



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

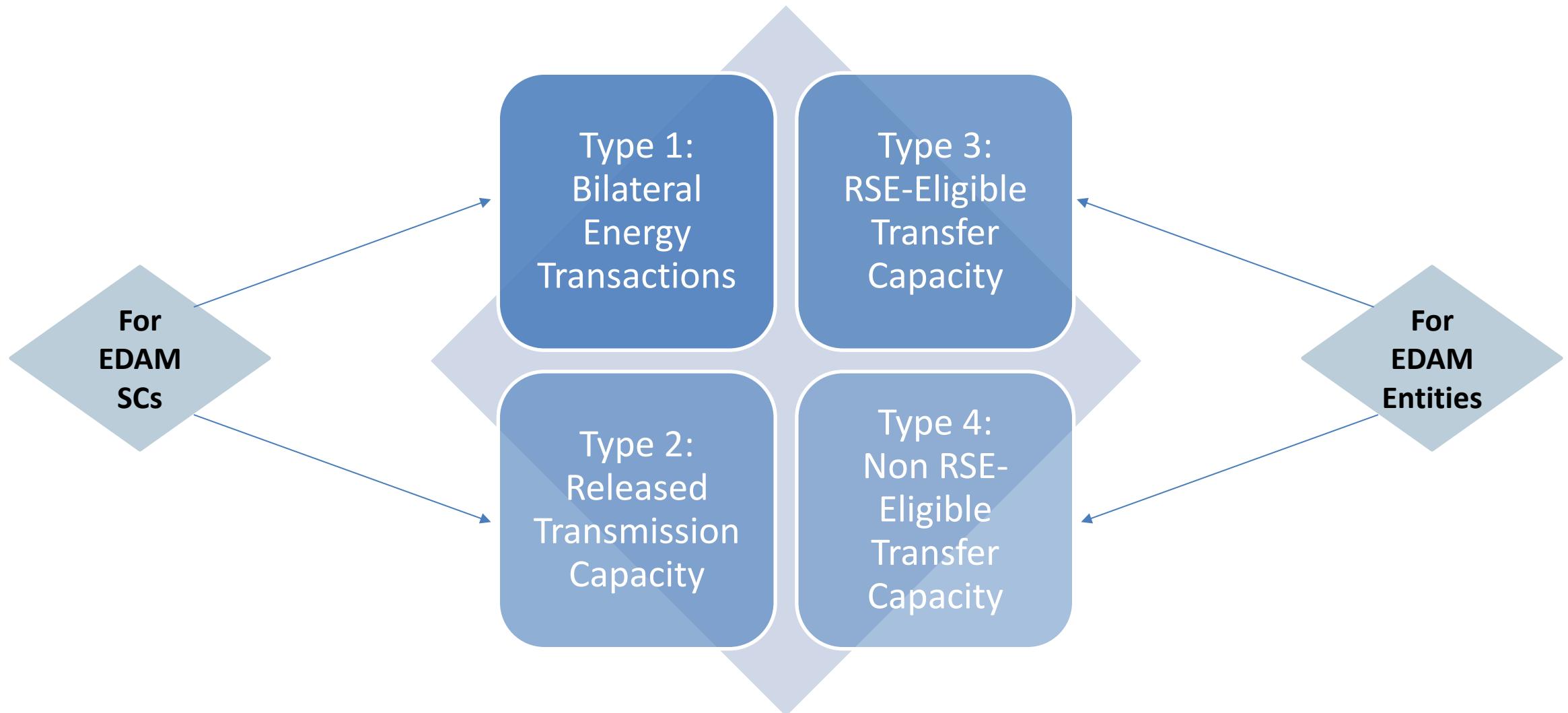
Rev. 2/6/26

Bilateral Energy Transactions

TRANSFER SYSTEM RESOURCES



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

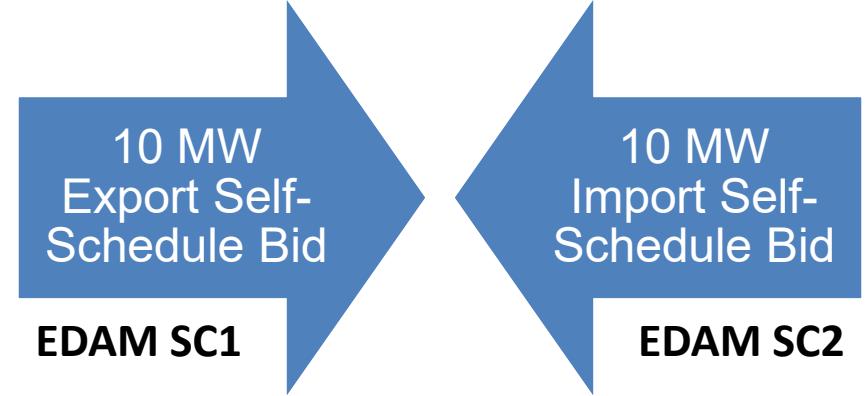
- EDAM SC may submit self-schedule bid under a unique Contract Reference Number (CRN) on respective TSR.
- All CRNs must be registered in Master File by relevant EDAM Entity.
- Self-schedule bids must be balanced and within CRN entitlement.
- Retains financial rights even if physical rights are lost.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

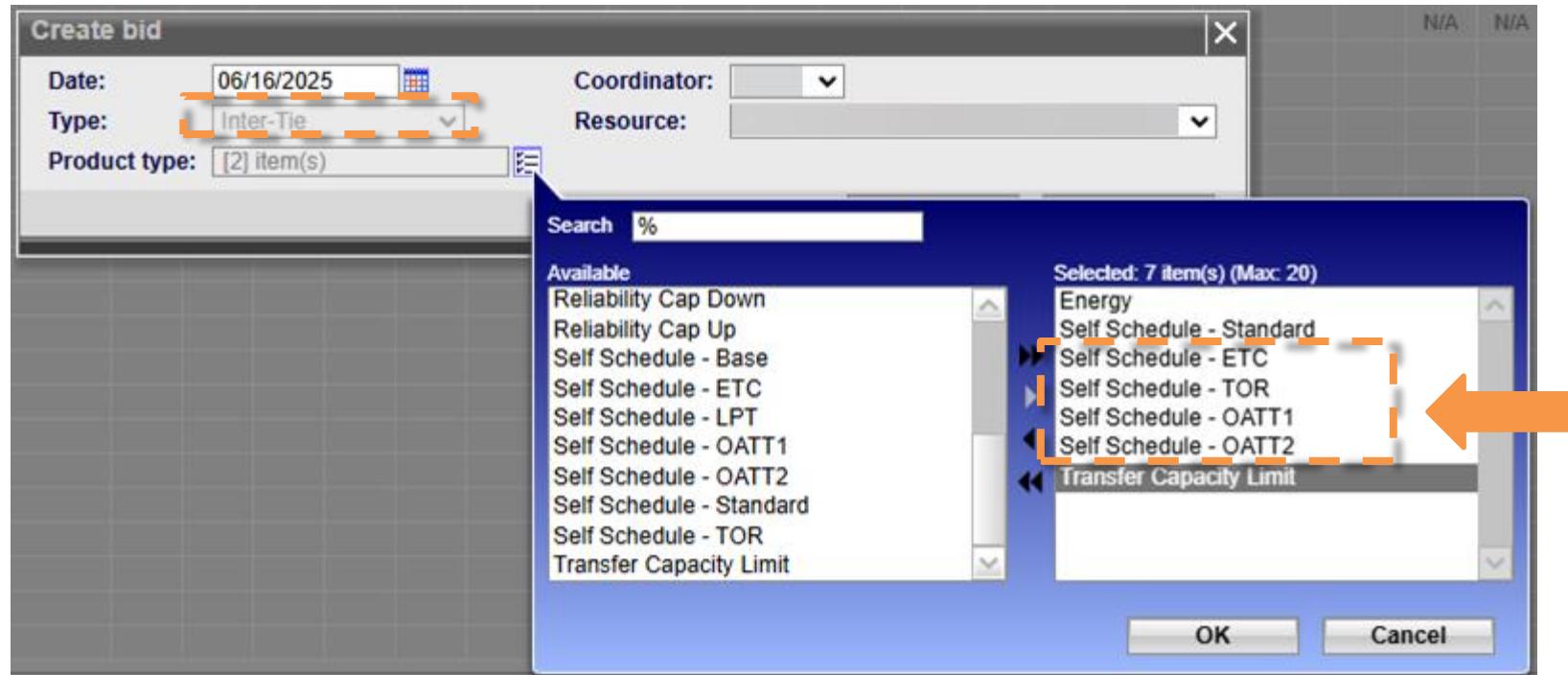
- EDAM SC must rebid Type 1 TSRs in real-time to self-schedule under the CRN, unless the CRN has expired after day-ahead.
- If the CRN has expired or is “NONE,” a price-taker self-schedule bid is required.
- EDAM SCs may adjust real-time self-schedules from the day-ahead version.
- They may increase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

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

SIBR: Create Bid – TSR Type 1

The screenshot shows the California ISO SIBR interface for creating a bid. The top navigation bar includes links for Bids, Trades, Convergence Bids, Energy Forecast, Export Priority Report, Ind Viewer, OTC Viewer, Messages, and Dynamic. The main toolbar features icons for back, forward, search, and other functions. The 'Bids' tab is selected. The 'Market' dropdown is set to 'Day Ahead', the 'Date' is '06/23/2025', and the 'Coordinator' dropdown is empty. Buttons for 'Apply' and 'Reset' are present. The 'Bid summary' section is expanded, showing a table for 'Self schedule' with columns for Status, Resource type, Resource ID, State, Daily, Hourly, Energy, Energy Adj, STD, ETC, ETP, TOR, TOP, RMT, BAS, LOF, LPT, LSG, OATT1, OATT2, and G. A row for 'Inter-Tie' is listed with 'Energy Adj' selected. Below this is a table for 'Self schedule contract(s)' with columns for Hour, Resource Name, Self schedule contract(s), and Block bid hours. The hours 01h through 06h are listed. The 'Obligation(s)' section is also expanded, showing a table with 'New row', 'Update', and 'Cancel' buttons. The 'Self schedule quantity' and 'Contract' fields are both set to '[None]'.

Sample Bid Messages based on SIBR Rules

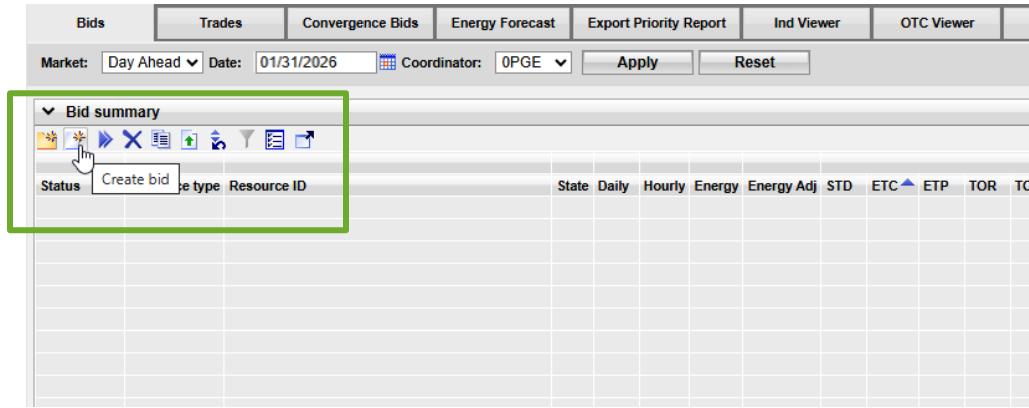
- This screenshot shows an example of the types of messages you will see based on SIBR rules. There will be new rules for TSR CRNs (TSR Type 1) that are like the ones shown below.
- Once updated, the new rules will be added to the SIBR rules document posted on caiso.com.

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

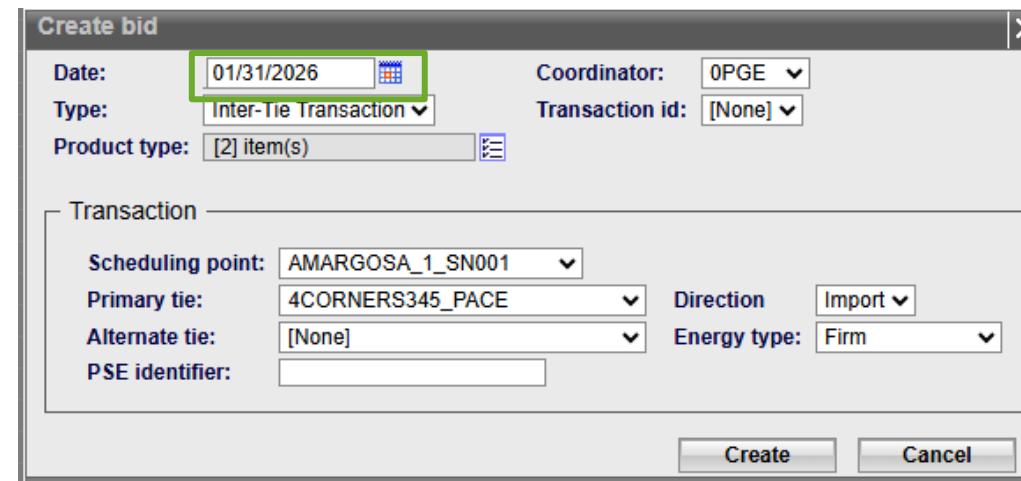
TRANSIENT TSR

Transient Transfer System Resource (TSR) Example

- From the Bids tab, click the Create Bid icon.

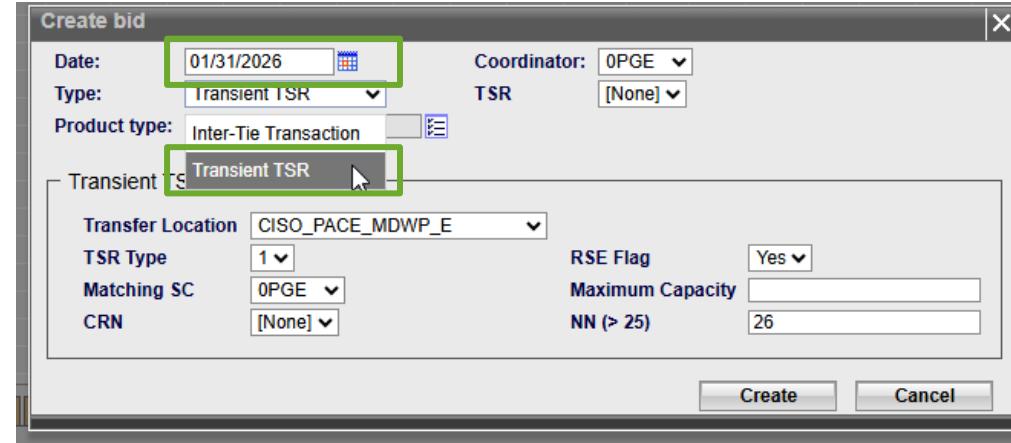


- Set a date for a future trade date.

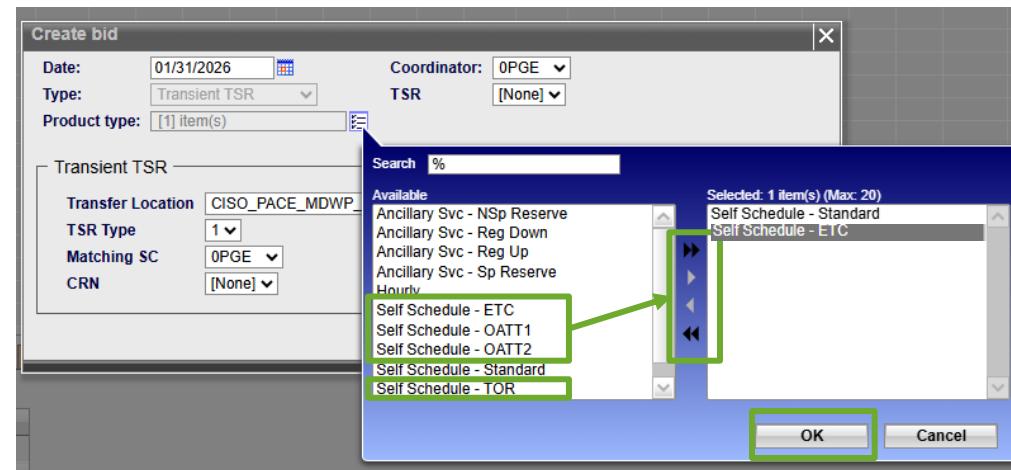


Transient Transfer System Resource (TSR) Example

- Select your Type as Transient TSR from the drop down.

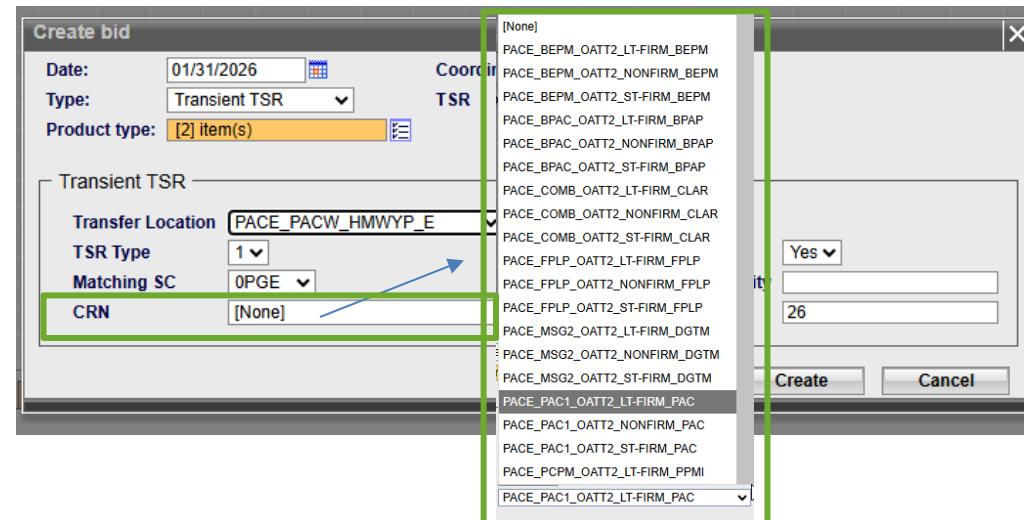
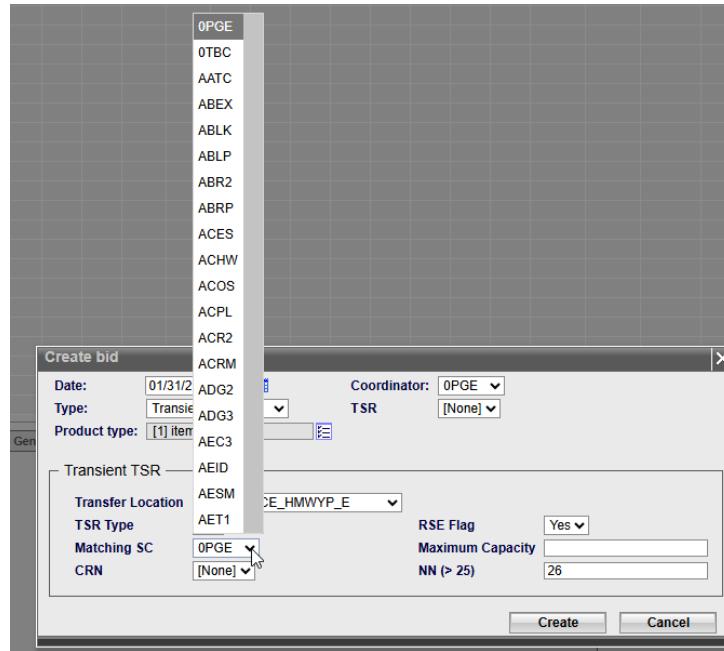


- After selecting Transient TSR as your Type, select your Product type:
 - for Transient TSR, selection will be OATT1, OATT 2, ETC or TOR.



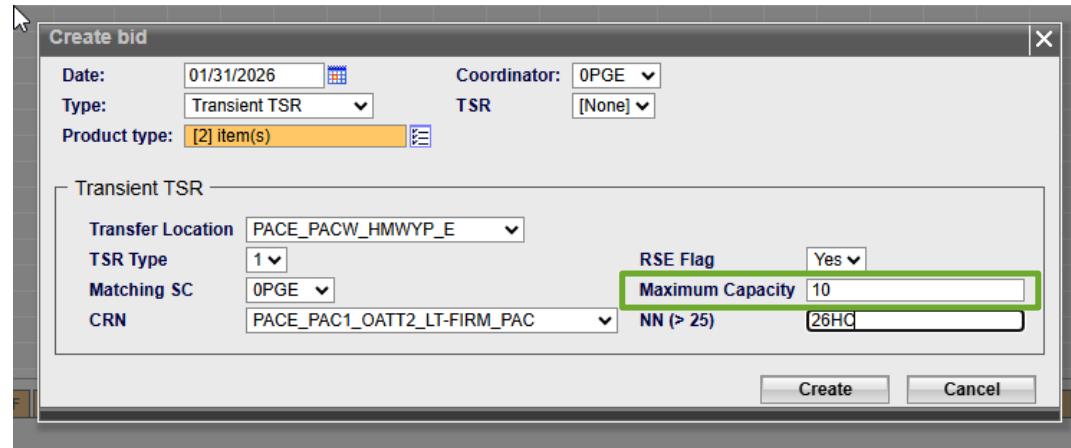
Transient TSR Example

- 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.



Create bid

Date: 01/31/2026 Coordinator: 0PGE

Type: Transient TSR TSR [None]

Product type: [2] item(s)

Transient TSR

Transfer Location: PACE_PACW_HMWYP_E

TSR Type: 1

Matching SC: 0PGE

CRN: PACE_PAC1_OATT2_LT-FIRM_PAC

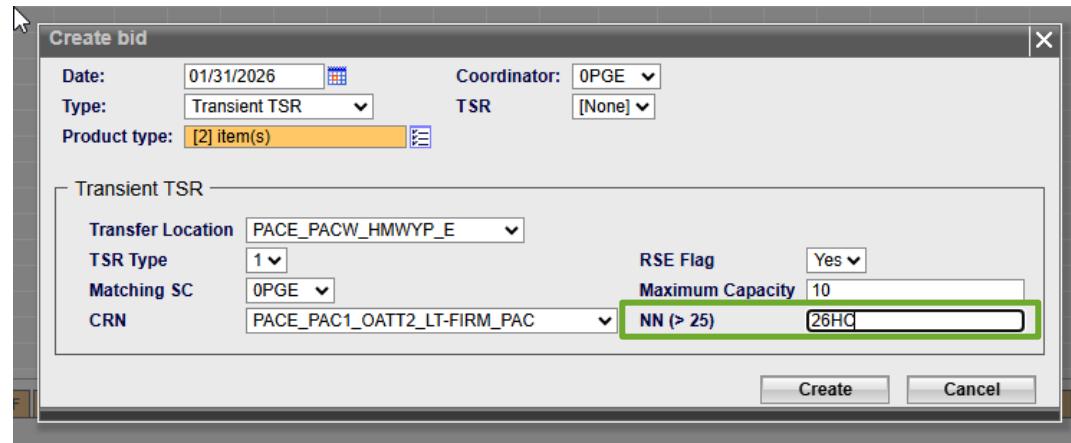
RSE Flag: Yes

Maximum Capacity: 10

NN (> 25): 26HC

Create Cancel

- Set the NN (>25)
 - This field accepts alpha numeric characters allowing indication of bid submitter (i.e. initials)
 - Number cannot be lower than 25.



Create bid

Date: 01/31/2026 Coordinator: 0PGE

Type: Transient TSR TSR [None]

Product type: [2] item(s)

Transient TSR

Transfer Location: PACE_PACW_HMWYP_E

TSR Type: 1

Matching SC: 0PGE

CRN: PACE_PAC1_OATT2_LT-FIRM_PAC

RSE Flag: Yes

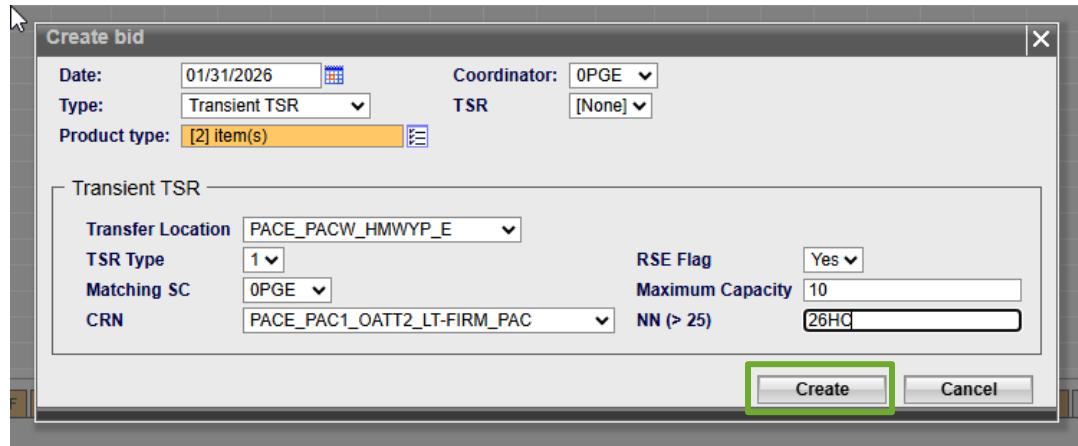
Maximum Capacity: 10

NN (> 25): 26HC

Create Cancel

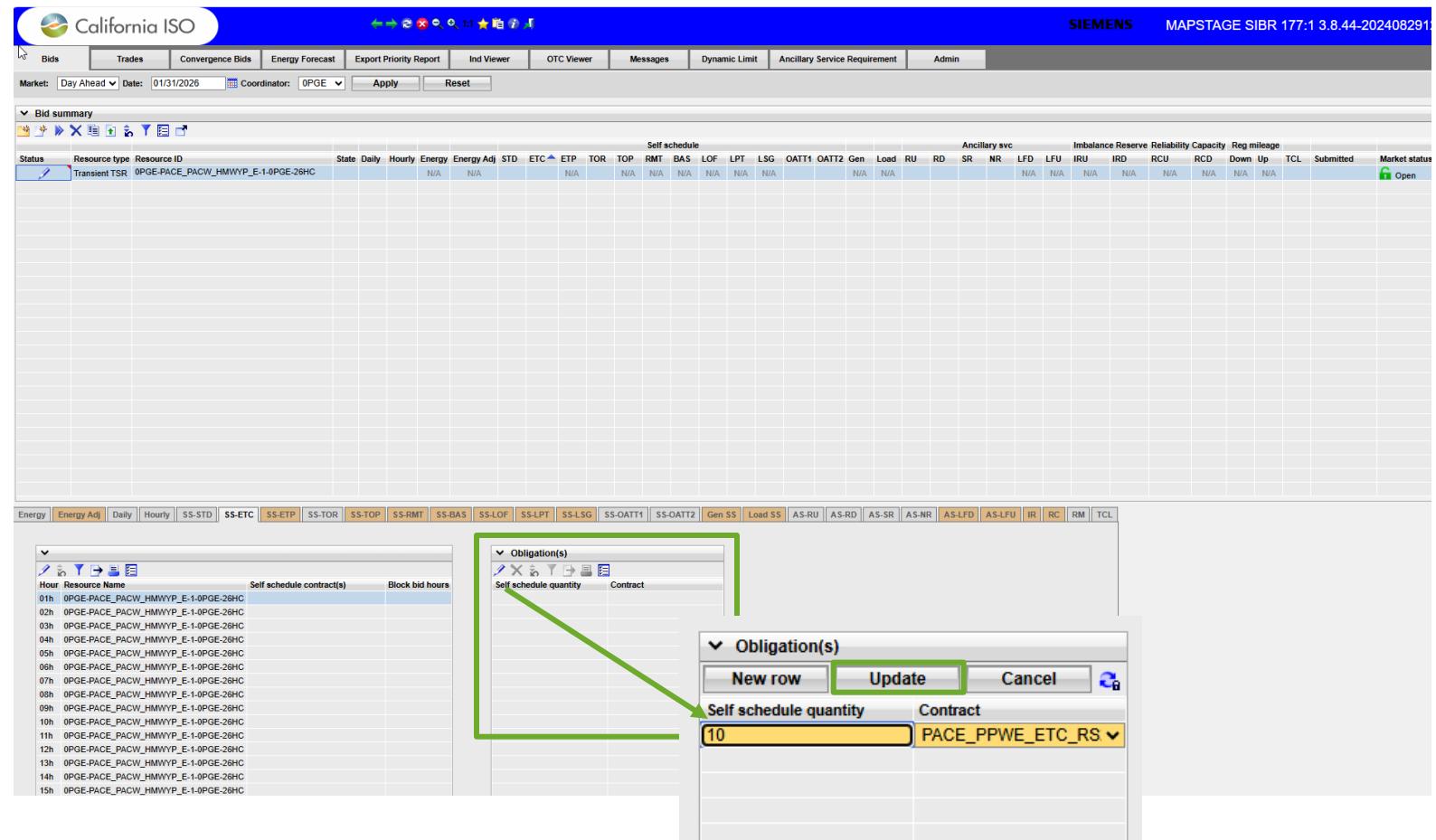
Transient TSR Example

- 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.



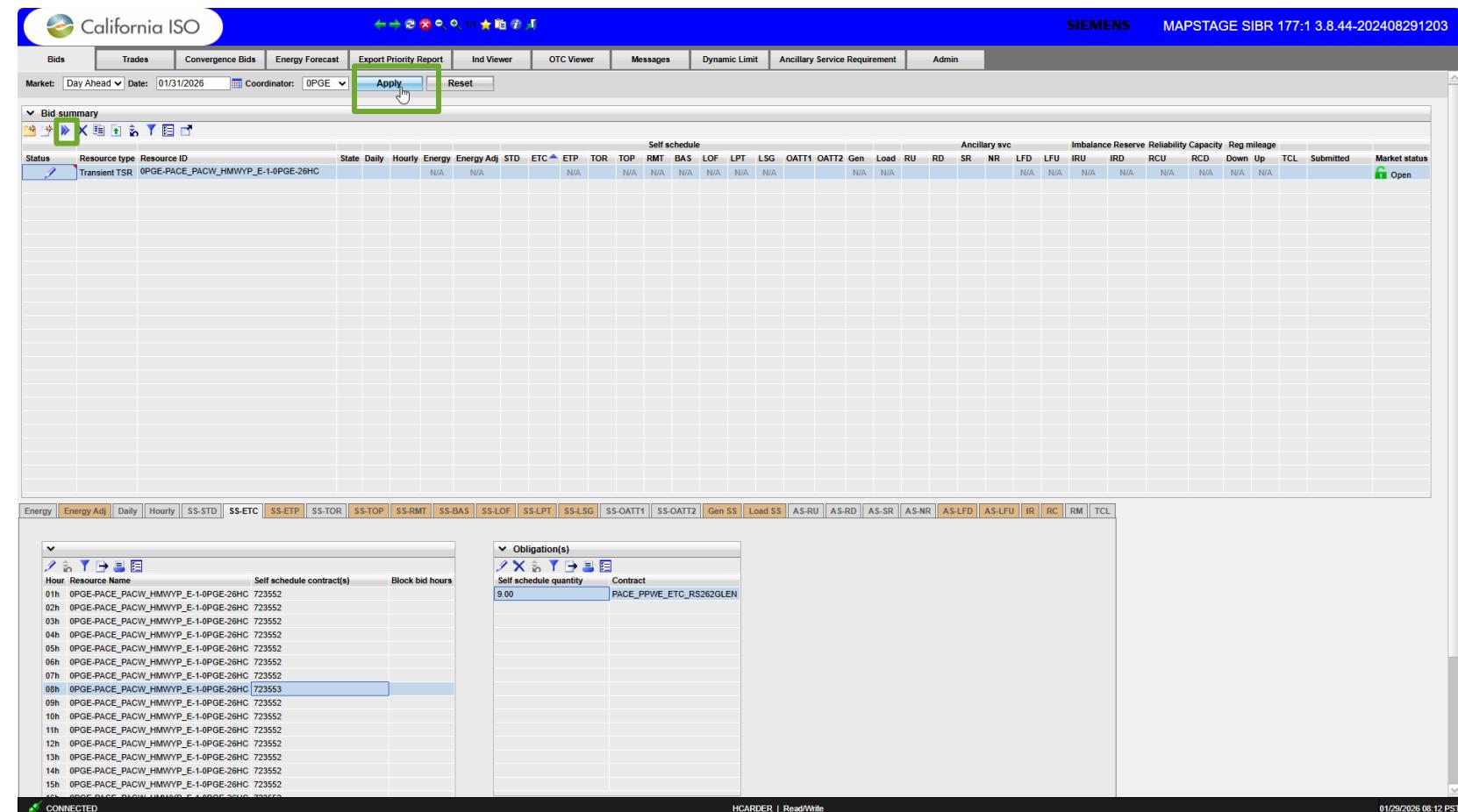
Transient TSR Example

- 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.

The screenshot shows the California ISO Bidding Platform interface. The main window displays a 'Bid summary' table for a 'Transient TSR' resource. The table includes columns for Status, Resource type, Resource ID, and various bidding parameters like Daily, Hourly, Energy, Energy Adj, STD, ETC, TOR, TOP, RMT, BAS, LOF, LPT, LSG, OATT1, OATT2, Gen, Load, RU, RD, SR, NR, LFD, LFU, IRU, IRD, RCU, RCD, Down, Up, TCL, and Submitted. A 'Market status' column shows 'Open'. A 'Self schedule' section is highlighted with a green box. A context menu is open over the 'Self schedule contract(s)' field for hour 01h, listing options: Update, Cancel, Copy (Ctrl+C), Paste (Ctrl+V), and 'Set all values in column to this value'. The 'Obligation(s)' pane on the right shows a self-schedule quantity of 10.00 and a contract of PACE_PPWE_ETC_RS262GLEN. The bottom navigation bar includes tabs for Energy, Energy Adj, Daily, Hourly, STD, SS-ETC, SS-ETP, and SS-TOR.

Transient TSR Example

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



The screenshot shows the California ISO Bidding Platform interface. The top navigation bar includes links for Bids, Trades, Convergence Bids, Energy Forecast, Export Priority Report, Ind Viewer, OTC Viewer, Messages, Dynamic Limit, Ancillary Service Requirement, and Admin. The current date is 01/31/2026, and the coordinator is 0PGE. The 'Apply' button is highlighted with a green box and a cursor icon, indicating it is the next step in the submission process.

Bid summary

Status	Resource type	Resource ID	Self schedule												Ancillary svc				Imbalance Reserve				Reliability Capacity		Reg mileage		Submitted	Market status						
			State	Daily	Hourly	Energy	Energy Adj	STD	ETC	ETP	TOR	TOP	RMT	BAS	LOF	LPT	LSG	OATT1	OATT2	Gen	Load	RU	RD	SR	NR	LFD			LFU	IRU	IRD	RCU	RCD	Down
Transient TSR	0PGE-PACE_PACW_HMWYP_E-1-0PGE-26HC			N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Open

Hourly Bid Data

Hour	Resource Name	Self schedule contract(s)	Block bid hours
01h	0PGE-PACE_PACW_HMWYP_E-1-0PGE-26HC	723552	
02h	0PGE-PACE_PACW_HMWYP_E-1-0PGE-26HC	723552	
03h	0PGE-PACE_PACW_HMWYP_E-1-0PGE-26HC	723552	
04h	0PGE-PACE_PACW_HMWYP_E-1-0PGE-26HC	723552	
05h	0PGE-PACE_PACW_HMWYP_E-1-0PGE-26HC	723552	
06h	0PGE-PACE_PACW_HMWYP_E-1-0PGE-26HC	723552	
07h	0PGE-PACE_PACW_HMWYP_E-1-0PGE-26HC	723552	
08h	0PGE-PACE_PACW_HMWYP_E-1-0PGE-26HC	723553	
09h	0PGE-PACE_PACW_HMWYP_E-1-0PGE-26HC	723552	
10h	0PGE-PACE_PACW_HMWYP_E-1-0PGE-26HC	723552	
11h	0PGE-PACE_PACW_HMWYP_E-1-0PGE-26HC	723552	
12h	0PGE-PACE_PACW_HMWYP_E-1-0PGE-26HC	723552	
13h	0PGE-PACE_PACW_HMWYP_E-1-0PGE-26HC	723552	
14h	0PGE-PACE_PACW_HMWYP_E-1-0PGE-26HC	723552	
15h	0PGE-PACE_PACW_HMWYP_E-1-0PGE-26HC	723552	
16h	0PGE-PACE_PACW_HMWYP_E-1-0PGE-26HC	723552	

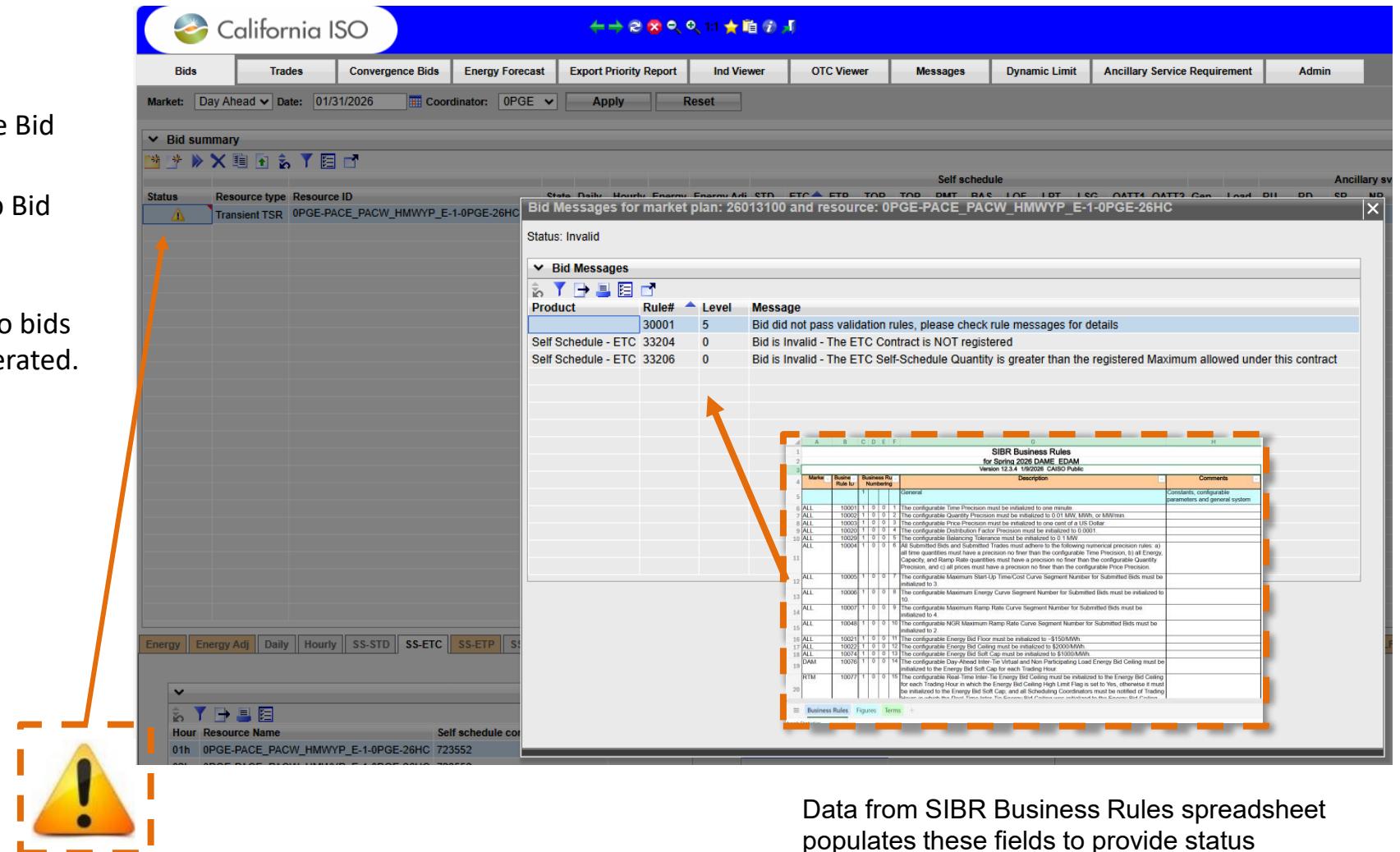
Obligation(s)

Self schedule quantity	Contract
9.00	PACE_PPWE_ETC_RS262GLEN

CONNECTED HCARDER | Read/Write 01/29/2026 08:12 PST

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.



The screenshot shows the California ISO Bidding Platform. A warning icon (yellow triangle with an exclamation mark) is overlaid on the left side of the interface. The main window displays a 'Bid summary' table with a single row for a 'Transient TSR' bid. The 'Status' column shows a yellow warning icon. The 'Resource type' and 'Resource ID' columns show 'Transient TSR' and '0PGE-PACE_PACW_HMWYP_E-1-0PGE-26HC' respectively. The 'Bid Messages' window is open, showing three validation errors:

- Product 30001, Rule# 5: Bid did not pass validation rules, please check rule messages for details
- Self Schedule - ETC 33204, Rule# 0: Bid is Invalid - The ETC Contract is NOT registered
- Self Schedule - ETC 33206, Rule# 0: Bid is Invalid - The ETC Self-Schedule Quantity is greater than the registered Maximum allowed under this contract

Below the Bid Messages window is a 'SIBR Business Rules' spreadsheet. The first few rows of the spreadsheet are as follows:

Market	Business Rule ID	Business Rule Numbering	General	Comments
ALL	100001	1	The configurable Time Precision must be initialized to one minute.	Constantly configurable parameters and general system
ALL	100002	1	The configurable Quantity Precision must be initialized to 0.01 MWh, or MWh/min.	
ALL	100003	1	The configurable Price Precision must be initialized to one cent of a US Dollar.	
ALL	100004	1	The configurable Distribution Factor Precision must be initialized to 0.0001.	
ALL	100005	1	All Submitted Bids and Submitted Trades must adhere to the following numerical rules: a) all time quantities must have a precision no finer than the configurable Time Precision, b) all energy, quantity, and rate values must have a precision no finer than the configurable Quantity Precision, and c) all prices must have a precision no finer than the configurable Price Precision.	
ALL	100006	1	The configurable Maximum Start-Up Time/Cost Curve Segment Number for Submitted Bids must be initialized to 10.	
ALL	100007	1	The configurable Maximum Energy Curve Segment Number for Submitted Bids must be initialized to 10.	
ALL	100048	1	The configurable Maximum Ramp Rate Curve Segment Number for Submitted Bids must be initialized to 4.	
ALL	100211	1	The configurable NGR Maximum Ramp Rate Curve Segment Number for Submitted Bids must be initialized to 1.	
ALL	100027	1	The configurable Energy Bid Ceiling must be initialized to 50000MWh.	
ALL	100028	1	The configurable Maximum Energy Bid Ceiling must be initialized to 50000MWh.	
DAM	100767	1	The configurable Day-Ahead Inter-Tie Virtual and Non-Participating Load Energy Bid Ceiling must be initialized to the Energy Bid Soft-Cap for each Trading Hour.	
RTM	100771	1	The configurable Energy Bid High Limit Flag must be initialized to Yes. The configurable Energy Bid Soft-Cap must be initialized to the Energy Bid Ceiling for each Trading Hour in which the Energy Bid Ceiling High Limit Flag is set to Yes, otherwise it must be initialized to the Energy Bid Soft-Cap, and all Scheduling Coordinators must be notified of Trading Hour changes via the Energy Bid Ceiling High Limit Flag.	

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

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:

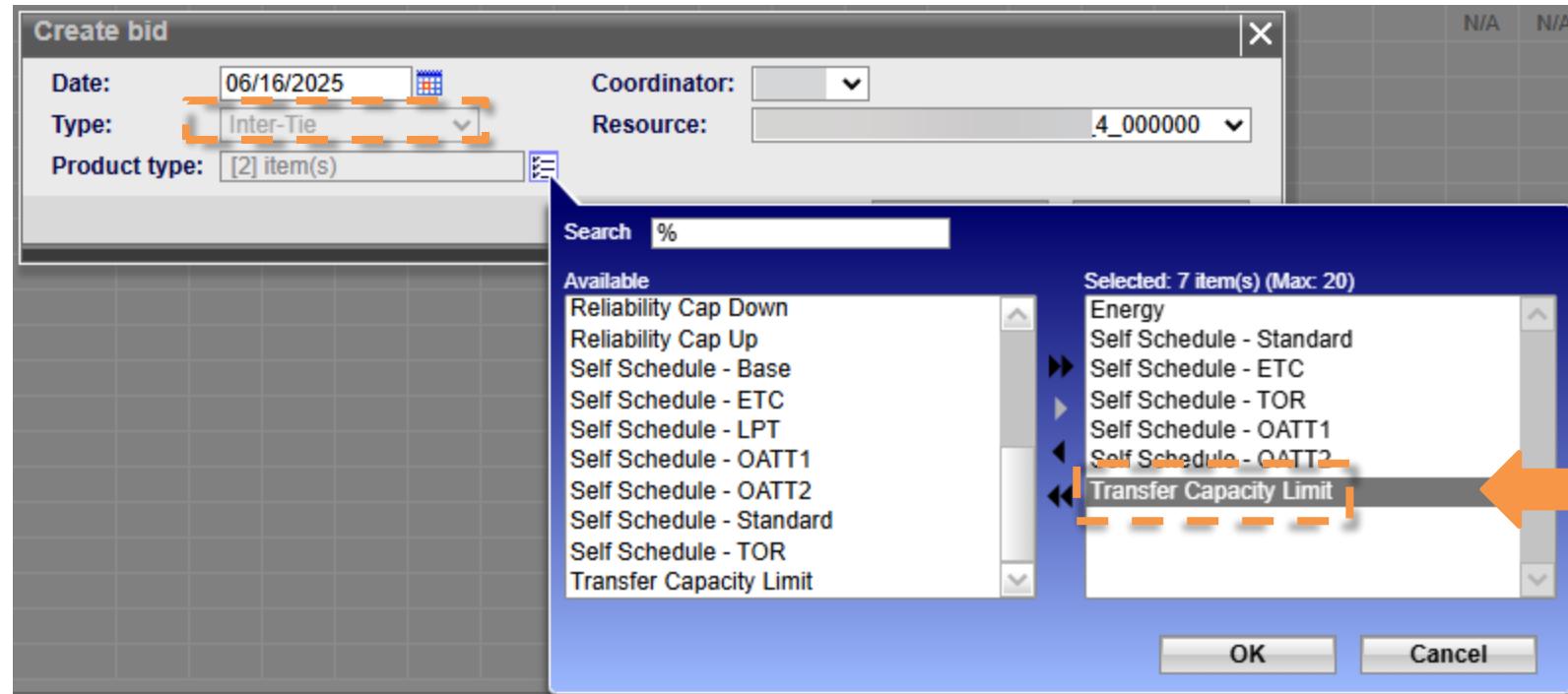
- SC_ID: Registered EDAM SC
- TRANSFER_LOCATION: Registered transfer location
- TRADING_DAY: Up to 7 days in advance
- TRADING_HOUR: May vary by hour
- CRN_ID: Registered Contract Reference Number
- CRN_CAPACITY: Total transmission right for the CRN, usable for Type 1 or releasable for Type 2



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).

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

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.

Non RSE-Eligible Transfer Capacity

TRANSFER SYSTEM RESOURCES: TYPE 4

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

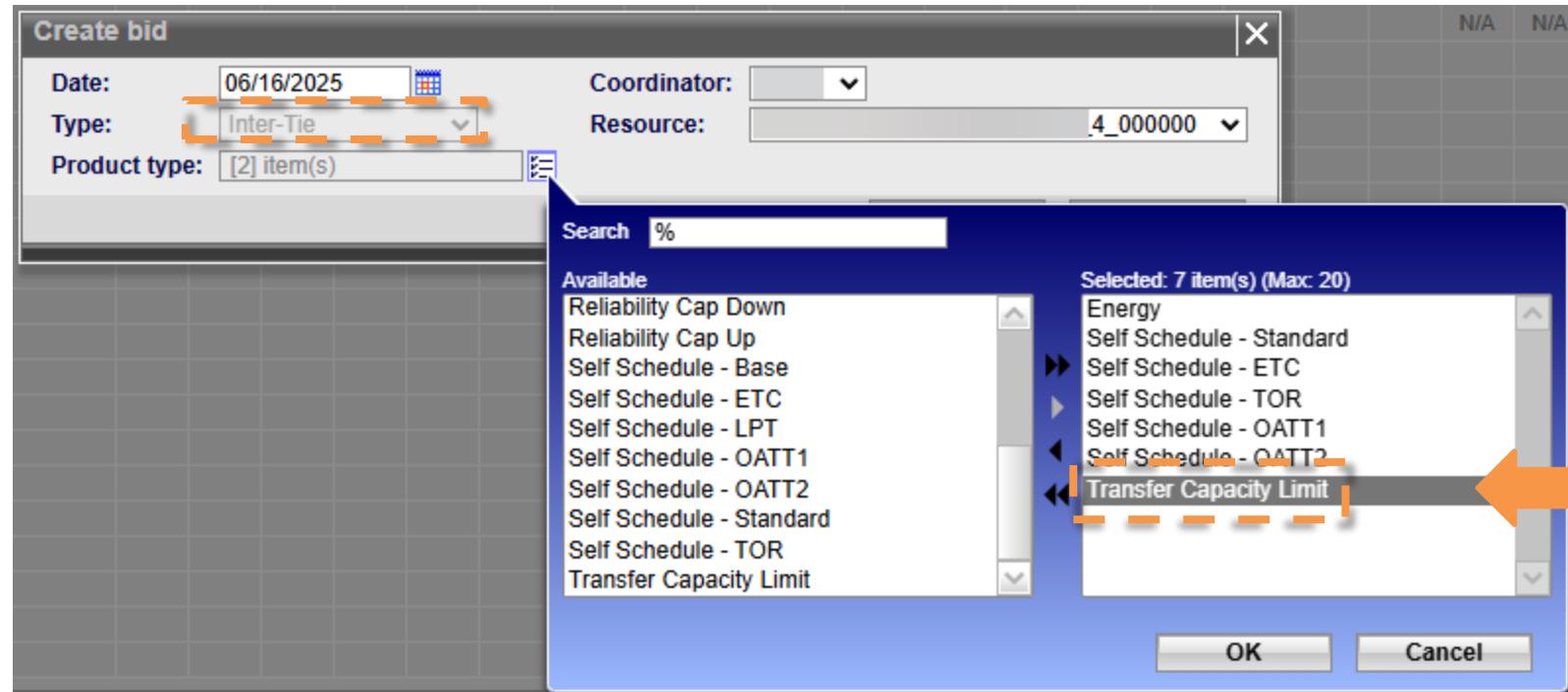
- If the EDAM Entity derates the TSR Maximum Capacity before 9:00 am, SIBR will automatically adjust the Capacity Limit accordingly.
- SIBR may also reduce the Capacity Limit to align with a lower Capacity Limit submitted for the matching TSR.



Scheduling and Optimization

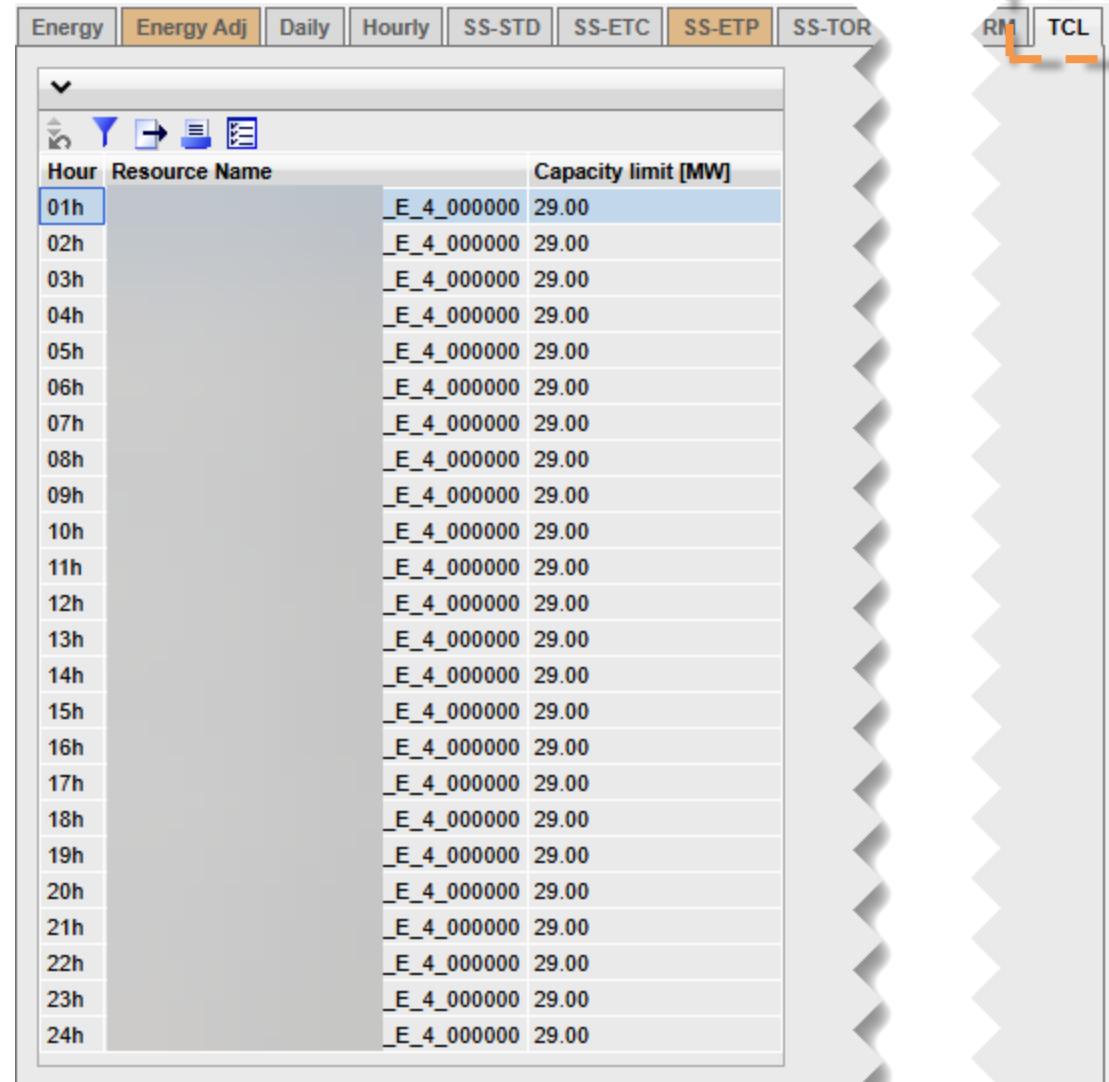
- The transfer capacity under the adjusted Capacity Limit is released to EDAM.
- EDAM uses this capacity for optimal scheduling in the Integrated Forward Market (IFM) and Residual Unit Commitment (RUC).

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



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)

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**.

