Scheduling Infrastructure & Business Rules (SIBR) Overview for DAME & EDAM – Transfer System Resources

California ISO

Bilateral Energy Transactions

TRANSFER SYSTEM RESOURCES

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Types of Transfer System Resources (TSRs)

For EDAM SCs

For EDAM Entities

Type 1: Bilateral Energy Transactions

Type 3: RSE-Eligible Transfer Capacity

Type 2: Released Transmission Capacity

Type 4: Non RSE-Eligible Transfer Capacity

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TSR TYPE 1

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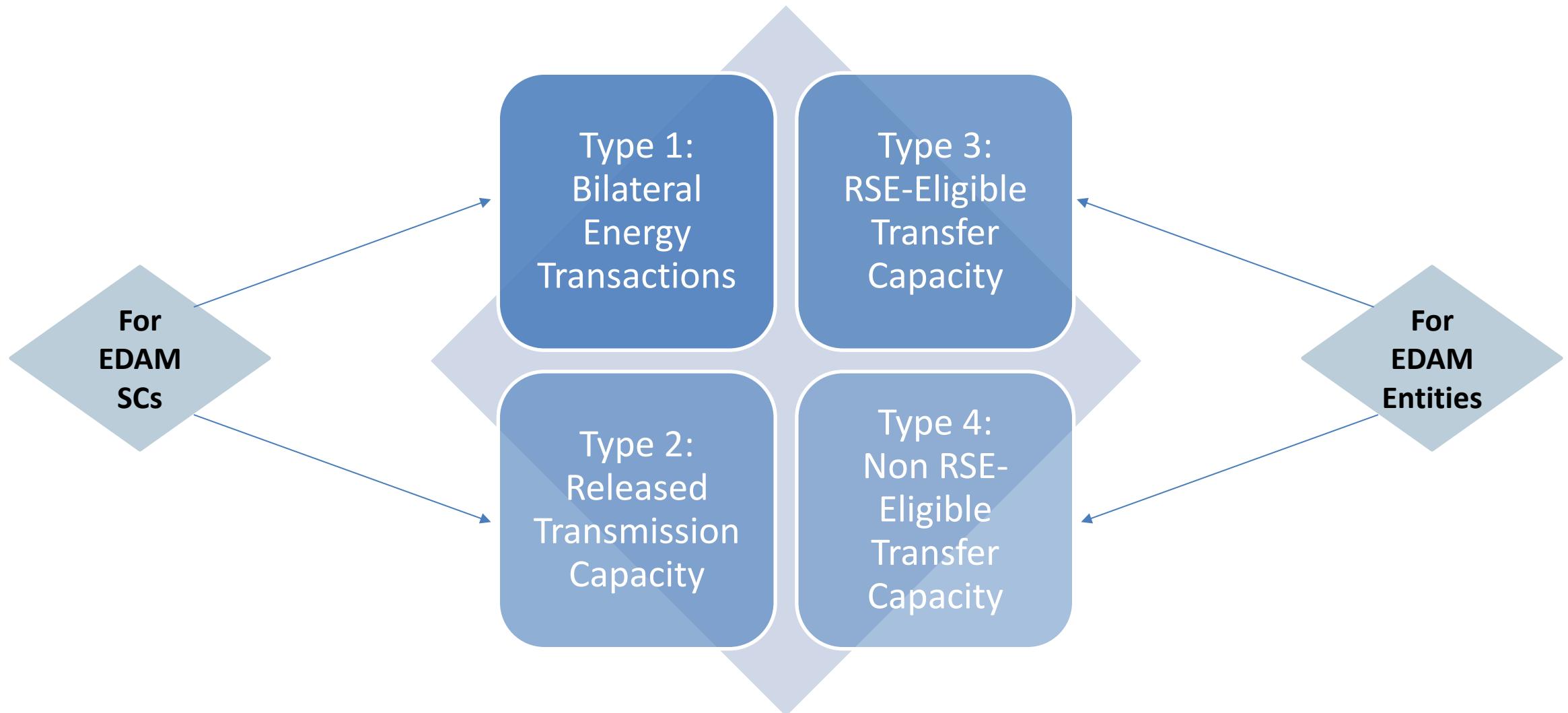
TSR Type 1: Bilateral Energy Transactions

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

10 MW
Export Self-
Schedule Bid

10 MW
Import Self-
Schedule Bid
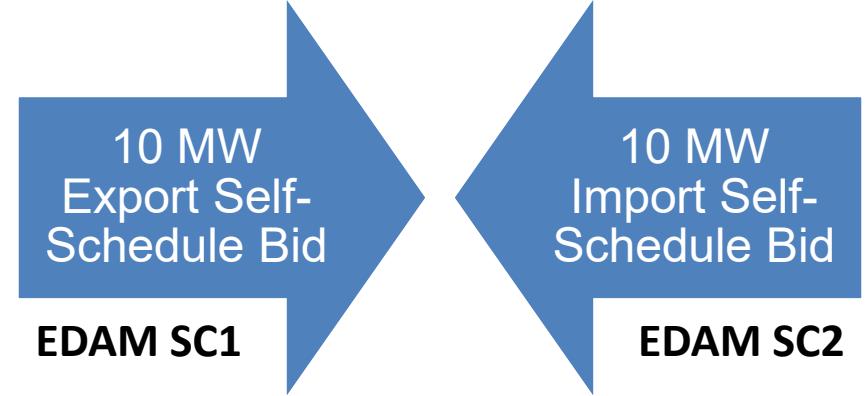
EDAM SC1

EDAM SC2

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.

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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.

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SIBR: Create Bid – TSR Type 1
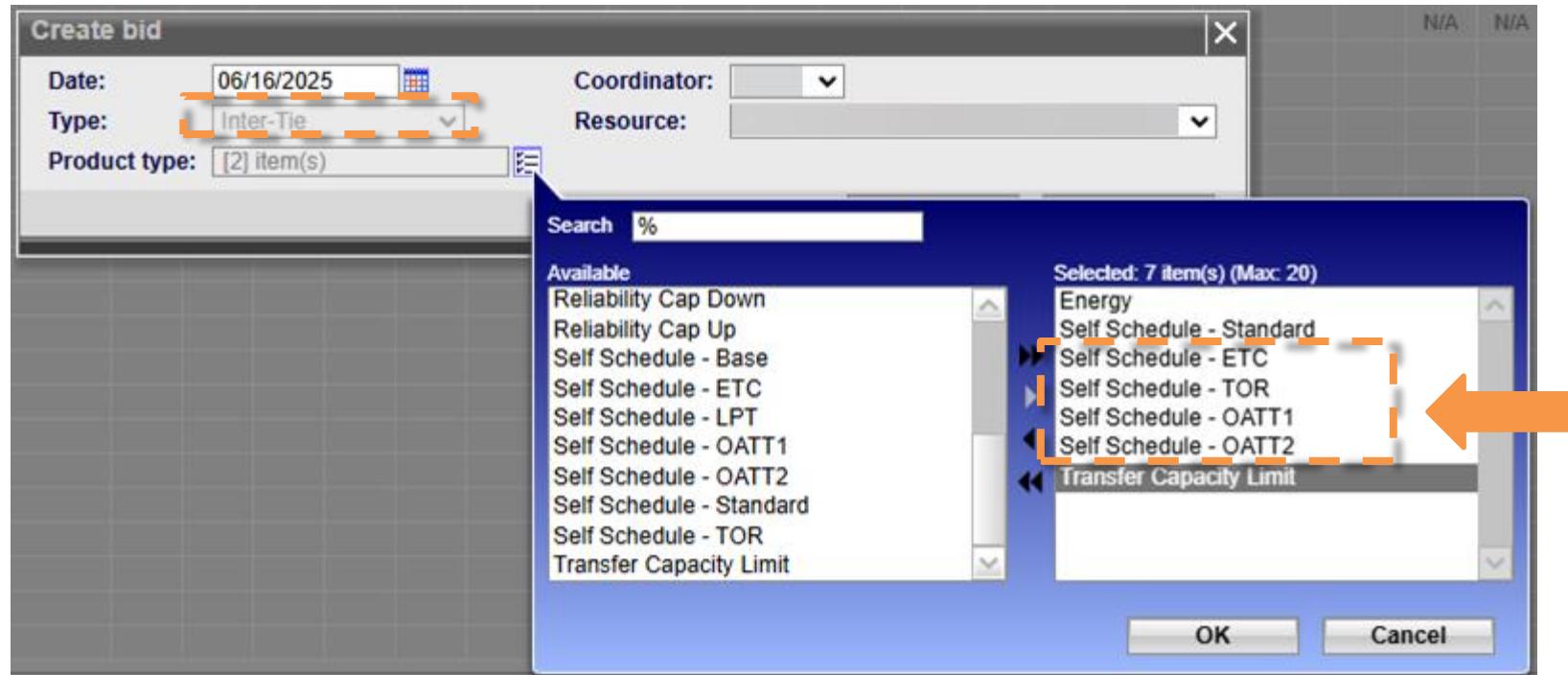
These bid types are for use with CRN (TSR Type 1)
- ETC/TOR are existing types
- OATT1/OATT2 are new

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SIBR: Create Bid – TSR Type 1

Actions:

- Select New row

- Use Drop down

- Available CRN List

- Self-Schedule MW

- 1 or more hours

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.

- Once updated, the new rules will be added to the SIBR rules document posted on caiso.com.

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

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TRANSIENT TSR

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Transient Transfer System Resource (TSR) Example

- From the Bids tab, click the Create Bid icon.
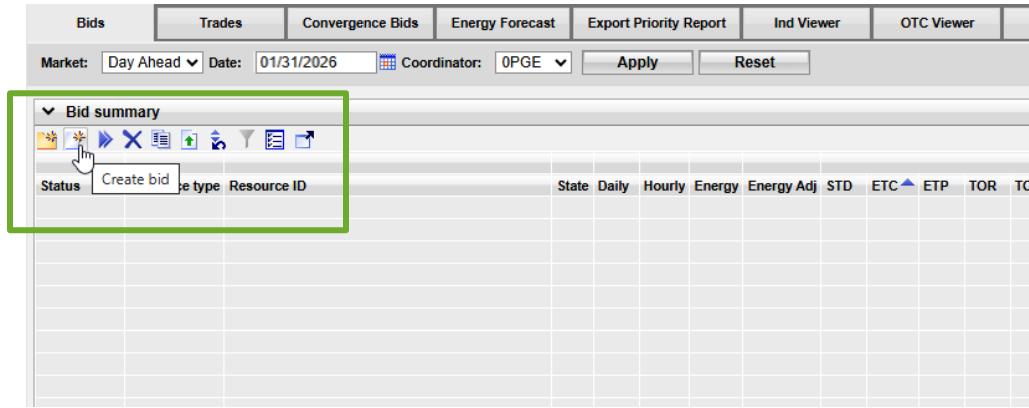
- Set a date for a future trade date.
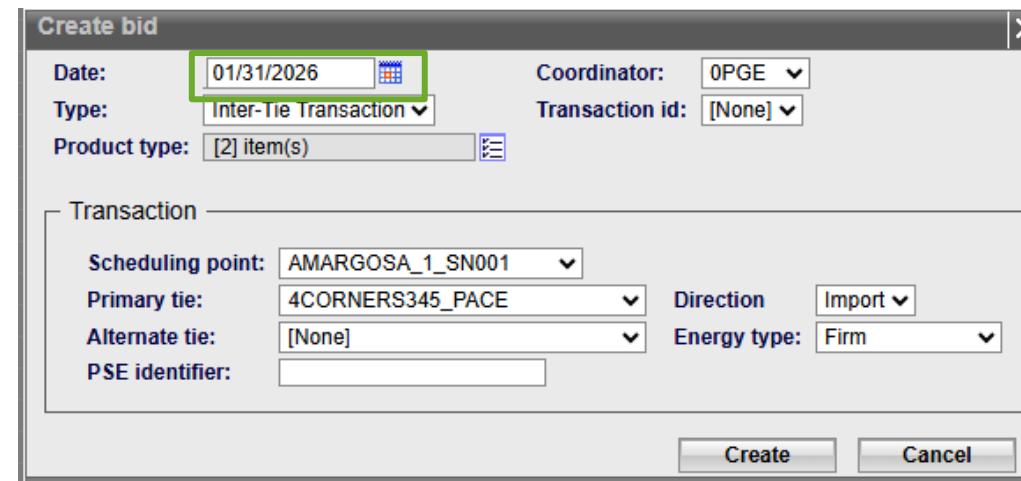
Transient Transfer System Resource (TSR) Example

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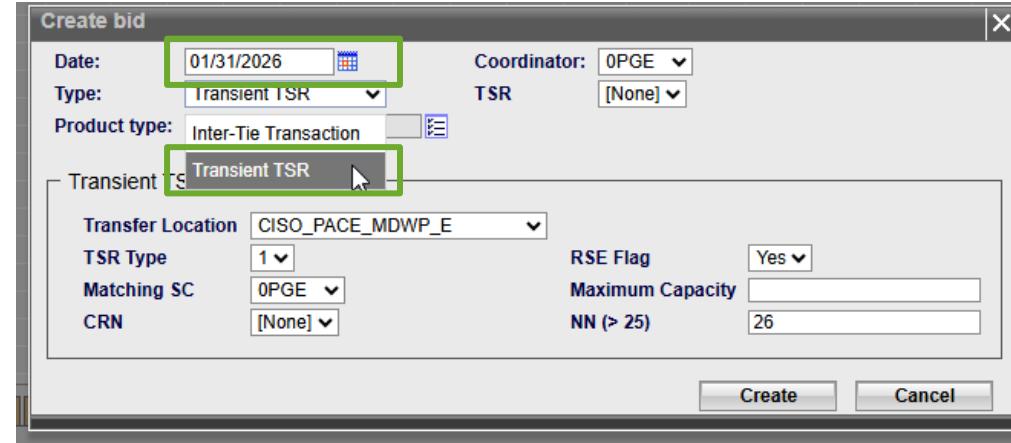
- After selecting Transient TSR as your Type, select your Product type:
  - for Transient TSR, selection will be OATT1, OATT 2, ETC or TOR.
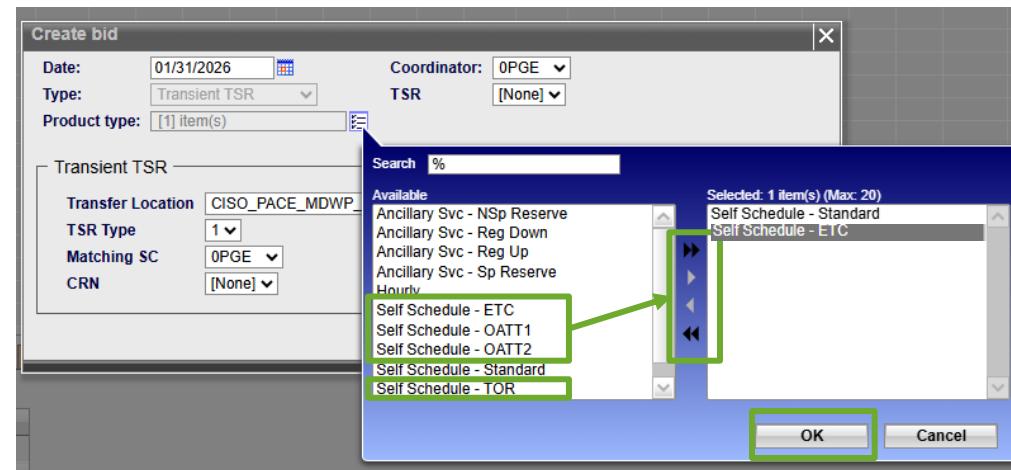
Transient TSR Example

- Select the Matching SC
  - This is the Scheduling Coordinator ID that the contract is associated with.

- Select the applicable CRN that Transfer Location is associated with
  - In order for the CRN field to provide a dropdown, Contract Reference Numbers must be associated with the Transfer Location must be associated.
  - Before entering these bids in SIBR, it is important to know what contracts exist for matching purposes.
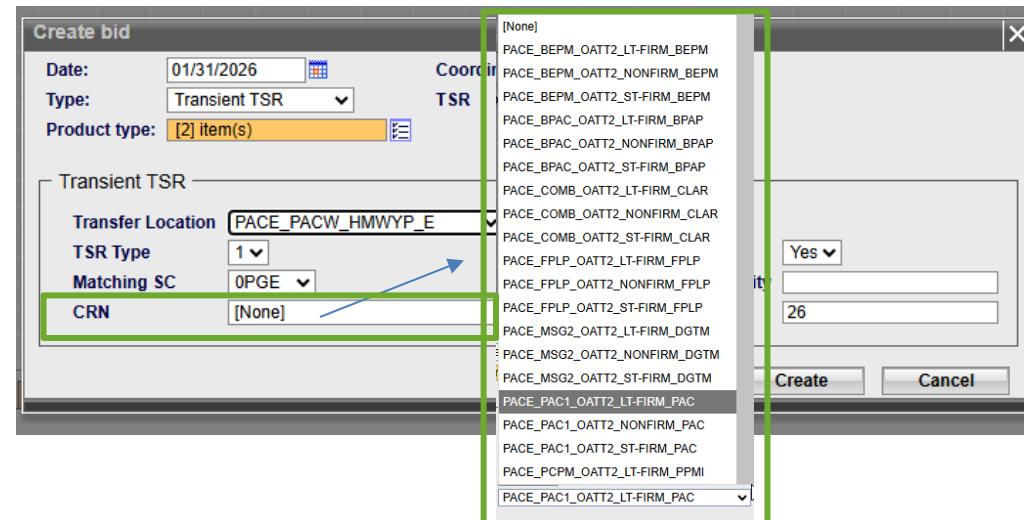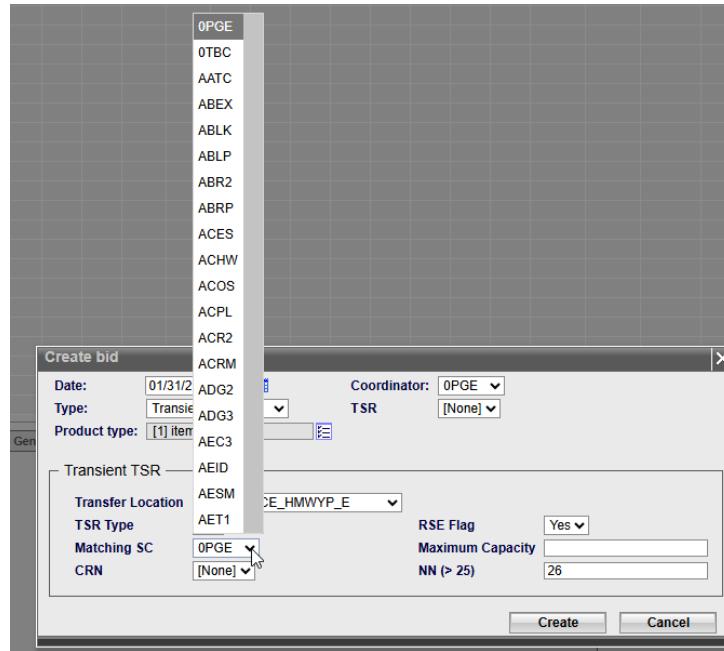
Transient TSR Example

- Set your Maximum Capacity.
  - The maximum capacity helps determine how much of the resource can be applied to that contract when bid is submitted.
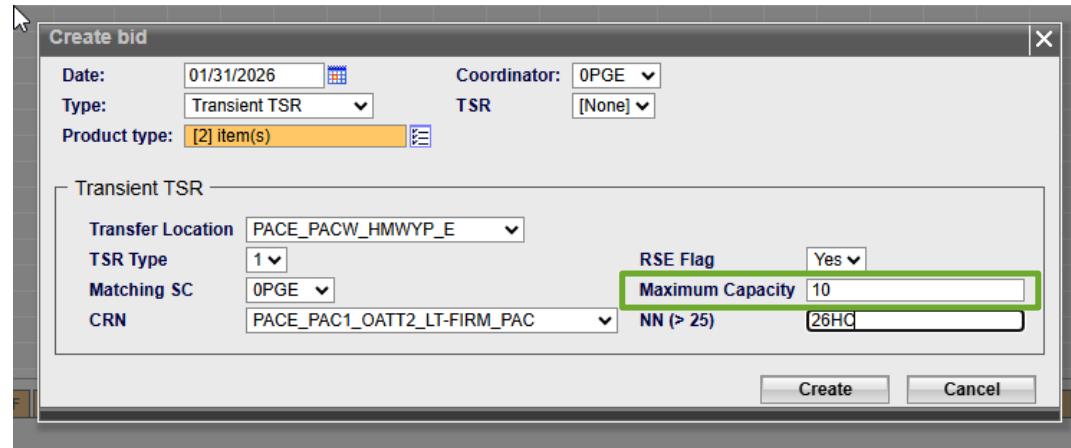
- Set the NN (>25)
  - This field accepts alpha numeric characters allowing indication of bid submitter (i.e. initials)
  - Number cannot be lower than 25.
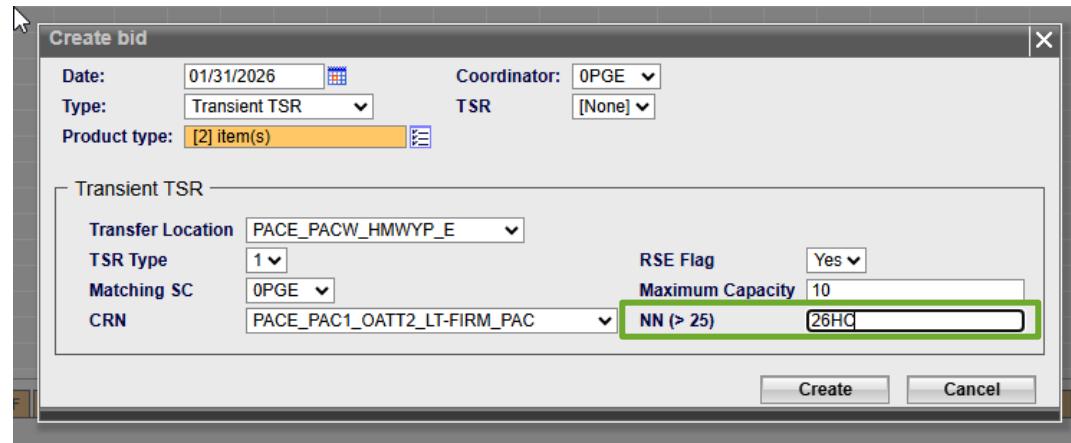
Transient TSR Example

- Select Create.
  - The bid has now been created, but not yet submitted.

- Back on the Bids page, click on the details tab of the Product Type you selected.
  - In this example it is ETC so select the SS-ETC tab.
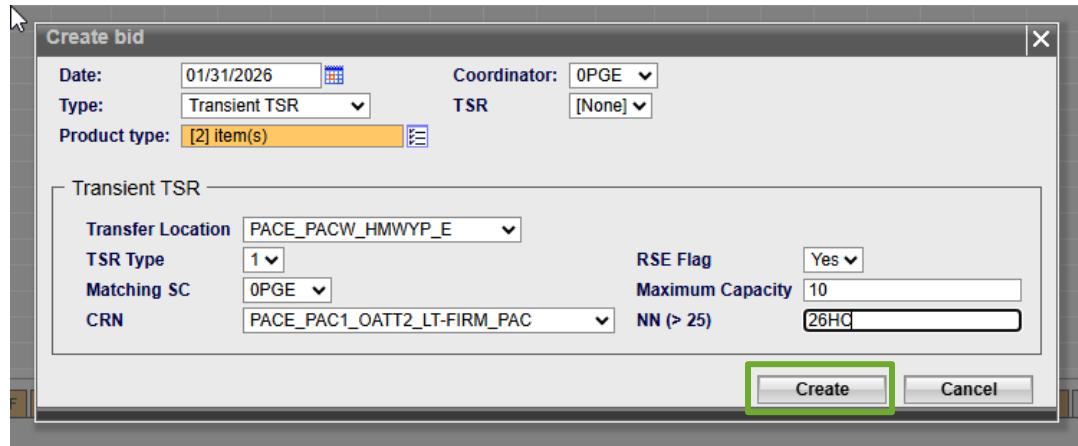
Transient TSR Example

- Click the pencil under obligations.
  - Enter self schedule quantity to set your self-schedule value.
  - Click Update.
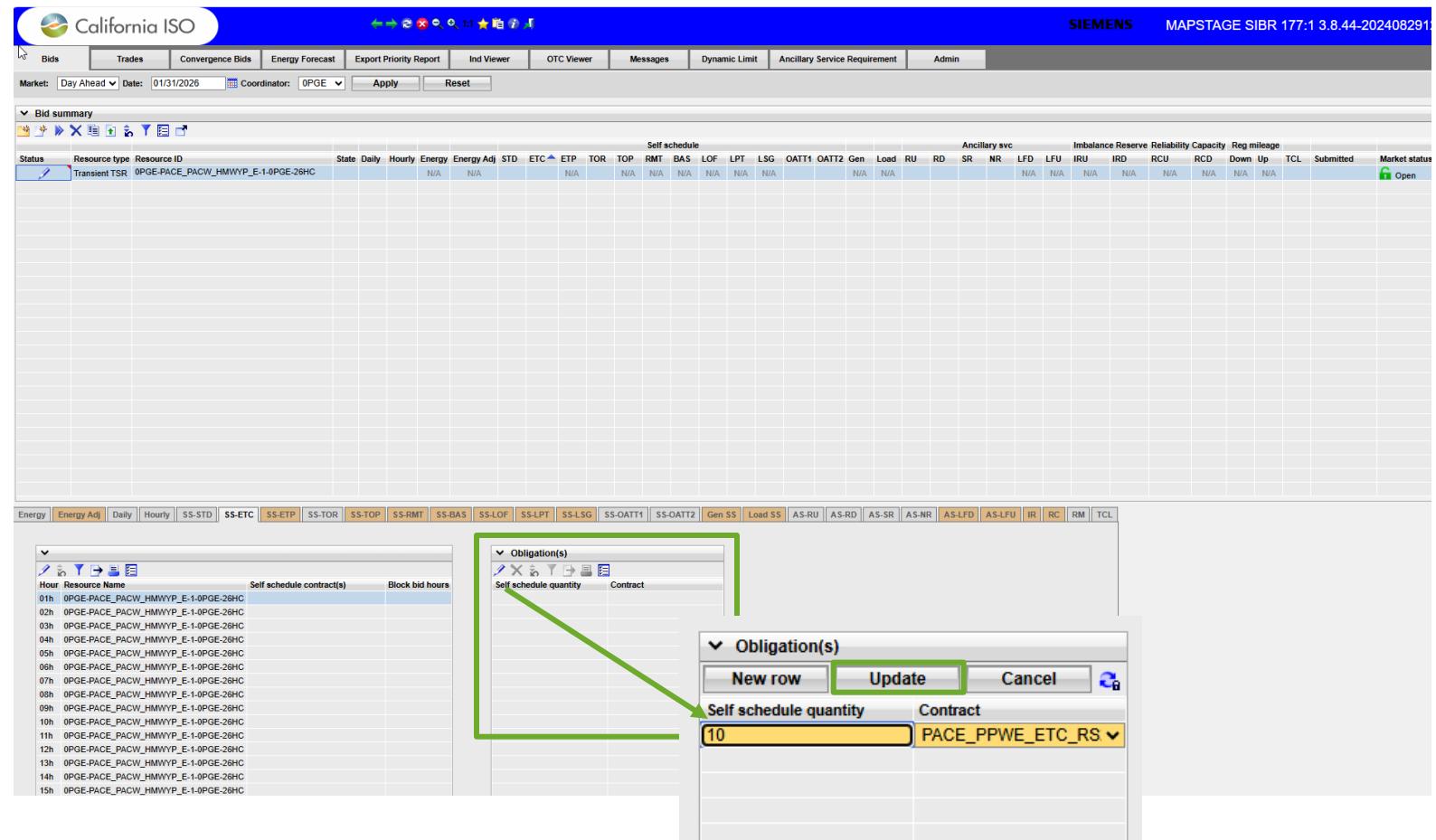
Transient TSR Example

- Click on the pencil in the resource name section and set your self-schedule values per hour.
  - Right click in the top field and select Set All values in column to copy this value down through all hours.
  - You can make edits to individual hours under the Obligations pane.
  - Click Update.

Transient TSR Example

- Bid is now ready to be submitted.
  - Click the submit icon.
  - Click Apply.

Transient TSR Example

- Results of bid submission will populate Bid Summary fields.
  - Click on the bid to see the popup Bid Messages that will identify the applicable business rules.
  - Follow processes to make edits to bids based on the business rules generated.

Data from SIBR Business Rules spreadsheet populates these fields to provide status information.

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TSR TYPE 2

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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.

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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).

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SIBR: Create Bid – TSR Type 2, TSR Type 3, TSR Type 4
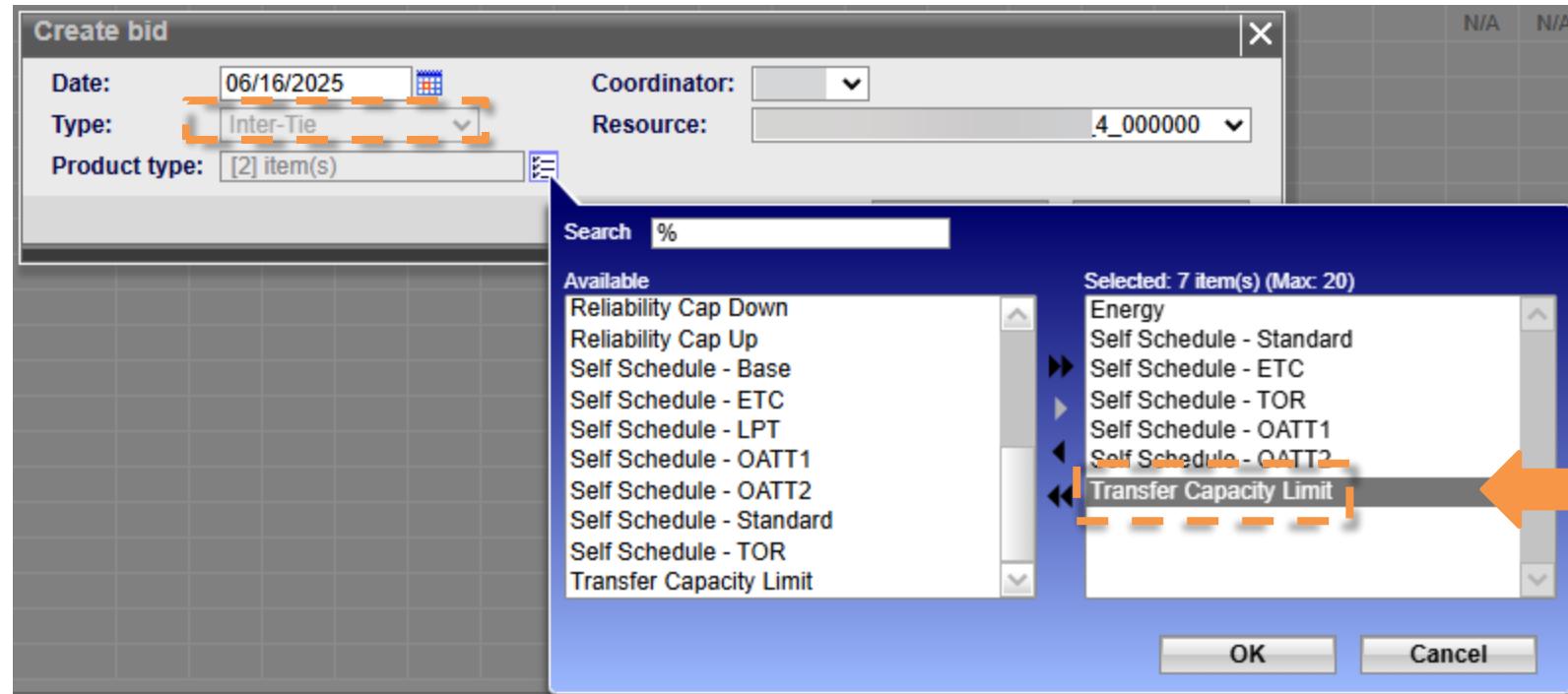
Release transfer capacity
(TSR Type 2/ TSR Type 3/TSR Type 4)

TSR TYPE 3

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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.

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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.

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Non RSE-Eligible Transfer Capacity

TRANSFER SYSTEM RESOURCES: TYPE 4

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TSR Type 4: Non RSE-Eligible Transfer Capacity

Type 4 TSRs are released by EDAM Entities, and this capacity is <u>not</u> 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.

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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).

SIBR: Create Bid – TSR Type 2, TSR Type 3, TSR Type 4
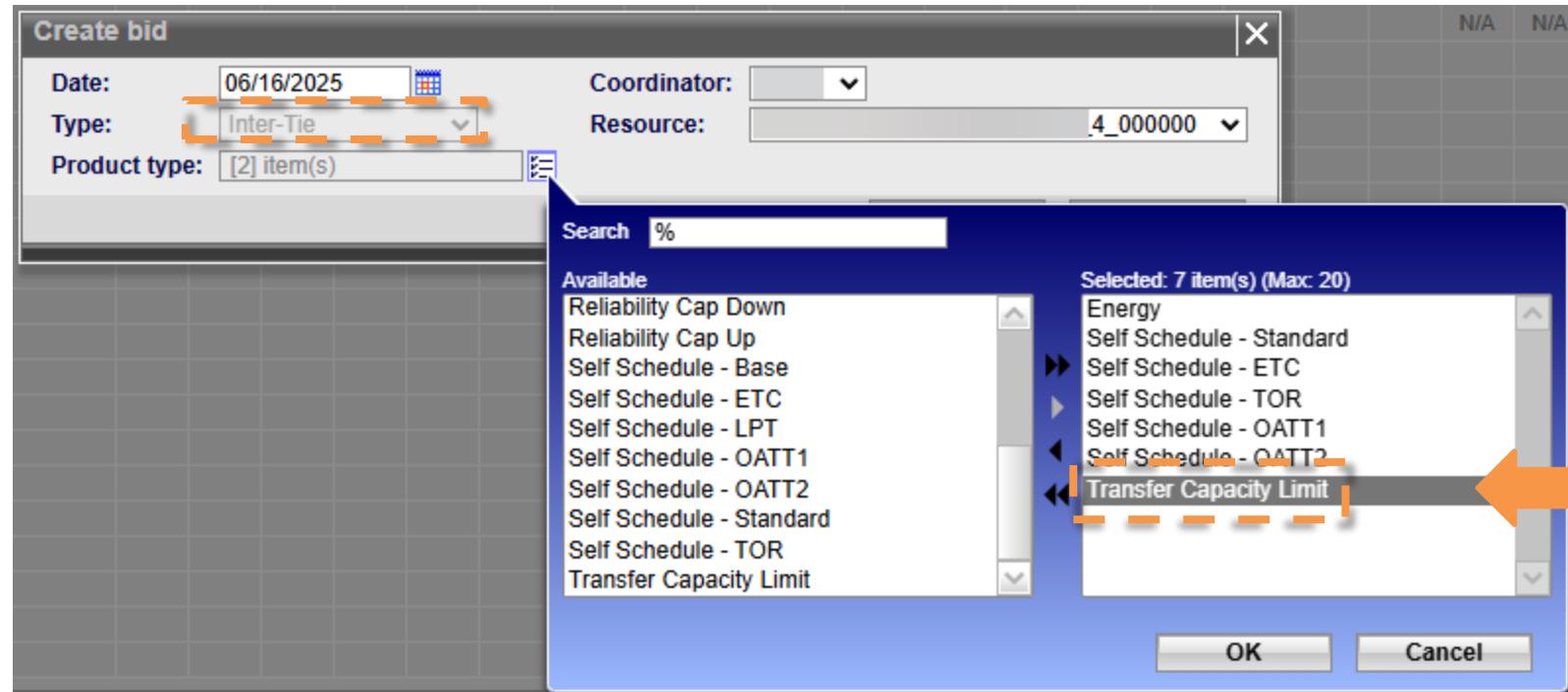
Release transfer capacity
(TSR Type 2/ TSR Type 3/TSR Type 4)

TSR Transfer Capacity Limit

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)

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Review of Extended Day-Ahead Market Processes

SIBR publishes valid TSR bids in the Clean Bids at 10:00 am. These bids will be used to schedule TSRs in the **Integrated Forward Market** and **Residual Unit Commitment.**

Resource Sufficiency Evaluation (RSE)

Market Power Mitigation (MPM) for Integrated Forward Market (IFM)

Market Power Mitigation (MPM) for Residual Unit Commitment (RUC)

GHG Reference Pass

Integrated Forward Market (IFM)

Residual Unit Commitment (RUC)

Energy & Imbalance Reserves

Reliability Capacity