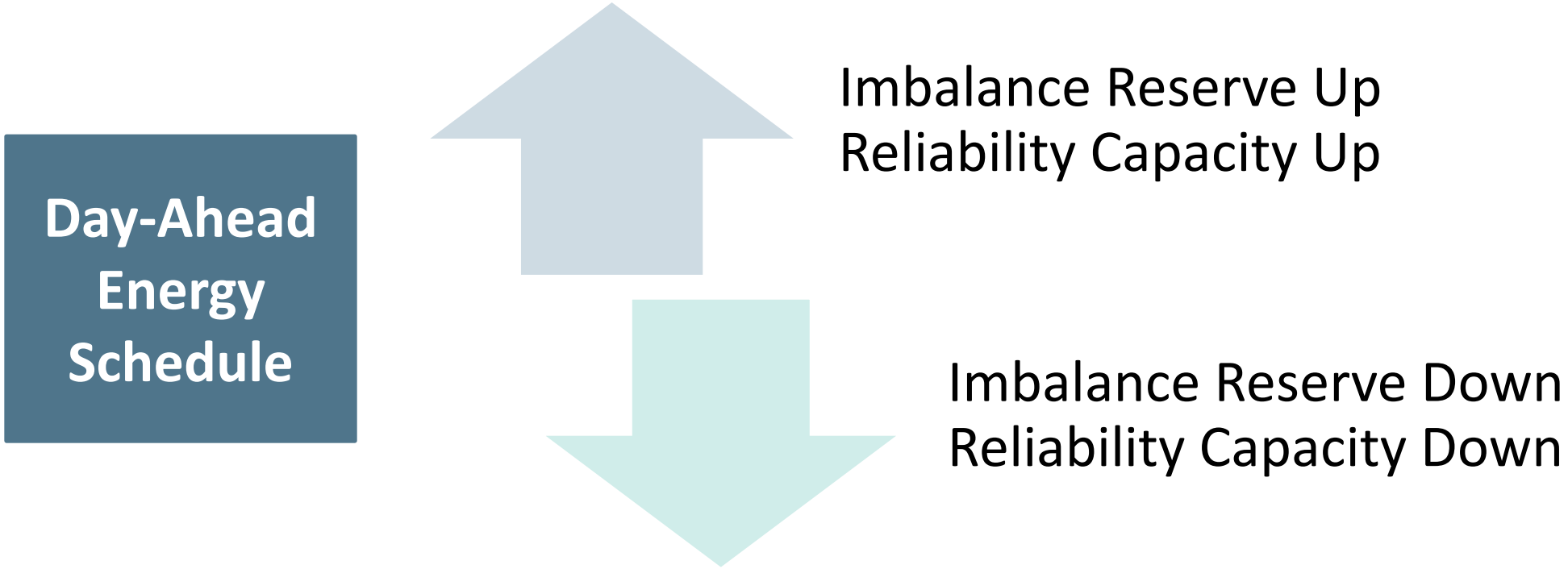
Refer to Business Requirements Specification for Day-Ahead Market Enhancement (DAME) for details on new capacity products:

- Resource Eligibility Table
- Proposed and Existing DAM Products
- Bidding Obligations



Impact of Capacity Awards on Day-Ahead Energy Schedules

A resource's awards in the day-ahead (EDAM) timeframe have a **must offer obligation** to submit bids for energy in real-time (WEIM) to cover the range of market awards. If the SC does not submit bids, the market will insert bids to ensure the resource meets its must offer obligation.



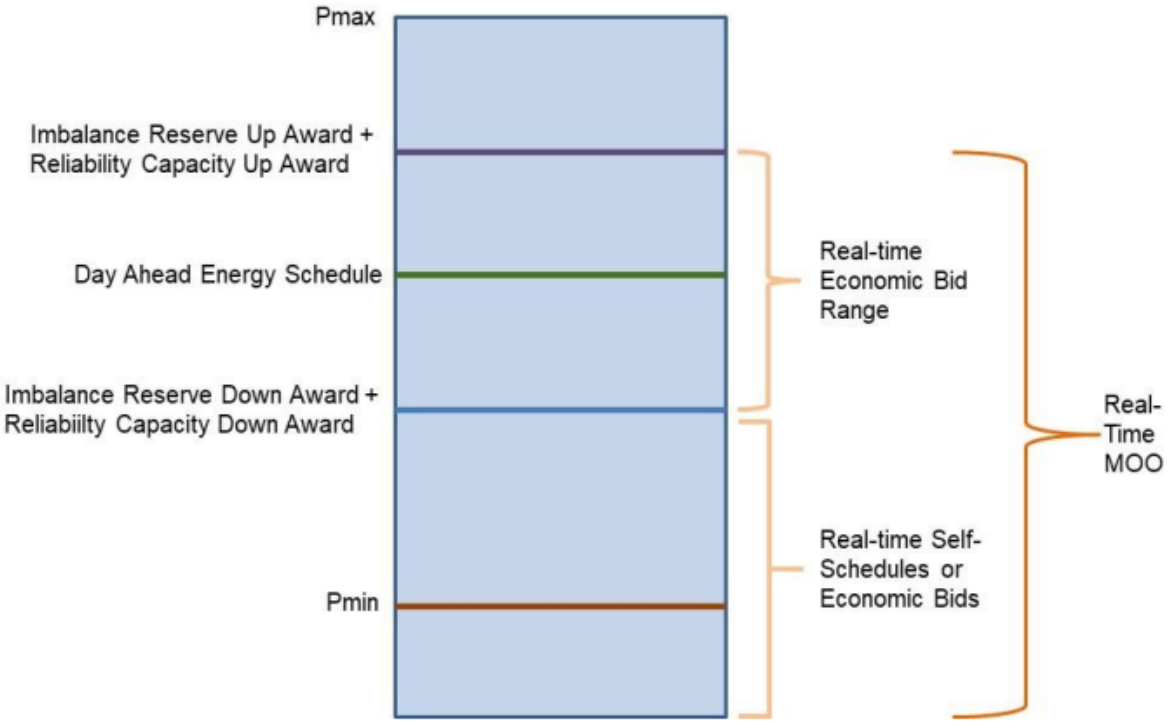
Real-Time Bidding Obligations

Refer to Business Requirements Specification for Day-Ahead Market Enhancement (DAME) for details on new capacity products

- Resource Eligibility Table
- Proposed and Existing DAM Products
- Bidding Obligations

Note that in real-time, these MWs can be either:

1) Re-bid economically
2) Bid as a self-schedule, or
3) Submitted as a combination of self-schedule bids and economic bids.



EXAMPLE 1

Example 1: Awards for Energy and Imbalance Reserves

Day-Ahead Awards

Energy

Imbalance Reserves

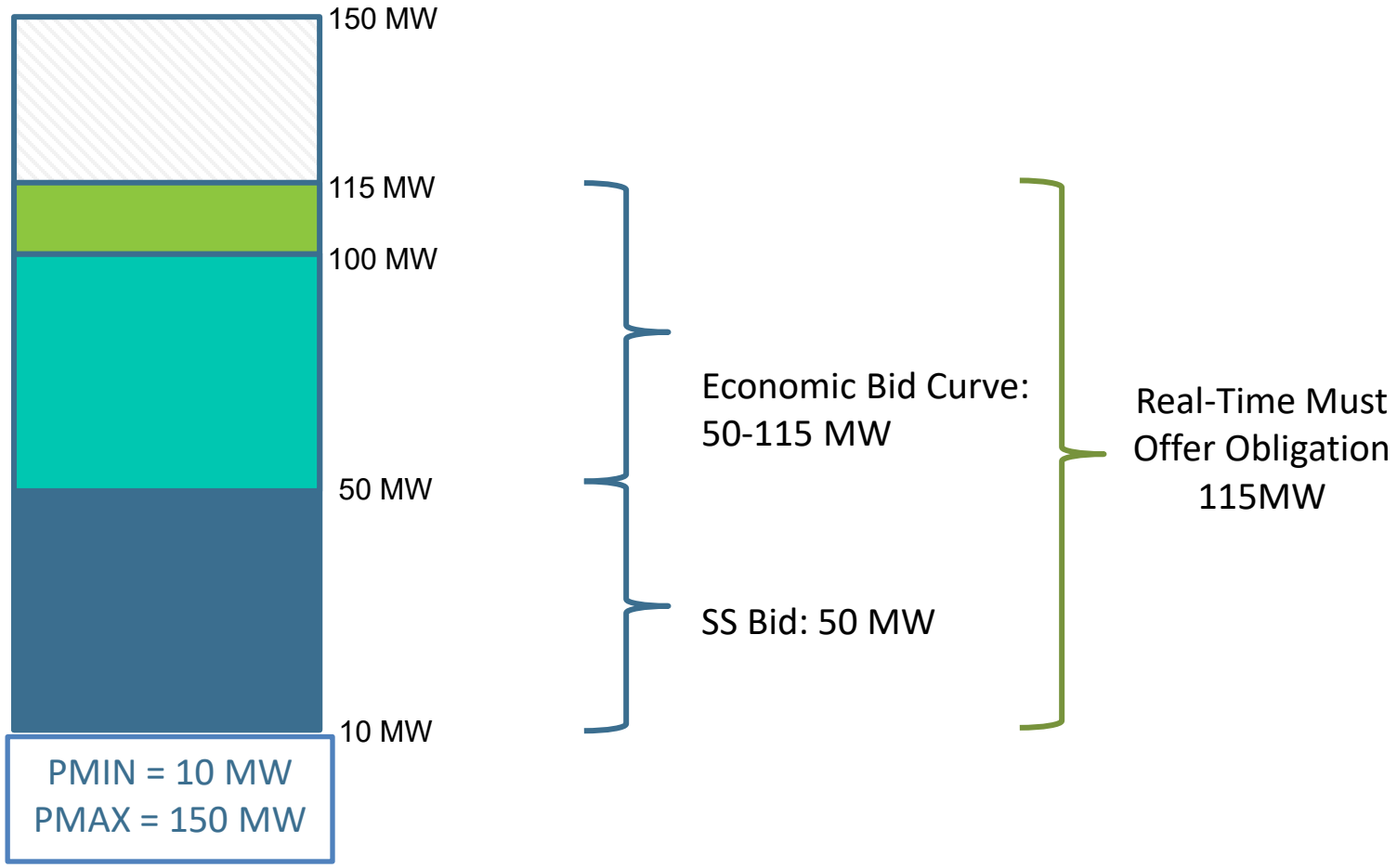
Example 1: Awards for Energy and Imbalance Reserves

Day-Ahead Awards

Energy: 100 MW

IRD: 50 MW

IRU: 15 MW



EXAMPLE 2

Example 2: Awards for Energy, Imbalance Reserves, and Reliability Capacity

Day-Ahead Awards

Energy

Imbalance Reserves

Reliability Capacity

Example 2: Awards for Energy, Imbalance Reserves, and Reliability Capacity

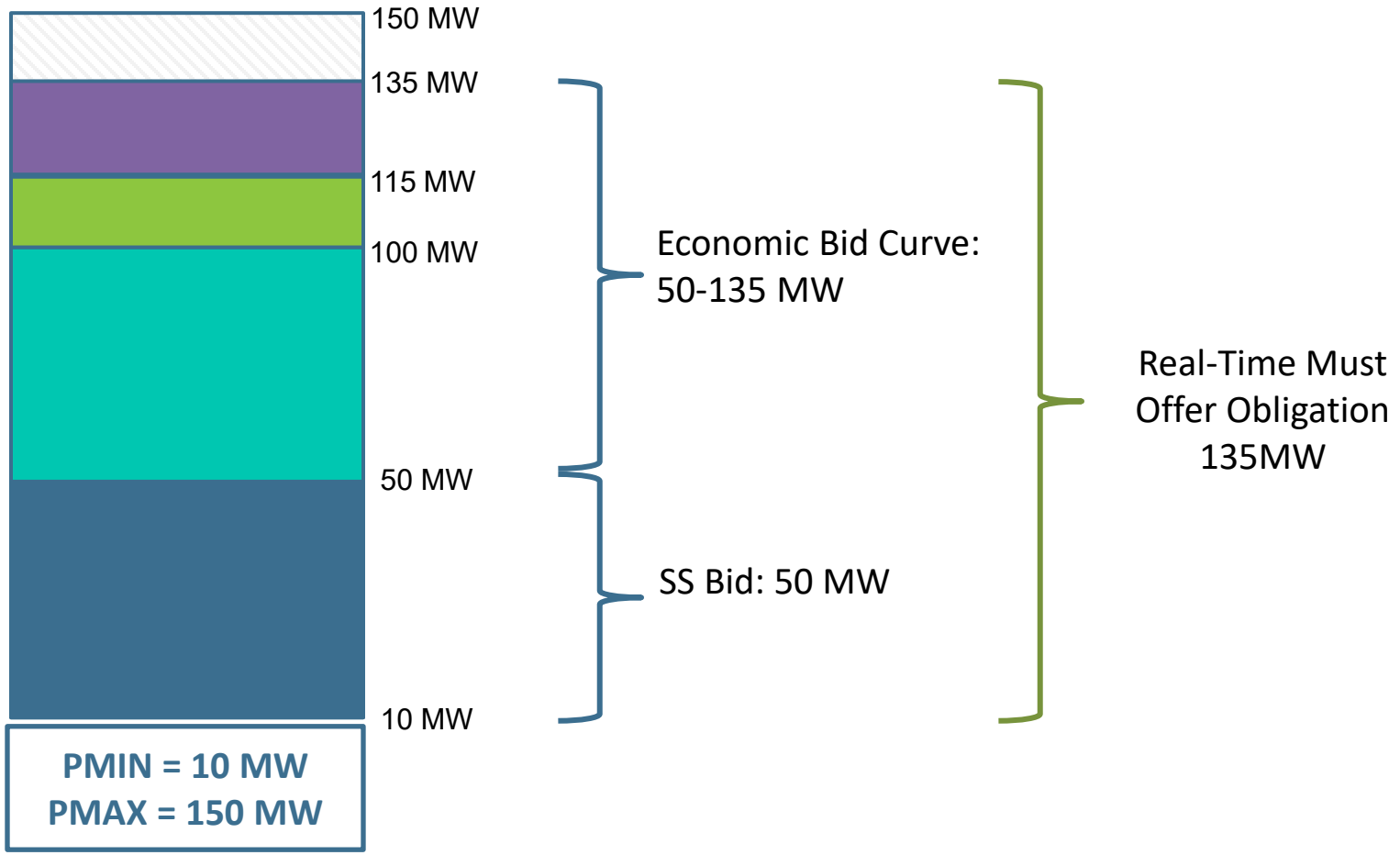
Day-Ahead Awards

Energy: 100 MW

IRD: 50 MW

IRU: 15 MW

RCU: 20 MW



EXAMPLE 3

Example 3: Awards for Energy, Imbalance Reserves, Reliability Capacity, and Ancillary Services

Day-Ahead Awards

Energy

Imbalance Reserves

Reliability Capacity

Ancillary Services

Example 3: Awards for Energy, Imbalance Reserves, Reliability Capacity, and Ancillary Services

Day-Ahead Awards

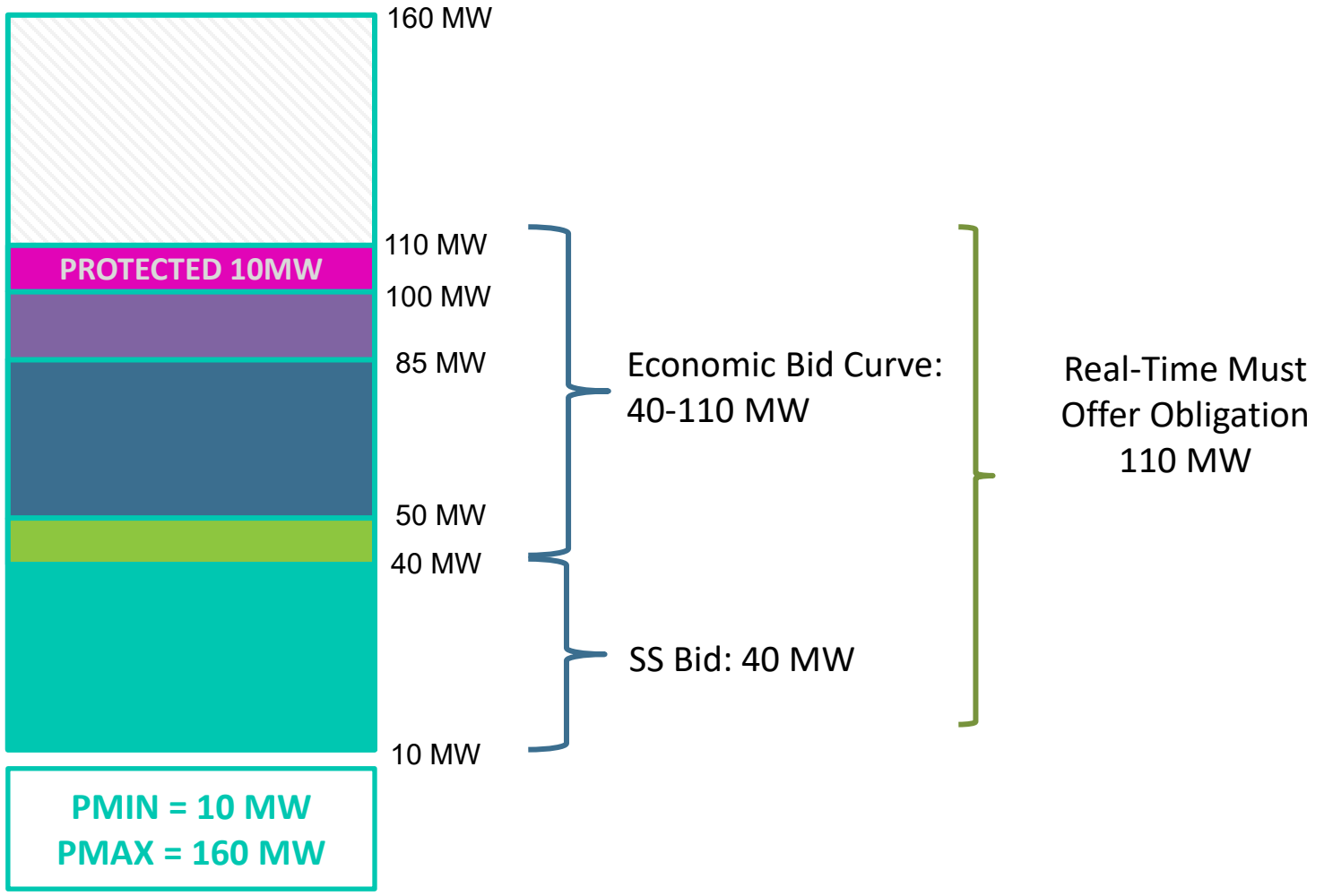
Energy: 85 MW

IRU: 15 MW

IRD: 35 MW

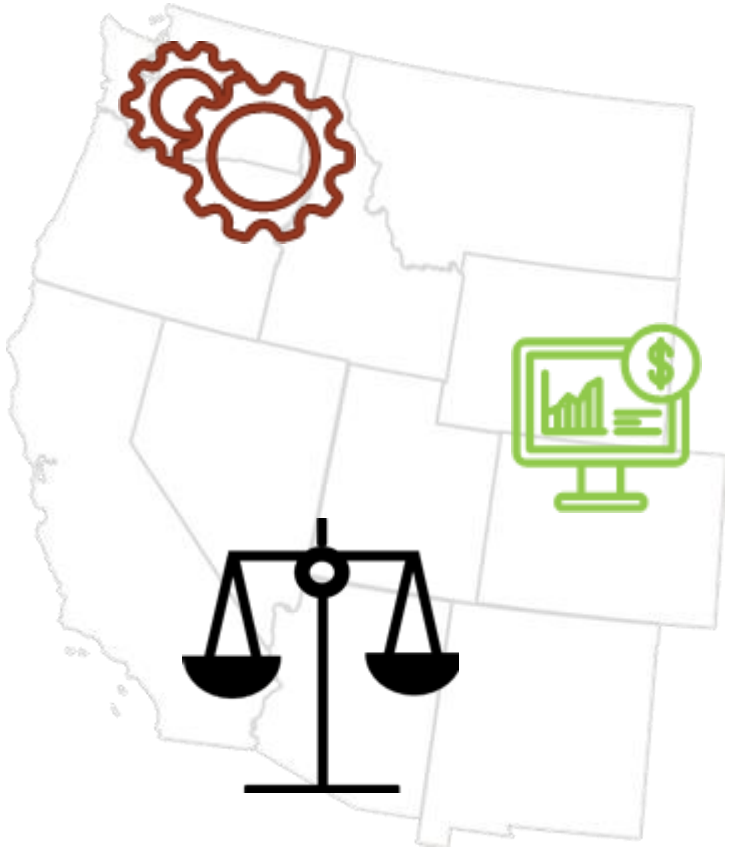
RCD: 10 MW

AS Spin: 10 MW



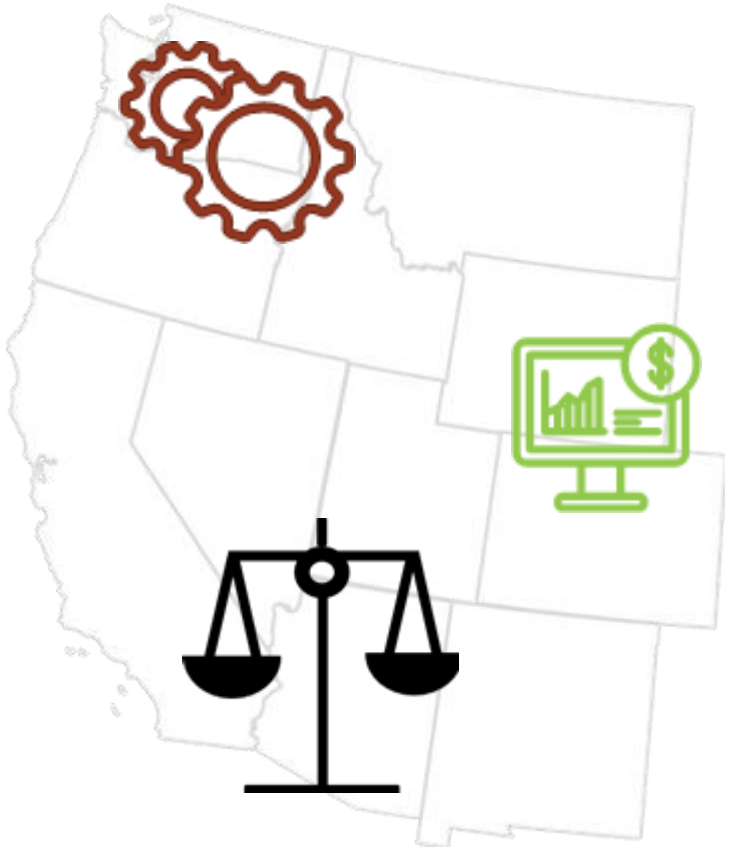
ANALYZING MARKET RESULTS

Day Ahead Market Optimization and Results



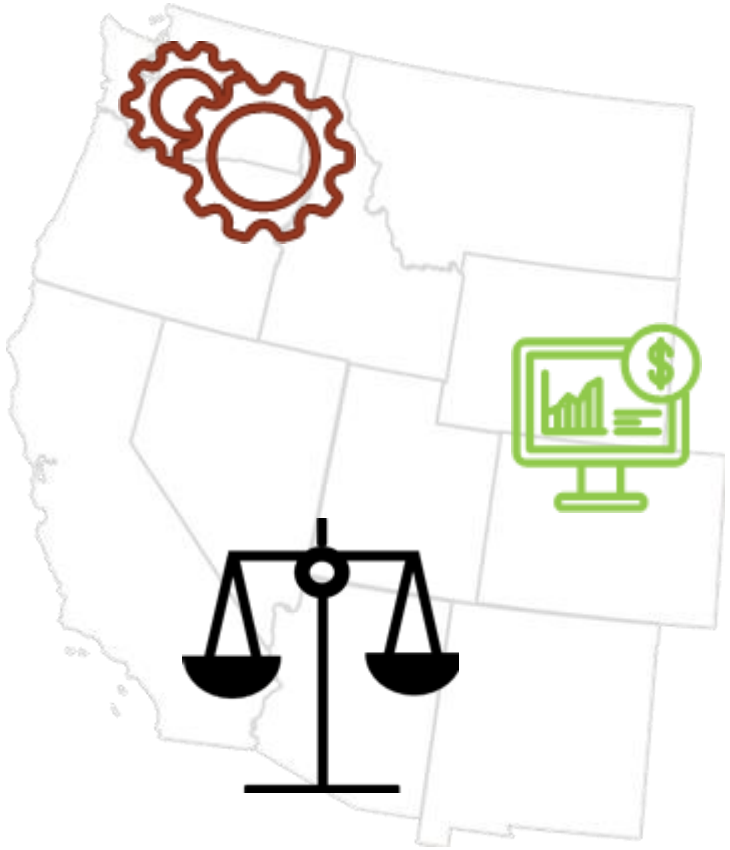
- **DAM Co-Optimization: A System-Wide Perspective optimized over a full 24-hour horizon.**
  - The CAISO market is engineered to minimize total system cost across a full 24-hour horizon — not to maximize the performance of any individual generation unit. Every commitment and dispatch decision reflects what is economically optimal for the system as a whole, which may at times appear suboptimal when viewed at the unit level.
- **Interdependence of Awards and Prices**
  - Market awards and locational marginal prices are intrinsically linked. Any modification to a unit's megawatt award triggers a cascade of recalculations across unit commitments, ramp constraints, and ancillary services. It is therefore not possible to assess any single dispatch decision in isolation — the market solution must always be evaluated in its entirety.

Day Ahead Market Optimization and Results



- **Strategic Commitment and Inter-Temporal Constraints**
  - Units may be committed during low-price periods at an apparent short-term loss to ensure availability during high-demand intervals later in the day. This is not a market inefficiency — it is an outcome of solving across multiple time intervals simultaneously.
- **Higher-Risk Hours: HE14/15 and HE20/21**
  - Market awards and locational marginal prices are intrinsically linked. Any modification to a resource's MW award triggers a cascade of recalculations across unit commitments, ramp constraints, and ancillary services. It is therefore not possible to assess any single dispatch decision in isolation — the market solution must always be evaluated in its entirety.

Day Ahead Market Optimization and Results



- **Bid Cost Recovery as a Structural Safeguard**
  - Where unit-level net losses occur over the 24-hour settlement period, Bid Cost Recovery mechanisms exist to provide financial realignment. This construct is a standard, well-established feature across all ISO markets and reflects recognized principles of power market design.
- **Software defects**
  - Periodically, there are software defects that impact the optimal dispatch of units and the ISO pursues all those to a resolution. The ISO takes the validation and correctness of the market solution seriously, and encourages market participants to raise issues if the solution seems out of the normal range, remembering that 'normal' is a range, not an absolute point where all other solutions are invalid.

Some additional helpful information available: **Knowledge Articles**

KAS-23-449: Reasons Day-Ahead Market Results May Not Seem Economic

KAS-25-636: How Does a User Know the Data Points to Validate Prices in Day-Ahead (DA), Real-Time Pre-Dispatch (RTPD) and Real-Time Dispatch (RTD) That Were Mitigated Through the Market Power Mitigation (MPM) Process

KAS-25-545 : Multi-Stage Generation (MSG) Receiving Day-Ahead Awards Below a Configuration's Pmin

KAS-25-487: How Outage Availability Impacts Startup Time Within the Real-Time and Day-Ahead Markets?

KAS-23-438: What is the Deadline for Outages to be Submitted Via the Outage Management System (webOMS) so They are Incorporated in the Day Ahead Market?

APPLICATION CHANGES

Initiative Review | Market Pricing | EDAM Processes | Transfer System Resources | Bidding Examples | Application Changes

ISO applications

MASTER FILE

(MF)

SCHEDULING INFRASTRUCTURE & BUSINESS RULES (SIBR)

CUSTOMER MARKET RESULTS INTERFACE (CMRI)

OPEN ACCESS SAME-TIME INFORMATION SYSTEM (OASIS)

MASTER FILE

How is the EDAM participation model different than WEIM?

WEIM has two participation models

Participating Resource (PR)

- Submits economic bids that allow the market to dispatch the resource in real-time.
- Uses BSAP and SIBR applications.

Non-Participating Resource (NPR)

- Operates in the BA at a base scheduled output but **does not** get economically dispatched in real-time.
- Uses BSAP application only.

EDAM has one model

- All EDAM resources are required to be participating resources, even if they will only submit self-schedule bids.
- Economic bids and self-schedule bids submitted via SIBR application.
- Follow the existing process to convert NPR to PR.

BSAP application not used in EDAM

Analyze and address current set of WEIM non-participating resources

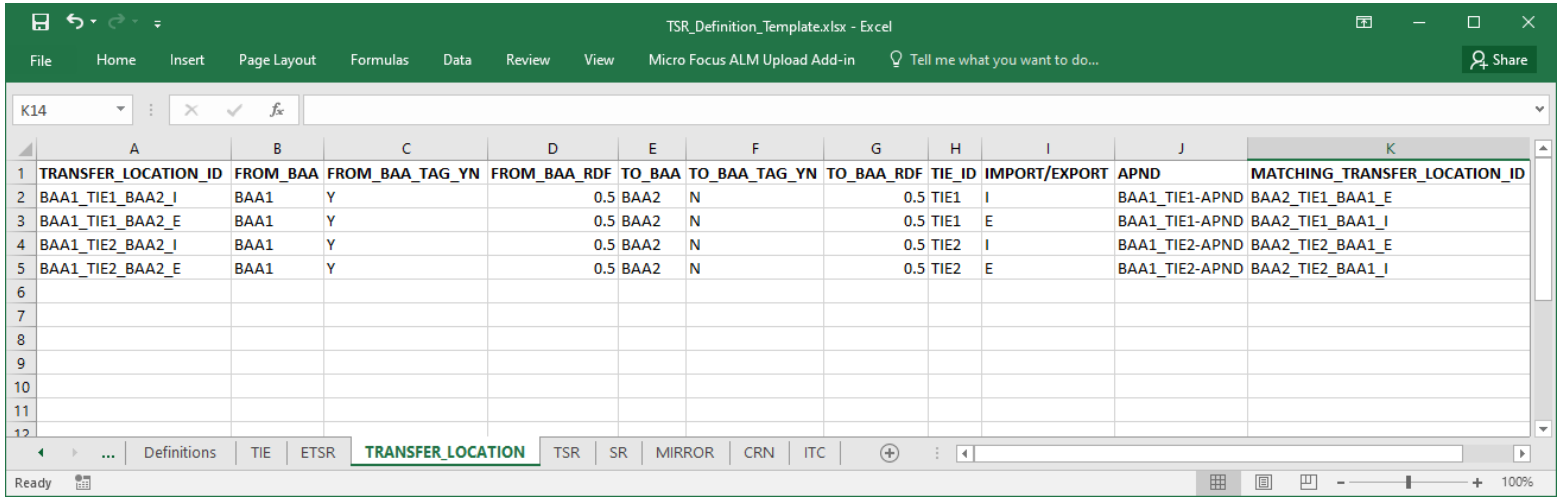
- All non-participating resources must be converted to participating resources.
  - Refers to resources in Master File flagged as WEIM non-participating resources.
  - Does not refer to behind the meter, rooftop solar, etc.
- Submit required documentation to convert NPR to PR through existing process.
  - Resource ID remains the same.
- This may require action by the **EDAM Entity** and/or the **EDAM SC** based upon the resource fleet within the respective BAA and how they are set up in Master File.
  - Example: EDAM Entity converts resources from NPR to PR and submits resource transfer to EDAM SC.

Additional Master File changes that may apply

- Refer to the Master File section in Business Requirements (BRS) documents to view Master File changes that may apply to your resources:
  - Day-Ahead Market Enhancements (DAME)
  - Extended Day-Ahead Market (EDAM)
- For Example: GHG regulation area may need to be updated.
  - Tracks the jurisdictional state for GHG compliance obligation.
  - Currently, these options are CA and WA.

Identify Transfer Locations in Master File to prepare for EDAM participation

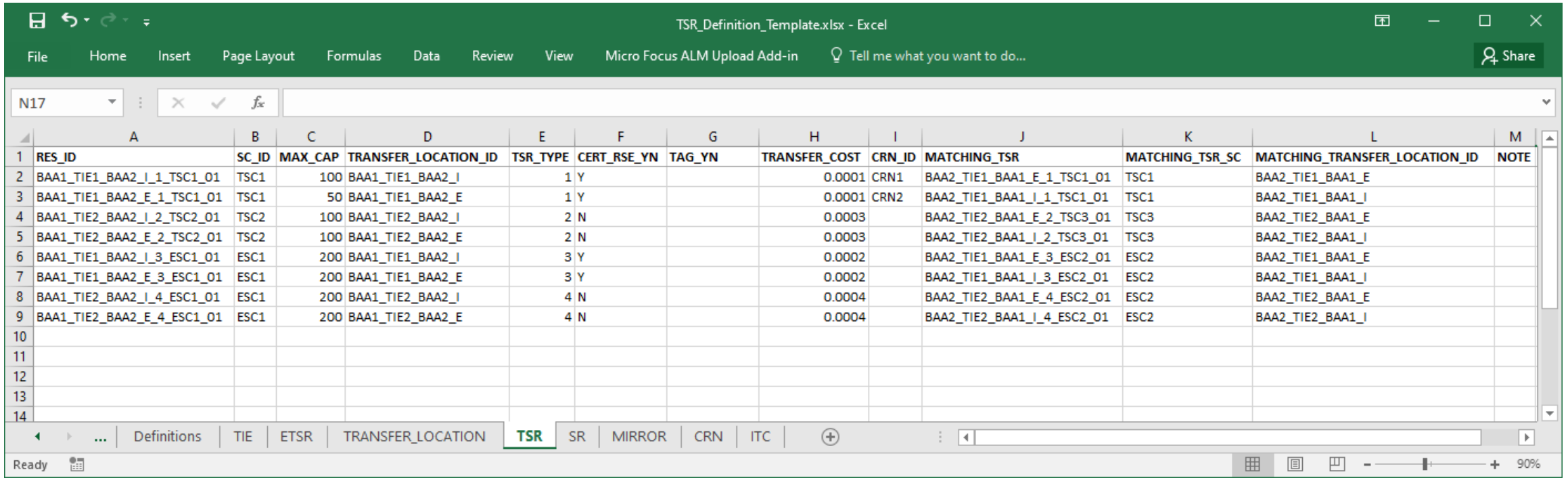
- New fields added to Master File to define transfer resources between EDAM areas.
- Supports EDAM by configuring contract rights and day-ahead transfers.



	A	B	C	D	E	F	G	H	I	J	K
1	TRANSFER_LOCATION_ID	FROM_BAA	FROM_BAA_TAG_YN	FROM_BAA_RDF	TO_BAA	TO_BAA_TAG_YN	TO_BAA_RDF	TIE_ID	IMPORT/EXPORT	APND	MATCHING_TRANSFER_LOCATION_ID
2	BAA1_TIE1_BAA2_I	BAA1	Y	0.5	BAA2	N	0.5	TIE1	I	BAA1_TIE1-APND	BAA2_TIE1_BAA1_E
3	BAA1_TIE1_BAA2_E	BAA1	Y	0.5	BAA2	N	0.5	TIE1	E	BAA1_TIE1-APND	BAA2_TIE1_BAA1_I
4	BAA1_TIE2_BAA2_I	BAA1	Y	0.5	BAA2	N	0.5	TIE2	I	BAA1_TIE2-APND	BAA2_TIE2_BAA1_E
5	BAA1_TIE2_BAA2_E	BAA1	Y	0.5	BAA2	N	0.5	TIE2	E	BAA1_TIE2-APND	BAA2_TIE2_BAA1_I
6											
7											
8											
9											
10											
11											
12											

Registering Transfer System Resources (TSRs) in Master File

All TSR types must be defined by the EDAM Entity on each side of a transfer by registering the TSR in the Master File. *



	A	B	C	D	E	F	G	H	I	J	K	L	M
1	RES_ID	SC_ID	MAX_CAP	TRANSFER_LOCATION_ID	TSR_TYPE	CERT_RSE_YN	TAG_YN	TRANSFER_COST	CRN_ID	MATCHING_TSR	MATCHING_TSR_SC	MATCHING_TRANSFER_LOCATION_ID	NOTE
2	BAA1_TIE1_BAA2_I_1_TSC1_01	TSC1	100	BAA1_TIE1_BAA2_I	1	Y		0.0001	CRN1	BAA2_TIE1_BAA1_E_1_TSC1_01	TSC1	BAA2_TIE1_BAA1_E	
3	BAA1_TIE1_BAA2_E_1_TSC1_01	TSC1	50	BAA1_TIE1_BAA2_E	1	Y		0.0001	CRN2	BAA2_TIE1_BAA1_I_1_TSC1_01	TSC1	BAA2_TIE1_BAA1_I	
4	BAA1_TIE2_BAA2_I_2_TSC2_01	TSC2	100	BAA1_TIE2_BAA2_I	2	N		0.0003		BAA2_TIE2_BAA1_E_2_TSC3_01	TSC3	BAA2_TIE2_BAA1_E	
5	BAA1_TIE2_BAA2_E_2_TSC2_01	TSC2	100	BAA1_TIE2_BAA2_E	2	N		0.0003		BAA2_TIE2_BAA1_I_2_TSC3_01	TSC3	BAA2_TIE2_BAA1_I	
6	BAA1_TIE1_BAA2_I_3_ESC1_01	ESC1	200	BAA1_TIE1_BAA2_I	3	Y		0.0002		BAA2_TIE1_BAA1_E_3_ESC2_01	ESC2	BAA2_TIE1_BAA1_E	
7	BAA1_TIE1_BAA2_E_3_ESC1_01	ESC1	200	BAA1_TIE1_BAA2_E	3	Y		0.0002		BAA2_TIE1_BAA1_I_3_ESC2_01	ESC2	BAA2_TIE1_BAA1_I	
8	BAA1_TIE2_BAA2_I_4_ESC1_01	ESC1	200	BAA1_TIE2_BAA2_I	4	N		0.0004		BAA2_TIE2_BAA1_E_4_ESC2_01	ESC2	BAA2_TIE2_BAA1_E	
9	BAA1_TIE2_BAA2_E_4_ESC1_01	ESC1	200	BAA1_TIE2_BAA2_E	4	N		0.0004		BAA2_TIE2_BAA1_I_4_ESC2_01	ESC2	BAA2_TIE2_BAA1_I	
10													
11													
12													
13													
14													

* (except for the Type 1 TSRs defined by EDAM SCs in SIBR and Type 2 TSRs that result from SIBR matching)

TSR Definition: Cross Validation

TSR definition (in Master File or SIBR) must be cross validated with the definition of its matching TSR (MATCHING_RES_ID) that is defined by the EDAM Entity or EDAM SC on the other side of the transfer.

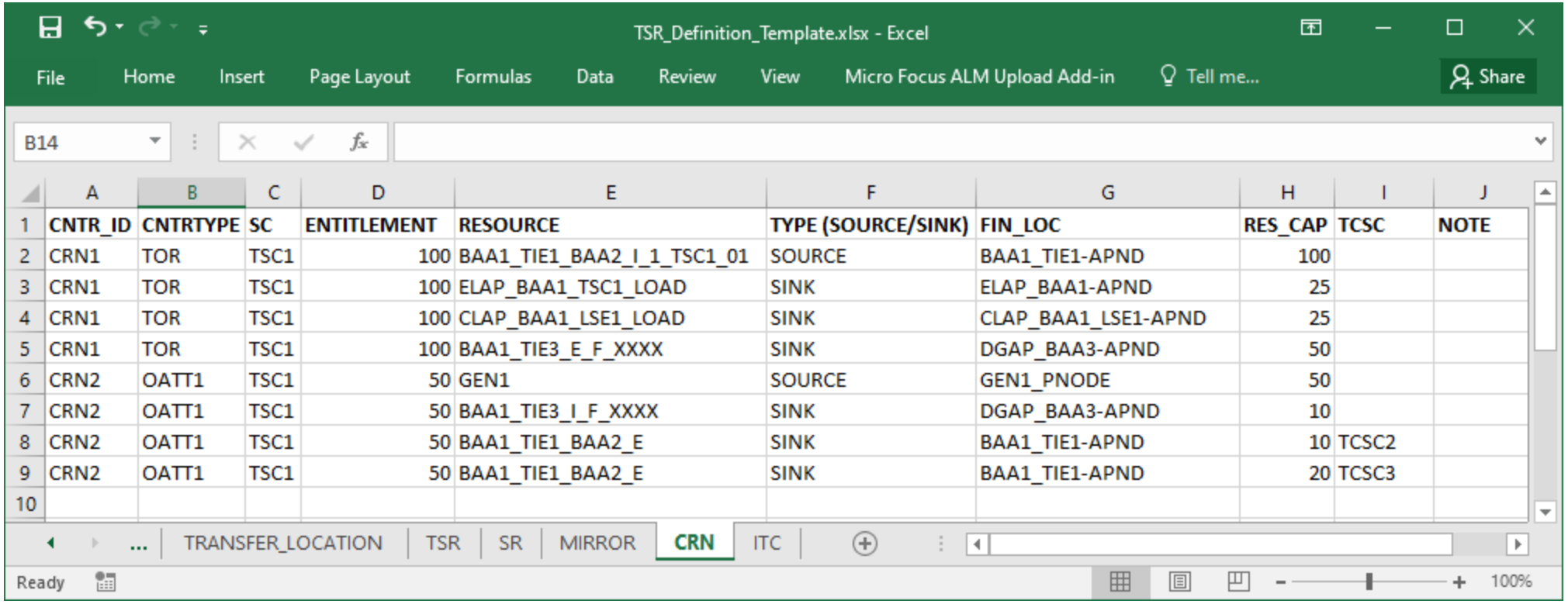
- **RES_ID** must be the same as the **MATCHING_RES_ID** in the matching TSR definition.
- **SC_ID** must be the same as the **MATCHING_SC_ID** in the matching TSR definition.
- **TRANSFER_LOCATION** must be the same as the **MATCHING_TRANSFER_LOCATION** in the matching TSR definition.
- **TSR_TYPE** must be the same in the **matching TSR definition**.
- **MAXIMUM_CAPACITY** must be the same in the **matching TSR definition**, otherwise the lower value prevails.

Registering long-term contracts within Master File (i.e. CRN)

- EDAM Entity to register long-term contracts in Master File to obtain a Contract Reference Number (CRN).
- The purpose for registering a CRN is provide details such as:
  - The respective SCs who own the contract rights.
  - The type of contract (which identifies scheduling priority).
  - The MW capacity of the contract.

- EDAM SC will reference their respective CRNs when submitting schedules within the Scheduling Infrastructure and Business Rules (SIBR) application.

Example of the CRN worksheet with sample data



	A	B	C	D	E	F	G	H	I	J
1	CNTR_ID	CNTRTYPE	SC	ENTITLEMENT	RESOURCE	TYPE (SOURCE/SINK)	FIN_LOC	RES_CAP	TCSC	NOTE
2	CRN1	TOR	TSC1	100	BAA1_TIE1_BAA2_I_1_TSC1_01	SOURCE	BAA1_TIE1-APND	100		
3	CRN1	TOR	TSC1	100	ELAP_BAA1_TSC1_LOAD	SINK	ELAP_BAA1-APND	25		
4	CRN1	TOR	TSC1	100	CLAP_BAA1_LSE1_LOAD	SINK	CLAP_BAA1_LSE1-APND	25		
5	CRN1	TOR	TSC1	100	BAA1_TIE3_E_F_XXXX	SINK	DGAP_BAA3-APND	50		
6	CRN2	OATT1	TSC1	50	GEN1	SOURCE	GEN1_PNODE	50		
7	CRN2	OATT1	TSC1	50	BAA1_TIE3_I_F_XXXX	SINK	DGAP_BAA3-APND	10		
8	CRN2	OATT1	TSC1	50	BAA1_TIE1_BAA2_E	SINK	BAA1_TIE1-APND	10	TCSC2	
9	CRN2	OATT1	TSC1	50	BAA1_TIE1_BAA2_E	SINK	BAA1_TIE1-APND	20	TCSC3	
10										

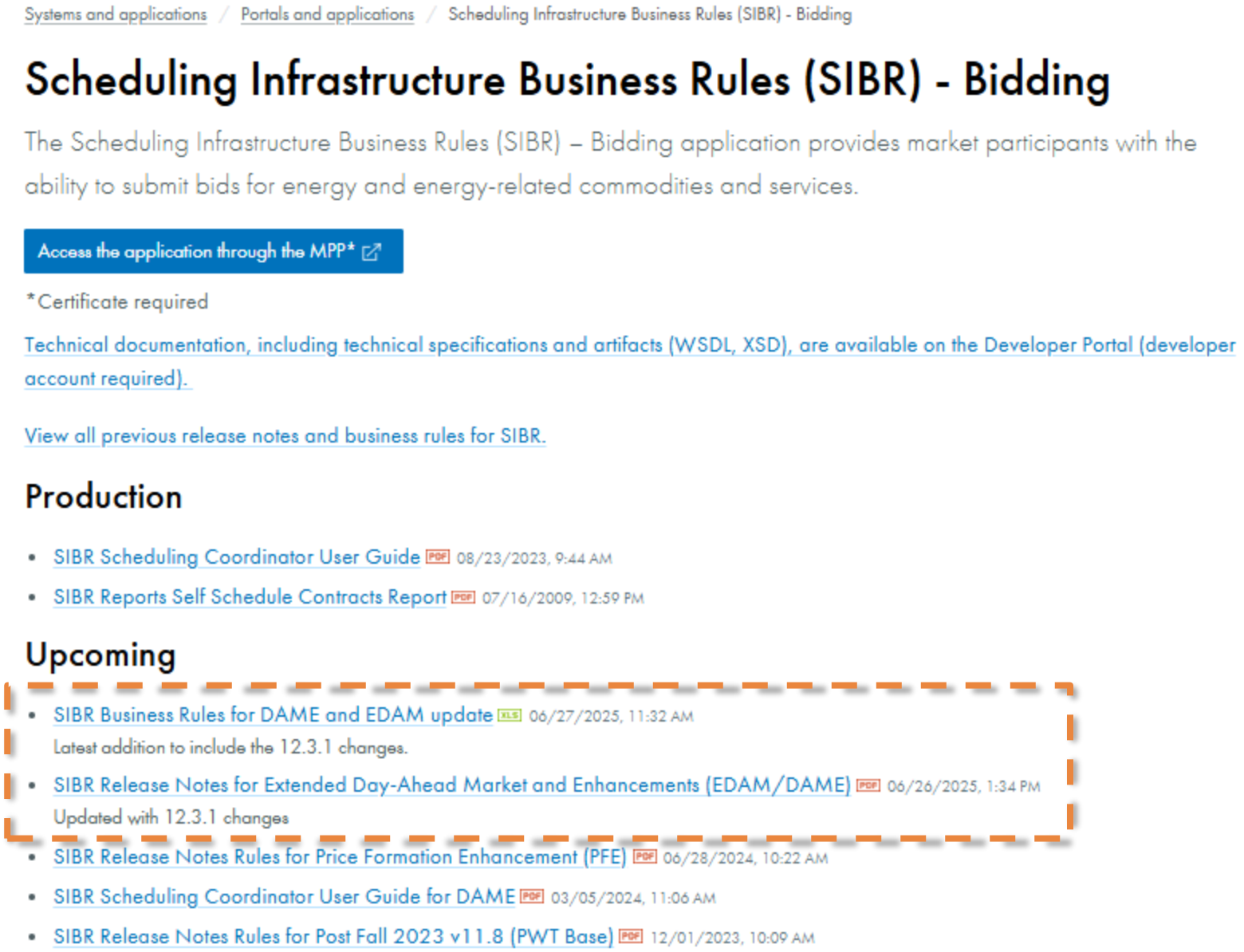
SIBR

TSR Definition in SIBR

- The TSR definition in SIBR persists only for the Trading Day; it must be redefined every day if needed until it is registered in the Master File.
- An EDAM Entity may submit in SIBR a TSR definition for a registered TSR in the Master File to indicate a derate on the registered Maximum Capacity.
- An EDAM Entity may also resubmit a TSR definition in SIBR to update the Maximum Capacity, subject to cross revalidation; however, derates are only accepted before 9:00 am. After successful cross validation of TSR definitions, the valid TSRs are available for submission of TSR bids by the respective EDAM SCs, who will be notified accordingly.

SIBR documentation is posted to caiso.com

- Existing business rules are posted, along with upcoming changes based on EDAM implementation.
- Release notes capture changes made to business rules.
- Additional technical information is posted to the ISO's Developer Portal (account required).



Systems and applications / Portals and applications / Scheduling Infrastructure Business Rules (SIBR) - Bidding

Scheduling Infrastructure Business Rules (SIBR) - Bidding

The Scheduling Infrastructure Business Rules (SIBR) – Bidding application provides market participants with the ability to submit bids for energy and energy-related commodities and services.

Access the application through the MPP*

*Certificate required

Technical documentation, including technical specifications and artifacts (WSDL, XSD), are available on the Developer Portal (developer account required).

View all previous release notes and business rules for SIBR.

Production

- SIBR Scheduling Coordinator User Guide PDF 08/23/2023, 9:44 AM
- SIBR Reports Self Schedule Contracts Report PDF 07/16/2009, 12:59 PM

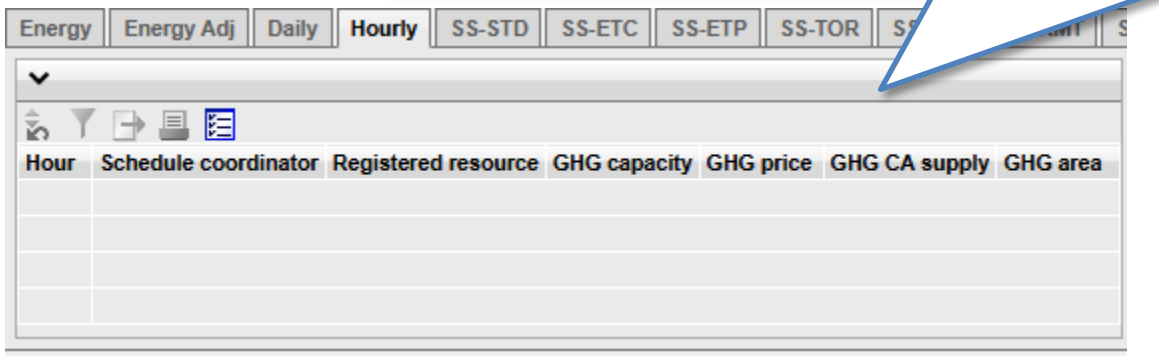
Upcoming

- SIBR Business Rules for DAME and EDAM update XLS 06/27/2025, 11:32 AM
  Latest addition to include the 12.3.1 changes.
- SIBR Release Notes for Extended Day-Ahead Market and Enhancements (EDAM/DAME) PDF 06/26/2025, 1:34 PM
  Updated with 12.3.1 changes
- SIBR Release Notes Rules for Price Formation Enhancement (PFE) PDF 06/28/2024, 10:22 AM
- SIBR Scheduling Coordinator User Guide for DAME PDF 03/05/2024, 11:06 AM
- SIBR Release Notes Rules for Post Fall 2023 v11.8 (PWT Base) PDF 12/01/2023, 10:09 AM

Green House Gas (GHG) Bidding and Changes to SIBR UI

Scheduling Coordinators with resources physically located outside of a GHG regulation area have the option to designate their energy to serve load needs inside of GHG regulation areas through their bid submissions.

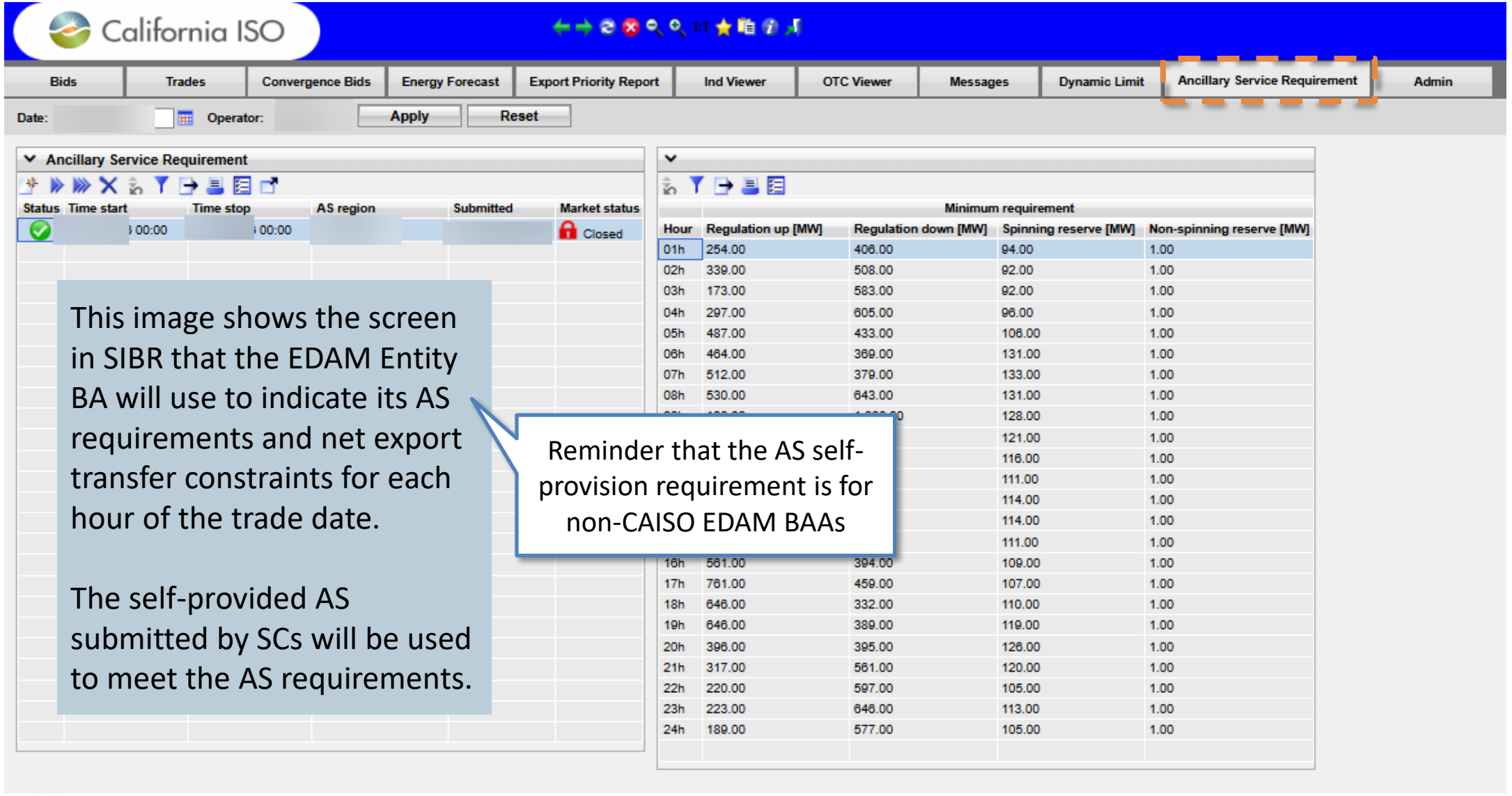
GHG bid adders to energy bids submitted through the SIBR **hourly** bid tab reflect GHG regulation costs for imports



New field: GHG Area

Field to be removed: GHG CA Supply

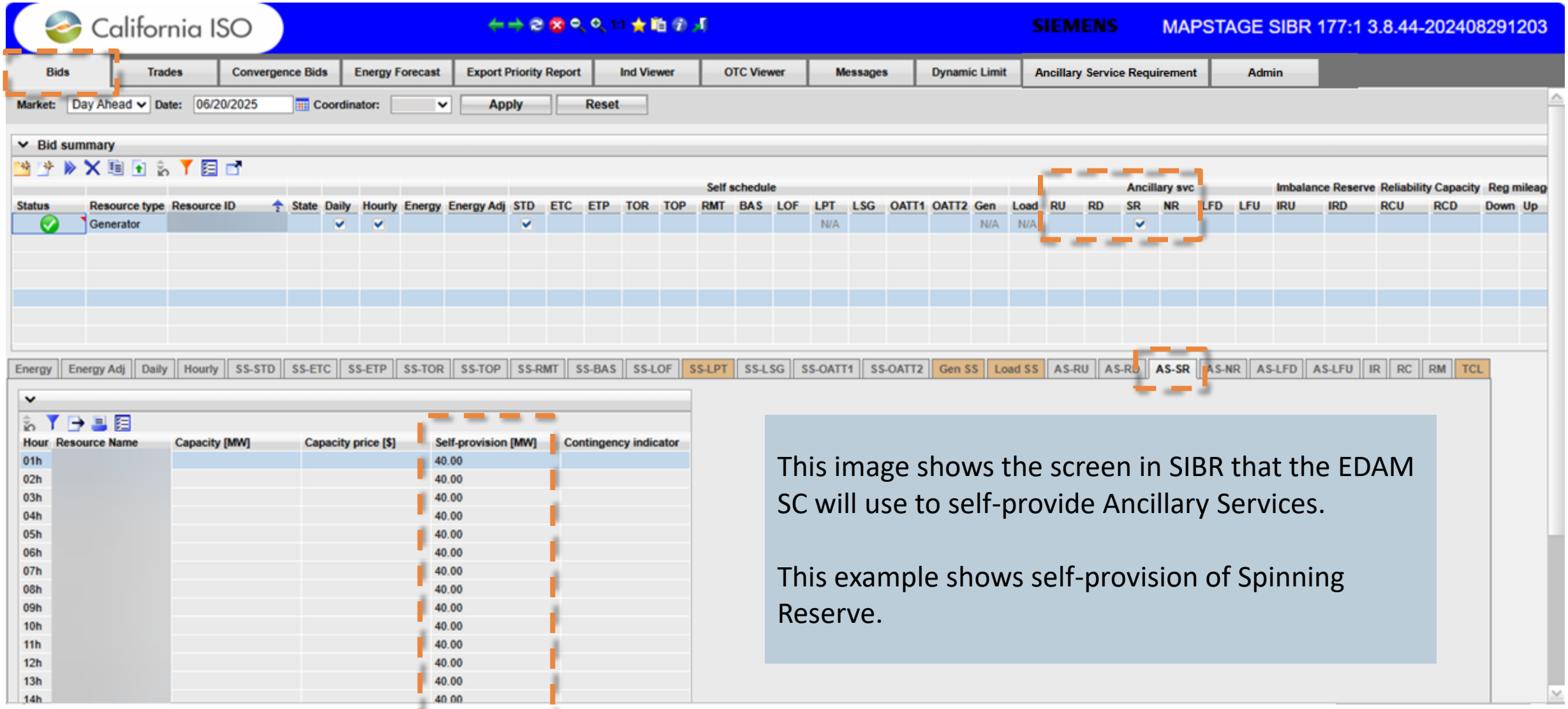
SIBR: EDAM Entity provides AS requirements and net export transfer constraints



Minimum requirement

Hour	Regulation up [MW]	Regulation down [MW]	Spinning reserve [MW]	Non-spinning reserve [MW]
01h	254.00	406.00	94.00	1.00
02h	339.00	508.00	92.00	1.00
03h	173.00	583.00	92.00	1.00
04h	297.00	605.00	96.00	1.00
05h	487.00	433.00	106.00	1.00
06h	464.00	369.00	131.00	1.00
07h	512.00	379.00	133.00	1.00
08h	530.00	643.00	131.00	1.00
			128.00	1.00
			121.00	1.00
			116.00	1.00
			111.00	1.00
			114.00	1.00
			114.00	1.00
			111.00	1.00
16h	561.00	394.00	109.00	1.00
17h	761.00	459.00	107.00	1.00
18h	646.00	332.00	110.00	1.00
19h	646.00	389.00	119.00	1.00
20h	396.00	395.00	126.00	1.00
21h	317.00	561.00	120.00	1.00
22h	220.00	597.00	105.00	1.00
23h	223.00	646.00	113.00	1.00
24h	189.00	577.00	105.00	1.00

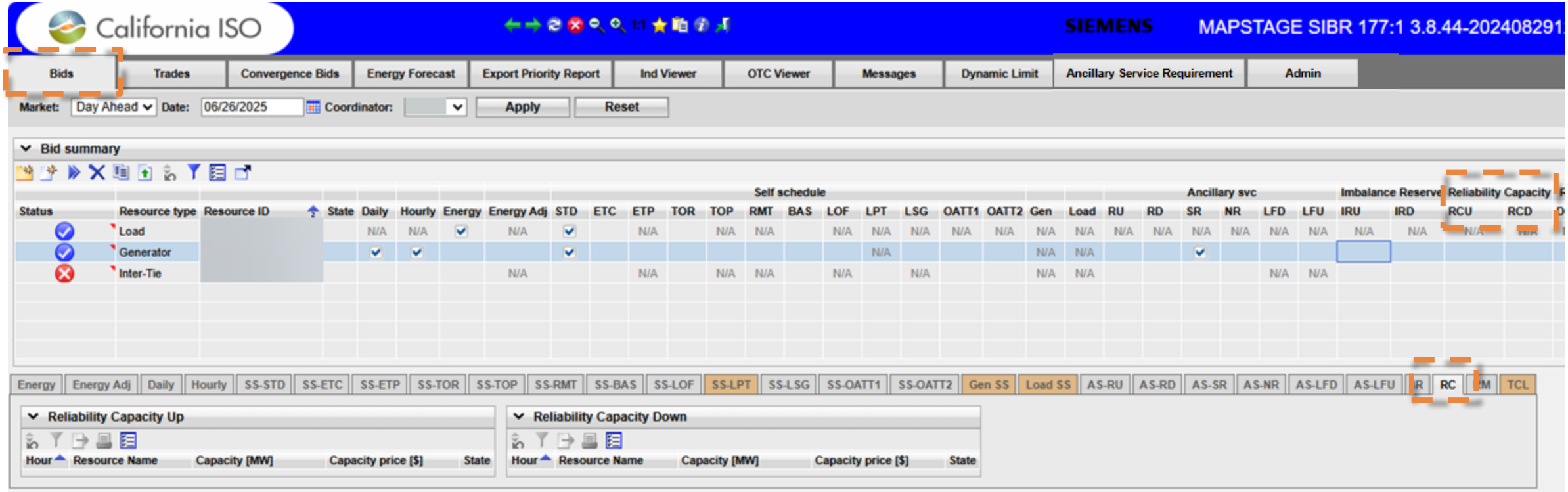
SIBR: Ancillary Services (AS) Self-Provision



This image shows the screen in SIBR that the EDAM SC will use to self-provide Ancillary Services.

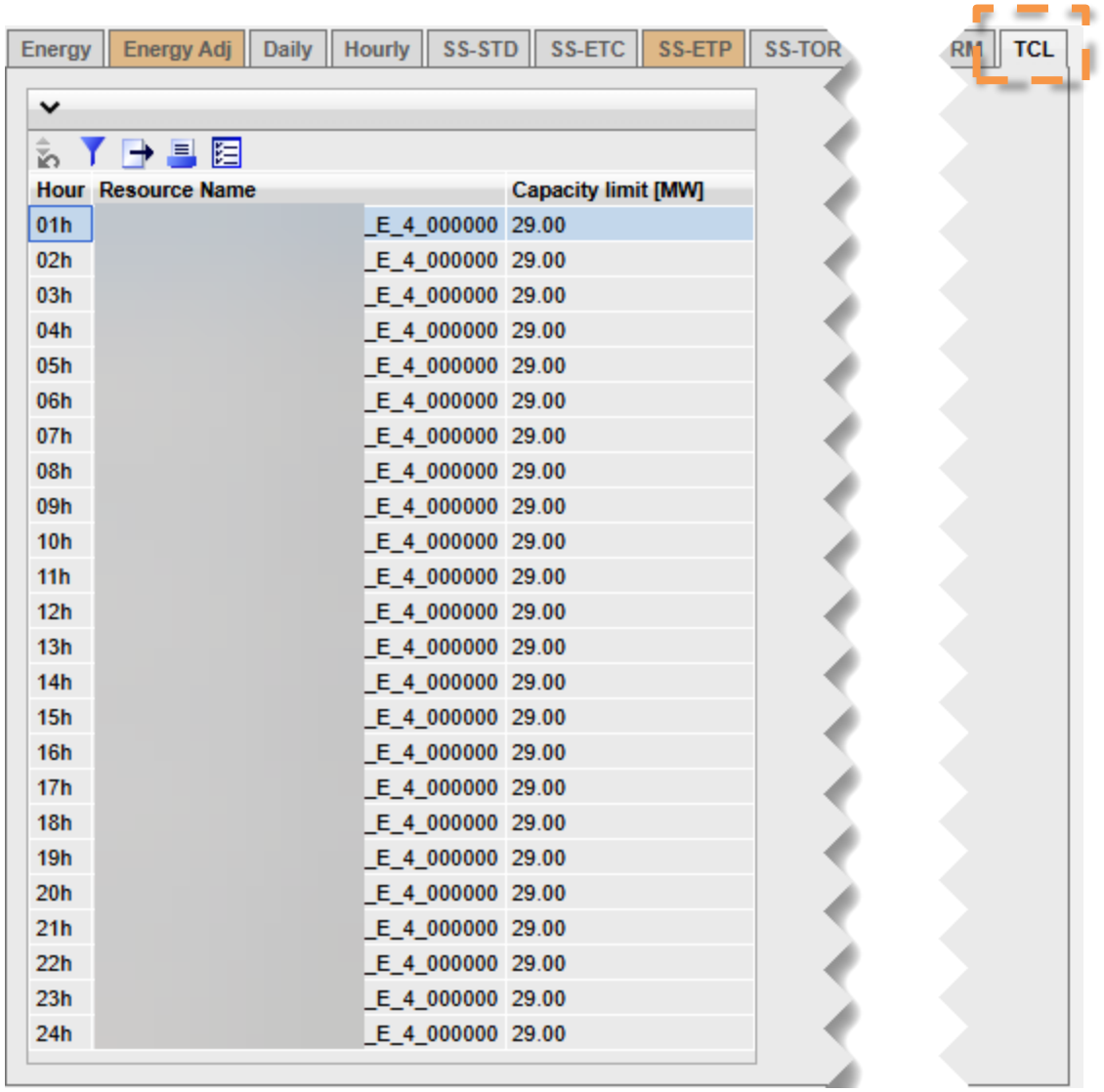
This example shows self-provision of Spinning Reserve.

SIBR: Submitting bids for Reliability Capacity



This image shows the screen in SIBR that the EDAM SC will use to submit bids for Reliability Capacity. Note that **Reliability Capacity Up** and **Reliability Capacity Down** are in the same tab.

TSR Transfer Capacity Limit



Hour	Resource Name		Capacity limit [MW]
01h		_E_4_000000	29.00
02h		_E_4_000000	29.00
03h		_E_4_000000	29.00
04h		_E_4_000000	29.00
05h		_E_4_000000	29.00
06h		_E_4_000000	29.00
07h		_E_4_000000	29.00
08h		_E_4_000000	29.00
09h		_E_4_000000	29.00
10h		_E_4_000000	29.00
11h		_E_4_000000	29.00
12h		_E_4_000000	29.00
13h		_E_4_000000	29.00
14h		_E_4_000000	29.00
15h		_E_4_000000	29.00
16h		_E_4_000000	29.00
17h		_E_4_000000	29.00
18h		_E_4_000000	29.00
19h		_E_4_000000	29.00
20h		_E_4_000000	29.00
21h		_E_4_000000	29.00
22h		_E_4_000000	29.00
23h		_E_4_000000	29.00
24h		_E_4_000000	29.00

Actions:

- Click on the TSR shown on the **Bid summary** screen (not visible in this image)
- Scroll down to the **TCL** tab along bottom of screen which shows the **Transfer Capacity Limit**
- indicate the amount of capacity being released on this TSR for each hour
- (TSR Type 2/TSR Type 3/TSR Type 4)

Sample Bid Messages based on SIBR Rules

- This screenshot shows an example of the types of messages you will see based on SIBR rules. There will be new rules for TSR CRNs (TSR Type 1) that are like the ones shown below.

- The new rules are available in the SIBR rules document posted on caiso.com.

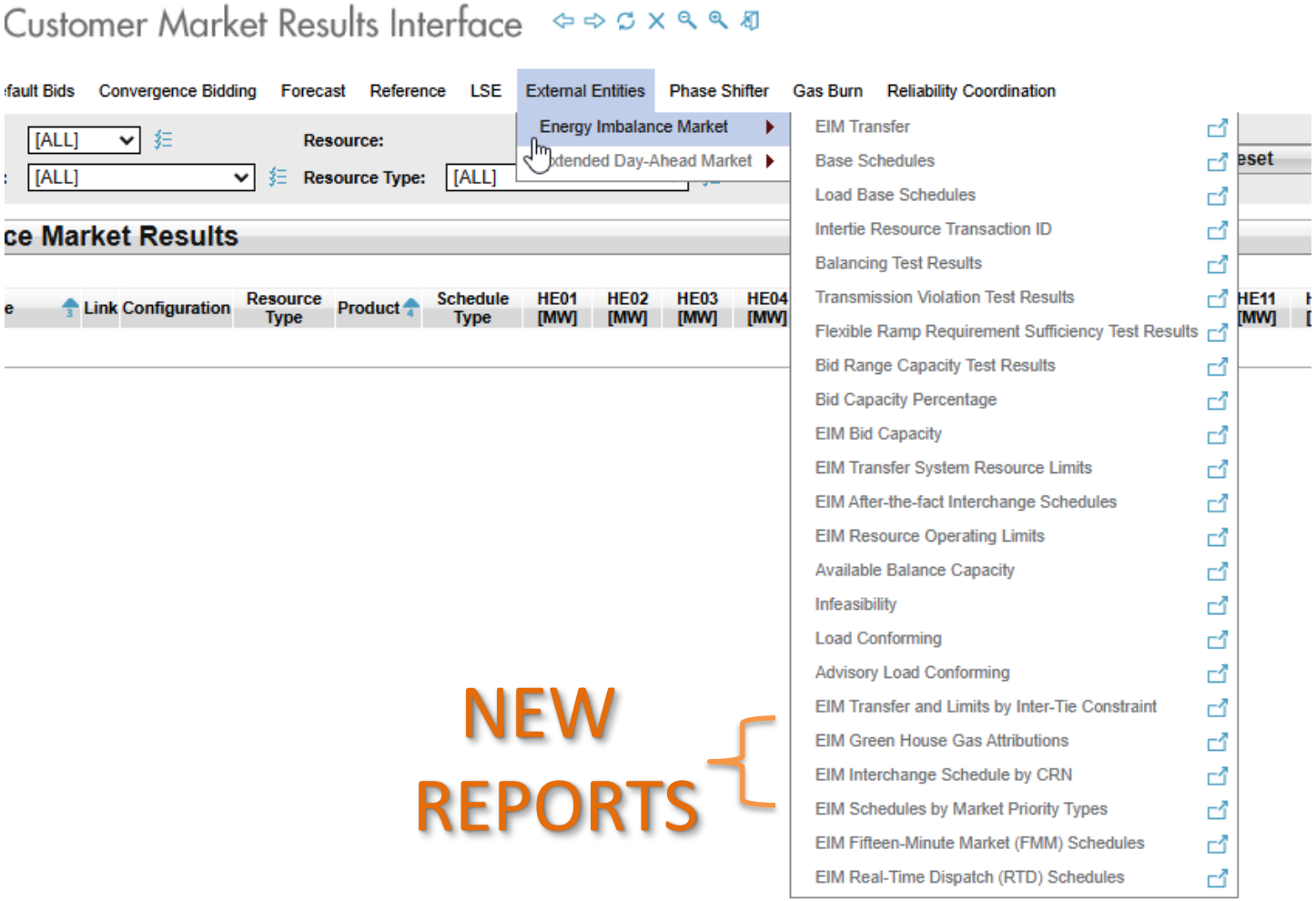
Bid Messages

Product	Rule#	Level	Message
	40001	6	TV bid processed - and is market accepted (Valid, MF Insert, Conditionally Valid, Modified, Conditionally Modified)
	43001	6	Bid is accepted - processed for - Open Tie Status initialization (set to N)
Self Schedule - TOR	60008	6	ETC data validation - TOR Contract passed Priority
Self Schedule - TOR	63002	6	ETC data validation - TOR Balanced
Self Schedule - TOR	63005	6	ETC data validation - TOR Chain passed Priority
	63010	6	Wheeling Transaction validation - Wheeling Balance Set to YES because there is an Export/Load resources with the same Wheeling Reference for the same Trading Hour.
	63011	6	Wheeling Transaction validation - Wheeling Balance Set to YES because there is Import/Generation resources with the same Wheeling Reference

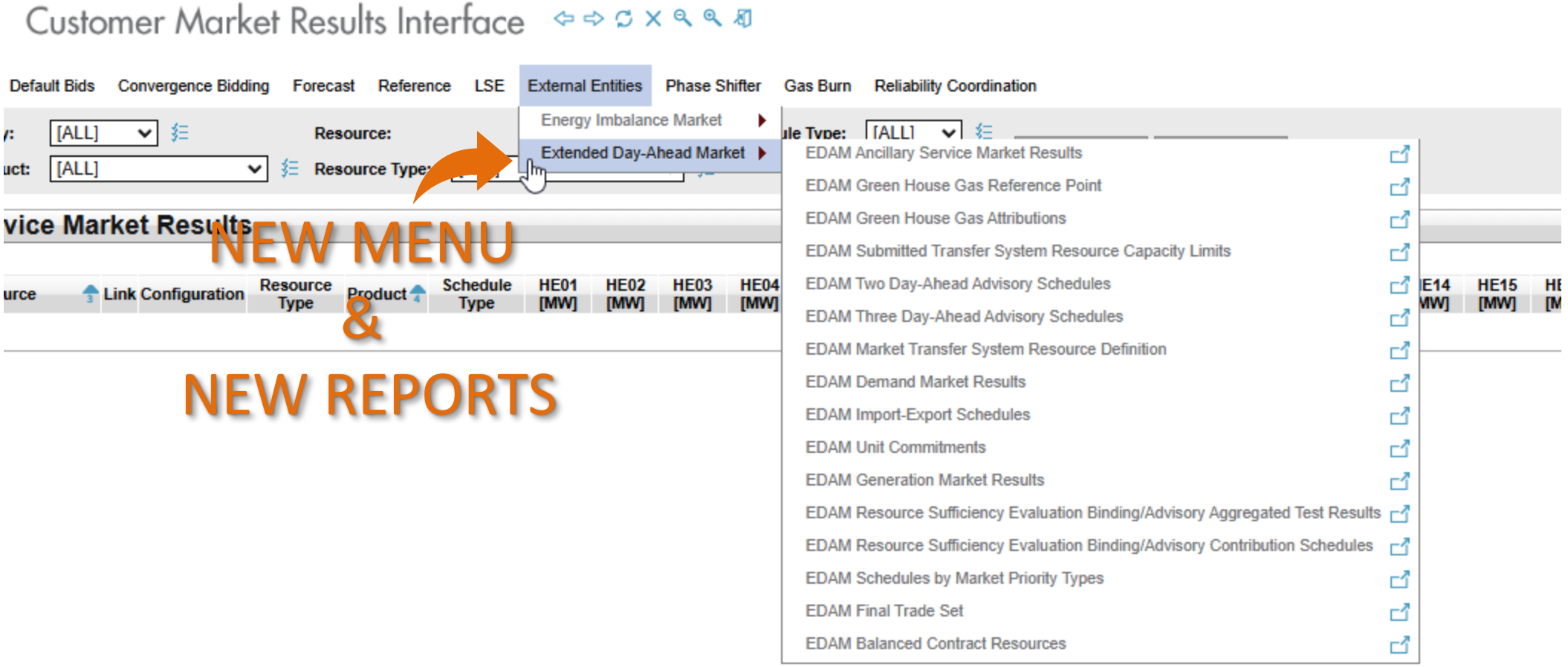
CMRI

CMRI: **Day-Ahead** Tab

CMRI: **External Entities > Energy Imbalance Market** Menu

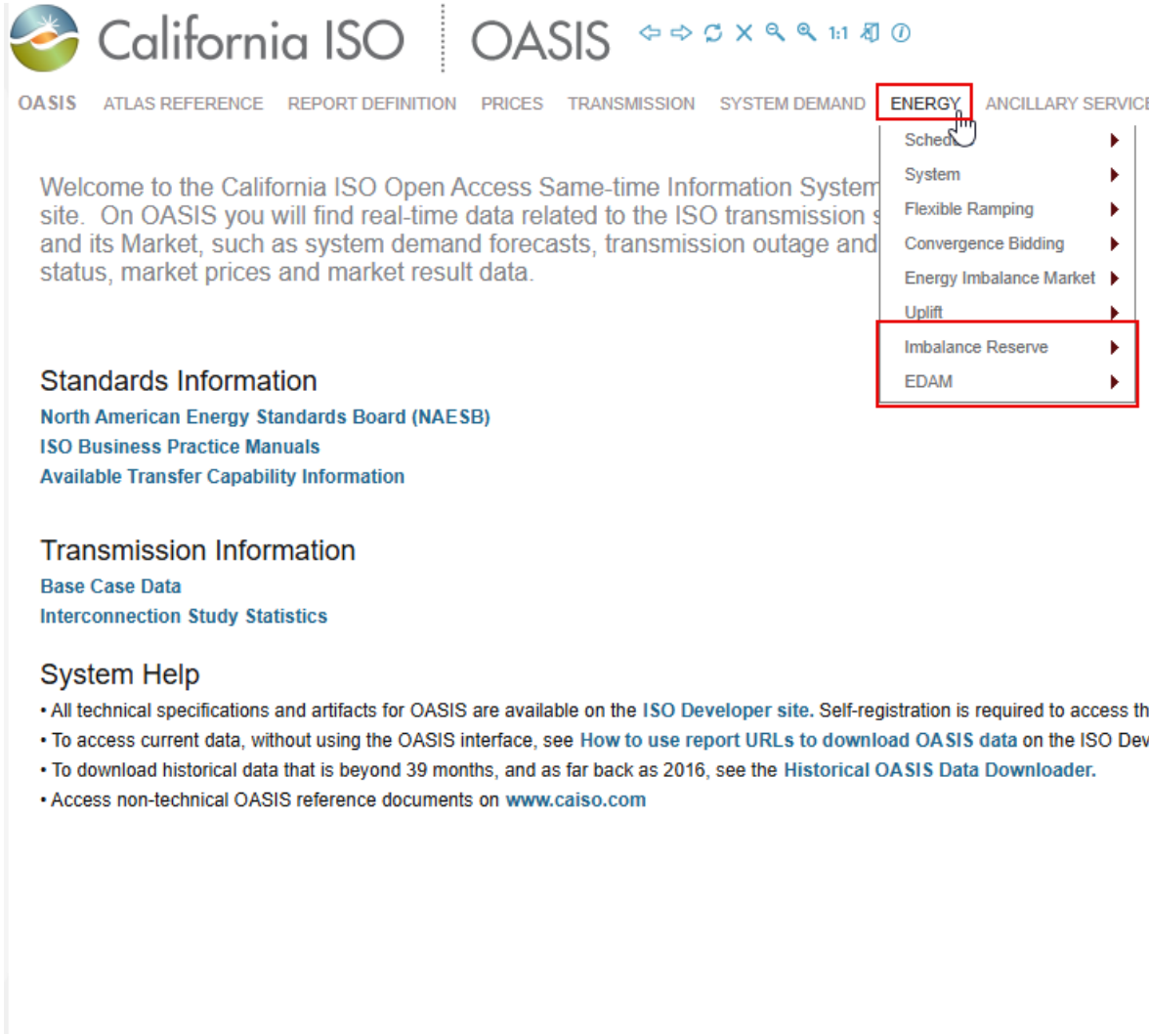


CMRI: **External Entities** Tab > **Extended Day-Ahead Market** Menu



OASIS

OASIS: Mockup of new **Imbalance Reserve** and **EDAM** menus



NEW REPORTS

Available on Imbalance Reserve Menu

- Imbalance Reserve Requirement Thresholds
- Imbalance Reserve Requirements Input Polynomials
- Imbalance Reserve Requirements Uncertainty Histograms
- Imbalance Reserve Forecasts
- Imbalance Reserve Demand Curves
- Capacity Requirements and Awards
- Imbalance Reserve Surplus
- Imbalance Reserve Results

Available on EDAM Menu

- EDAM Wind and Solar Forecasts
- Total Net GHG Import Transfer
- EDAM BAA RSE Test
- EDAM Net Export Transfer Constraint
- EDAM Tagged Energy Profile
- Market BA Group Composition

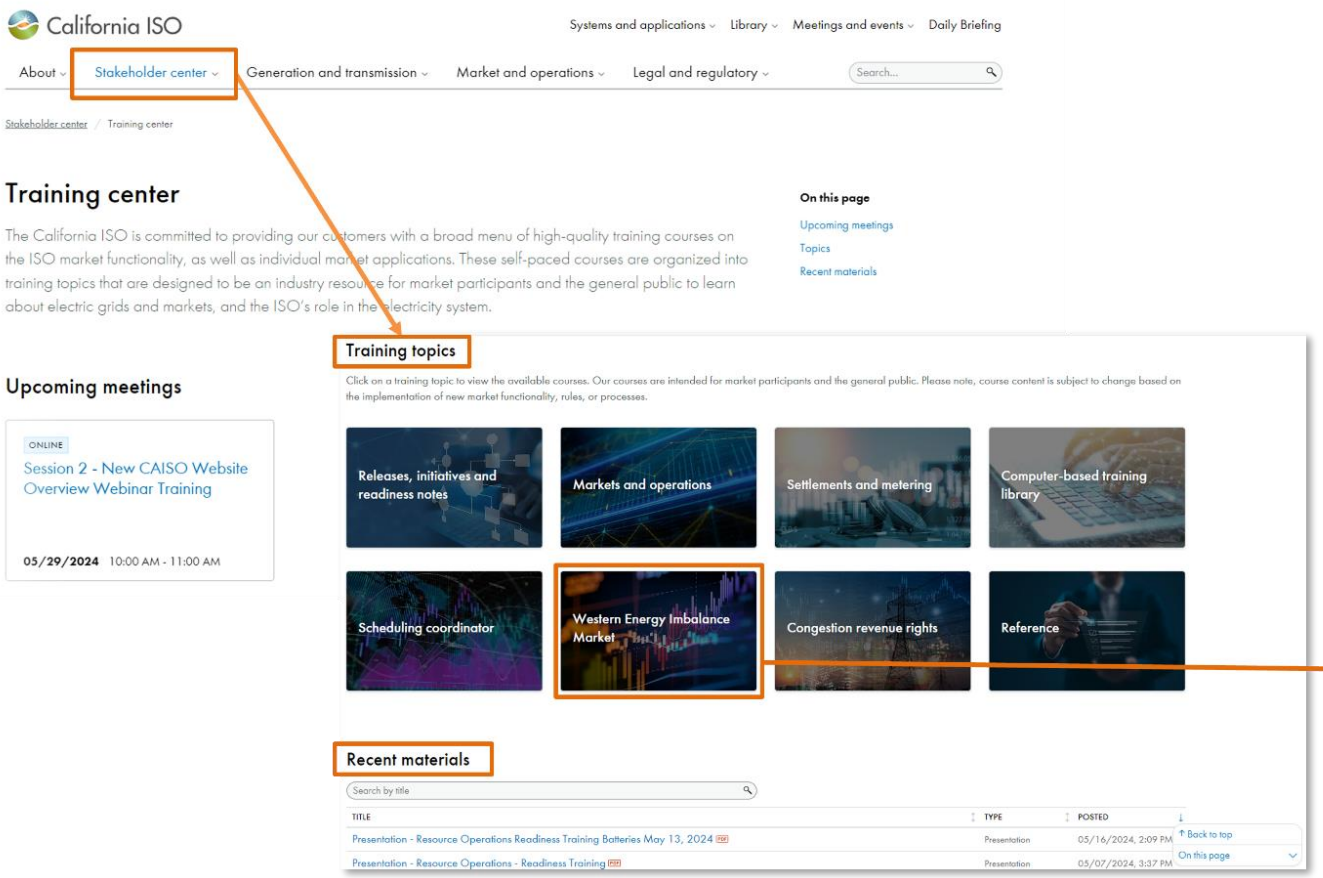
Wrap Up

Summary, Q&A

Find helpful training resources on the ISO Training Center

Don’t see the training you need?

Submit a CIDI ticket to request training or request your SC to submit one on your behalf



Computer-Based Training Courses:

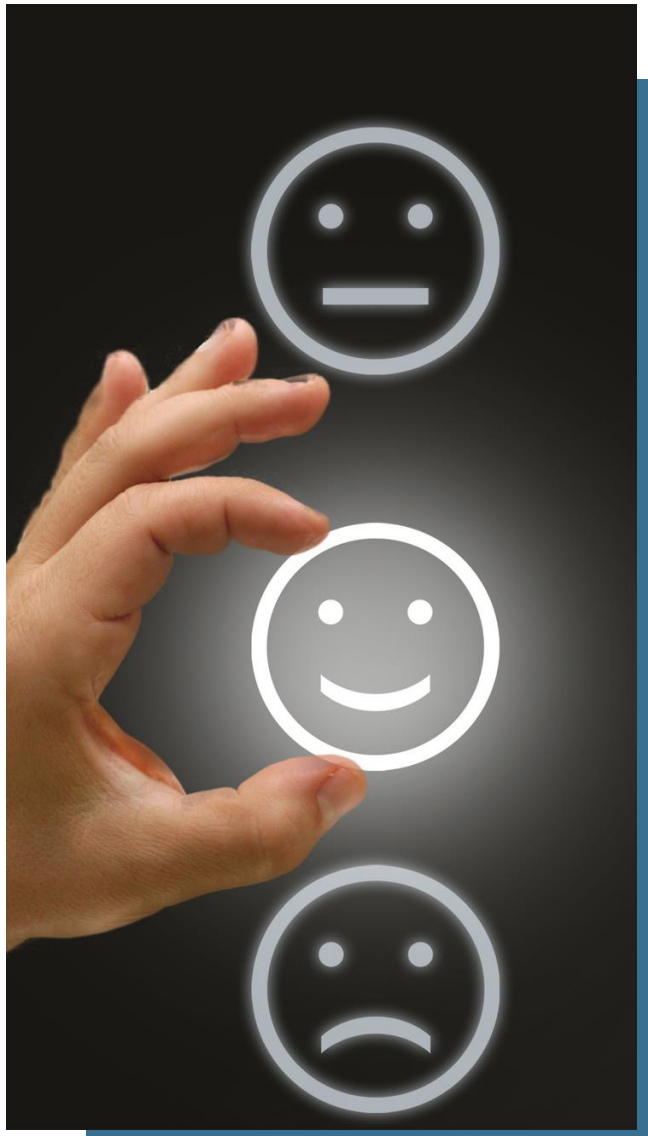
- EDAM Overview Video
- EDAM Processes & Timelines
- EDAM Pricing Model
- EDAM GHG Regulation Obligations
- EDAM Bidding: Basic Concepts
- EDAM Integration with WEIM

Additional resources

EDAM FAQ Guide

California ISO

EDAM Resource Guide



Tell us how we did

Takes 3-5 minutes to complete

Helps us improve future training

Link: https://www.surveymonkey.com/r/caisocoursesurvey

Thank you for your participation!

For clarification on anything presented in this training, send an email to: CustomerReadiness@caiso.com

For other questions or stakeholder specific questions or concerns use one of these methods:

- Submit a CIDI ticket
- Contact your Scheduling Coordinator
- Use the "Contact us" page on caiso.com to submit questions