


Business Requirements Specification

Subscriber Participating Transmission Ownership Model


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 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024

Revision History

Date	Version	Description
7/18/2024	1.0	Document v1.0 released
4/8/2025	1.1	Document Updated: <ul style="list-style-type: none"> Section 4.2 (CIRA): Clarifications made to NSPTO-BRQ-024 Section 4.6 (Settlements): Clarifications made to NSPTO-BRQ-076, NSPTO-BRQ-078, NSPTO-BRQ-079, NSPTO-BRQ-080, and NSPTO-BRQ-086
1/27/2025	1.2	Updates by Topic: <ul style="list-style-type: none"> Added Market Scheduling Options scope and requirements Updates to Intertie Transmission Constraint (ITC) definitions and details Settlement process clarifications Additional clarifications throughout the document Updates by Section: <ul style="list-style-type: none"> 1.2 – Scope: <ul style="list-style-type: none"> Added Market Scheduling Options Added custom ITC coefficients 3.1 – Business Practice Manuals <ul style="list-style-type: none"> Added impacts to Congestion Revenue Rights BPM Updated impacts to Reliability Requirements BPM Updated impacts to Settlements & Billing BPM Section 4.1: Manage Model & Contract Implementation <ul style="list-style-type: none"> Updated: NSPTO-BRQ-005, NSPTO-BRQ-007, NSPTO-BRQ-011, NSPTO-BRQ-016 New: NSPTO-BRQ-017, NSPTO-BRQ-018, NSPTO-BRQ-046, NSPTO-BRQ-019 Section 4.2: Manage Resource Adequacy Requirements <ul style="list-style-type: none"> No changes to BRQs Section 4.3: Manage Bid Submission <ul style="list-style-type: none"> New: NSPTO-BRQ-041 Section 4.4: Manage Interchange Transaction Schedules <ul style="list-style-type: none"> No changes to BRQs Section 4.5: Manage Day-Ahead and Real-Time Markets

 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024

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		<ul style="list-style-type: none"> ○ New: NSPTO-BRQ-065 • New Section 4.6: Manage Congestion Revenue Rights <ul style="list-style-type: none"> ○ New: NSPTO-BRQ-063, NSPTO-BRQ-061 • Section 4.7: Manage Market Billing & Settlements <ul style="list-style-type: none"> ○ Updated: NSPTO-BRQ-073, NSPTO-BRQ-078, NSPTO-BRQ-079, NSPTO-BRQ-080 ○ New: NSPTO-BRQ-90, NSPTO-BRQ-91, NSPTO-BRQ-95, NSPTO-BRQ-96



 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024

Table of Contents

1	Introduction	6
1.1	Purpose	6
1.2	Scope	6
2	Details of Business Need/Problem	8
2.1	Description	8
3	Project Information	9
3.1	Business Practice Manuals (BPM)	9
3.2	Other.....	10
4	Business Requirements	11
4.1	Business Process: Manage Model & Contract Implementation (MF)	11
4.1.1	<i>Business Requirements</i>	11
4.2	Business Process: Manage Resource Adequacy Requirements (CIRA)	14
4.2.1	<i>Business Requirements</i>	14
4.3	Business Process: Manage Bid Submission (SIBR).....	15
4.3.1	<i>Business Requirements</i>	15
4.4	Business Process: Manage Interchange Transaction Schedules (ITS).....	16
4.4.1	<i>Business Requirements</i>	16
4.5	Business Process: Manage Day-Ahead Market, Manage Real-Time Market	17
4.5.1	<i>Business Requirements</i>	17
4.6	Business Process: Manage Congestion Revenue Rights (CRR).....	18
4.6.1	<i>Business Requirements</i>	18
4.7	Business Process: Manage Market Billing & Settlements (Settlements)	20
4.7.1	<i>Business Requirements</i>	20
4.8	Business Process: Market/Business Simulation	24
4.8.1	<i>Business Requirements</i>	24

 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024

1 Introduction

1.1 Purpose

The purpose of this document is to capture and record a description of what the Users and Business Stakeholders of the project wish to obtain, by providing high level business requirements. This document establishes the basis for the agreement between the initiators and implementers of the project. The information in this document serves as input to determine the scope of projects and all Business Process Modeling and System Requirements Specifications (SRS) efforts.

Business requirements are what must be delivered to provide value for the Users and Business Stakeholders. Systems, software, and processes are the ways (how) to deliver, satisfy, or meet the business requirements (what).


Project Background

The Subscriber Participating Transmission Owner (Subscriber PTO) model is a new transmission development option available for transmission projects with generation development opportunities outside the CAISO balancing area to bring generation to meet California's policy initiatives (e.g. renewable portfolio standards, GHG emissions, etc.). The model specifically supports CPUC generation portfolios required by the memorandum of understanding (MOU) with the California State agencies and the CAISO. Accordingly, the Subscriber PTO model allows for additional transmission to be developed to connect the CAISO BAA with out-of-state generation (e.g. Wyoming, New Mexico) that currently lack the necessary transmission to provide electricity to the CAISO BAA. The Subscriber PTO model thereby provides an option for projects not chosen in the transmission planning process to solicit Subscribers who then pay for the project (generation and transmission) and join the CAISO balancing area.

For purposes of this document, the new Subscriber PTO Model enables a subscriber PTO to develop its project without recovering the costs for its project through a transmission revenue requirement. At the same time, those who have paid for the project, *i.e.*, the subscribers, are exempt from congestion and other related costs on the subscriber PTO line because the subscribers will receive similar treatment and priority to existing contract rights holders (ETCs). Additionally, the Subscriber PTO model provides a mechanism for subscribers that financed the project and associated network upgrades the ability to receive reimbursement for those costs from non-subscribers that use the Subscriber PTO transmission facilities.

1.2 Scope


- Develop Subscriber PTO Model: account for a new PTO model that does not increase the Transmission Revenue Requirement (TRR) of the Transmission Access Charge / Wheeling Access Charge (TAC/WAC)) and provides those who funded the project ("subscribers") with Existing Transmission Contract (ETC) designation to account for their rights on the CAISO controlled grid
- Updated the Transmission Planning Process (TPP) to incorporate Subscriber PTO generation and transmission
- Updated the Generator Interconnection and Deliverability Allocation Process to allocate deliverability to the Subscriber consistent with the Tariff

 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024

- Revise the TAC allocation process to fund the non-Subscriber usage payment amount ahead of allocation to the non-load serving PTOs
- Charge non-subscribers for use of the Subscriber PTO line the applicable non-subscriber usage rate (\$/MWH)
- Create a mechanism that allows for the payment to the Subscriber PTO for non-subscriber usage of the Subscriber PTO transmission facility:
 - Compare the Non-Subscriber Usage rate(s) (\$/MWh rate approved by FERC) to the TAC rate and pay the Subscriber PTO the lower of the two values
 - Create a flag to denote when the Non-Subscriber Usage Rate is higher than the TAC rate and publish results in the ISO bill determinant file
 - Indicate monthly gross exports and imports for Non-Subscriber usage of the Subscriber PTO transmission line
 - Indicate the TAC rate and the Non-Subscriber Usage Rate(s) as part of the Settlements TAC reports
- Support custom ITC coefficients

Market Scheduling Options Scope


- Allow Subscribers to convert Subscriber Rights (ETCs) to Congestion Revenue Rights (CRRs) in accordance with existing CRR rules and processes
- Develop two-year non-subscriber usage payment operational observation window: calculate and report on, but do not charge, non-subscriber imports

 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024

2 Details of Business Need/Problem

2.1 Description


Business Opportunity/Problem Statement:	
<i>What:</i>	The Subscriber Participating Transmission Owner (Subscriber PTO) Model is a new service the CAISO is making available to transmission with generation projects outside the CAISO balancing area to bring generation to meet California's policy initiatives. The model will support CPUC generation portfolios required by the memorandum of understanding (MOU) with the state agencies and the CAISO. In addition, the Subscriber PTO model will allow for additional transmission to be developed to connect the CAISO BAA with out-of-state generation.
<i>Why do we have this opportunity/problem:</i>	New transmission is required to access out-of-state generation to meet CPUC resource portfolios. The new Subscriber PTO Model will support development of new transmission while also providing an interconnection method better suited to support imports into the CAISO BAA than the existing pseudo-tie arrangement. Additionally, the Subscriber PTO Model will accommodate FERC policies to support development of transmission projects through an approach where subscribers agree to fund transmission project in exchange for long-term transmission service rights.

 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024

3 Project Information

3.1 Business Practice Manuals (BPM)


BPM	Description of Impact(s)
Congestion Revenue Rights	If Subscriber elects, allocate option CRRs to subscribers for the associated Subscriber PTO transmission source/sink locations, similar to how other ETCs/TORs are converted to CRRs today
Definitions and Acronyms	<ul style="list-style-type: none"> • New Term: Applicant Participating Transmission Owner Agreement (APTOA) • New Term: Non-Subscriber • New Term: Non-Subscriber Usage Rate • New Term: Subscriber • New Term: Subscriber Encumbrance • New Term: Subscriber Participating TO • New Term: Subscriber Rights • New Term: Subscription Agreement • Updates to: <ul style="list-style-type: none"> ○ Existing Rights ○ Existing Transmission Contract (ETC) or Existing Contracts ○ New Participating TO ○ Participating TO or Participating Transmission Owner (PTO) ○ Transmission Revenue Requirement (TRR) ○ Transmission Revenue Balancing Account (TRBA)
Generator Interconnection and Deliverability Allocation Procedures	<ul style="list-style-type: none"> • Subscriber PTO generators that have been studied must apply for deliverability once: <ul style="list-style-type: none"> ○ The transmission studies with all impacted transmission owners are completed ○ Subscribers have executed a 3-party GIA that includes the ISO ○ The Subscriber PTO has committed to proceed with construction ○ The applicant provides a notice in writing to the applicable interconnecting TOs that it is proceeding with Construction Activities • Update TPD process to allocate deliverability to subscribers (subscribers must submit TP Deliverability requests) <ul style="list-style-type: none"> ○ Text Addition to First Component/Prior Commitments: and commitments established due to Subscriber rights
Market Instruments	<ul style="list-style-type: none"> • Define penalty level for applicable scheduling priority for subscriber rights (Subscriber self-schedules receive equal priority to ETCs)

 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024

BPM	Description of Impact(s)
Market Operations	<ul style="list-style-type: none"> Describe details surrounding transfers at Subscriber PTO scheduling points
Reliability Requirements	<ul style="list-style-type: none"> Impacts to Maximum Import Capability (MIC): Subscriber generation waiting for upgrades to receive deliverability can be counted in the interim for RA through MIC until deliverability is made available For Wheel-through priority allocation and non-contiguous Subscriber PTO transmission systems, Market Participants applying for wheel through priority at Subscriber PTO scheduling points must ensure they have access to transmission rights from the Subscriber PTO Scheduling Point to CISO BA
Settlements and Billing	<ul style="list-style-type: none"> Define Non-Subscriber Usage Rate Update TAC/WAC revenue charge codes, include ETCs converted to CRRs Establish Two-year Operational Observation Window for Non-Subscriber Usage Payment, and support annual reporting on non-subscriber usage
Transmission Planning Process	<p>Detail the criteria for Subscriber PTO to be added to transmission planning process:</p> <ul style="list-style-type: none"> The Subscriber PTO has executed the Applicant Participating TO Agreement The generator interconnection agreement with the Subscriber The Subscriber Participating provides the written notice to CAISO it is beginning Construction Activities Transmission interconnection studies required by Transmission Owners have begun.

3.2 Other

Impact	Description (optional)
Market Participant Impact	Yes
External Bid Publication	No Impacts

 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024


4 Business Requirements

The sections below describe the business processes and the associated business requirements involved in the project. These may represent high-level functional, non-functional, reporting, and/or infrastructure requirements. These business requirements directly relate to the high-level scope items determined for the project.


4.1 Business Process: Manage Model & Contract Implementation (MF)

4.1.1 Business Requirements


ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
NSPTO-BRQ-001	Define a new participant type: Subscriber Participating Transmission Owner (Subscriber PTO)	Core	MF
NSPTO-BRQ-002	Register new Subscriber PTOs that join the ISO BA	Process	MF
NSPTO-BRQ-003	Establish a new TAC area for each Subscriber PTO	Process	MF
NSPTO-BRQ-004	Register new interties and scheduling points on Subscriber PTO transmission lines	Process	MF
NSPTO-BRQ-005	Map all relevant interties to the associated Subscriber PTO	Process	MF
NSPTO-BRQ-006	Register Subscriber PTO HVDC links for static percentage loss modeling and/or dynamic loss modeling defined DDR at HVDC inverter location and associated to ZISO <ul style="list-style-type: none"> Different Subscriber PTOs may choose different models 	Process	MF
NSPTO-BRQ-007	Map subscriber generating resources to the associated Subscriber PTO <ul style="list-style-type: none"> Map to the associated TAC area established for the Subscriber PTO per NSPTO-BRQ-003 	Process	MF
NSPTO - BRQ-008	Create and broadcast a new resource flag to identify subscriber generating resources that are subject to MIC	Core	MF

 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	<ul style="list-style-type: none"> Flag should be sunset in the future when deliverability is made available to these resources 		
NSPTO-BRQ-009	Map generators with new MIC flag (refer to BRQ-008) to the associated intertie and ITC	Process	MF
NSPTO-BRQ-011	Map subscriber generating resources to the associated CRN <ul style="list-style-type: none"> CAISO will designate either ETC or TOR CRN type for Subscriber CRNs 	Process	MF
NSPTO-BRQ-012	System shall create a new field to define Subscribed Capacity <ul style="list-style-type: none"> Subscribed Capacity shall be defined as the registered MW quantity of resource generation associated with a Subscriber PTO transmission line Subscribed capacity cannot exceed a resource's Pmax Note: Subscribed Capacity is a representation of "Subscriber Rights" defined in the Tariff	Core	MF
NSPTO-BRQ-016	Establish new Utility Distribution Company (UDC) area for each new Subscriber PTO area and broadcast to downstream systems <ul style="list-style-type: none"> All subscriber generating resources, interties, and loads (if any) shall be mapped to the associated UDC 	Process	MF
NSPTO-BRQ-017	Only allow Subscriber Resource SCs to schedule at Subscriber PTO Scheduling Points <ul style="list-style-type: none"> The system shall restrict Subscriber PTO scheduling points to only the Resource SCs that are subscribers to that Subscriber PTO Transmission line (association of SP to SC) 	Process	MF
NSPTO-BRQ-018	A Subscriber must register and qualify as a Candidate CRR Holder in order to convert Subscriber Rights to CRRs or to acquire CRRs in the Secondary Registration System.	Process	MF
NSPTO-BRQ-046	Receive TRTC instructions for Subscriber Rights Released as CRRs and Reduce ETC/TOR	Process	MF

 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024


ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	Designation for any Subscriber Rights Converted to CRRs <ul style="list-style-type: none"> The system shall receive and process TRTC instructions that are commensurate with the release of Subscriber Rights converted to CRRs A Subscriber's released rights must not exceed the total Subscriber Rights on the Subscriber PTO transmission facilities TRTC instructions must reflect releases by quarter and shall remain unchanged for the duration specified in the conversion instructions The ETC/TOR designation shall be reduced by the MW quantity that is converted into CRRs by the Subscriber <p>Note:</p> <ul style="list-style-type: none"> All Subscriber Rights converted to CRRs lose their status as an ETC/TOR 		
NSPTO-BRQ-019	Update relevant Subscriber PTO ITC Definitions to include specific set of internal load resources <ul style="list-style-type: none"> Remove ZPTG ITIE Use CLAP resource <ul style="list-style-type: none"> CLAP resources shall bid in DAM only (no RTM bidding) The CLAP and SPTO GEN price locations are not eligible for convergence bidding. <p>Notes:</p> <ul style="list-style-type: none"> Do not apply to virtual intertie bidding locations CLAP load provides counter-flow in the import direction 	Process	MF

 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024

4.2 Business Process: Manage Resource Adequacy Requirements (CIRA)

4.2.1 Business Requirements


ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
NSPTO-BRQ-022	Map new interties and scheduling points created by new Subscriber PTO transmission lines <ul style="list-style-type: none"> New Subscriber PTO transmission lines may have multiple points to be mapped 	Existing Process	CIRA
NSPTO-BRQ-023	Establish MIC at every new Subscriber PTO scheduling point and intertie	Existing Process	CIRA
NSPTO-BRQ-024	RA obligation shall be defined at the generator for Subscriber resources	Process	CIRA

 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024

4.3 Business Process: Manage Bid Submission (SIBR)

4.3.1 Business Requirements


ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
NSPTO-BRQ-040	System shall receive ETC designation for subscriber generating resources and allow SCs to submit corresponding bids and self-schedules with source and sink (per existing ETC rules). <ul style="list-style-type: none"> Apply existing rules for resource MW and entitlement validation 	Existing	SIBR
NSPTO-BRQ-041	Allow Subscriber SCs to Submit Bids for ETCs converted to CRRs <ul style="list-style-type: none"> Subscriber Resource SCs with CRRs shall submit bids at Export System resources or at the Generator on Subscriber PTO scheduling Points Note: Subscriber Resource SCs must submit bids in one of these two methods to be exempt from WAC charges	Existing	SIBR

 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024

4.4 Business Process: Manage Interchange Transaction Schedules (ITS)

4.4.1 Business Requirements


ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
NSPTO-BRQ-050	System shall consume new tie points and/or ITCs created by new Subscriber PTO transmission line interties	Existing	ITS
NSPTO-BRQ-051	Add Subscriber PTO Loss Resource IDs to ITS loss table	Process	ITS

 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024

4.5 Business Process: Manage Day-Ahead Market, Manage Real-Time Market

4.5.1 Business Requirements


ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
NSPTO-BRQ-057	The system shall calculate ASRS as follows: Final Req = Max(calculated Req, Single Largest Contingency, max(Hourly MSSC (between any Trans Line in same hour)))	Core	IFM and RTM
NSPTO-BRQ-058	The system shall consume all hourly MSSC from all the inputs in the IFM	Core	RTM
NSPTO-BRQ-058A	The system shall consume all hourly MSSC values from all the Transmission lines from IFM	Core	RTM
NSPTO-BRQ-065	Create “Generalized Group” Constraint Type <ul style="list-style-type: none"> The system shall have a new Generalized Group constraint ITC type Generalized Group constraints (or general ITCs) shall support custom coefficients for resource and transfer schedules. Any ITC in the system becomes general ITC if a list with linked to it resources specified in MF with the coefficients. The flow across general ITC will be calculated using the same logic from current production for all the resources associated to the ITC by financial location, except for the list of special resources specified in MF linked to the ITC. The logic for the resources from the list is the contribution to the flow from such resources will be applied with respect to the import/export coefficients specified for each resource in MF. For every such resource there will be a coefficient for Import and a coefficient for export. The application will use appropriate coefficient to multiply the output from the resource and apply the product to either import or export flow across the ITC respectively to the direction of the flow. 	Core	IFM/RTM

 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024


4.6 Business Process: Manage Congestion Revenue Rights (CRR)

4.6.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
NSPTO-BRQ-063	Treat all Subscriber Rights as TORs for the purpose of CRR options	Existing	CRR
NSPTO-BRQ-061	<p>If the Subscriber elects, the system shall allocate option CRRs to subscribers for the associated Subscriber PTO transmission source/sink locations, like how TORs are converted to CRRs today</p> <ul style="list-style-type: none"> Each quarter, subscribers can convert their rights to CRRs <ul style="list-style-type: none"> The amount of released CRRs must remain unchanged for the quarter Nominated CRRs must specify the following: <ul style="list-style-type: none"> Source and sink restricted to the Subscriber PTO transmission system Subscriber MWs being released as CRR Options MWs <ul style="list-style-type: none"> Total MW quantities released cannot exceed the capacity defined in the CRNs for that Subscriber PTO transmission line (MW quantities are entered via manual process) Time duration of the CRR nomination for that quarter Converted CRRs shall be released for both on-peak and off-peak time periods Converted CRRs shall not be available for CRR Allocation or CRR Auction Converted CRRs may be transferred using the Secondary Registration 	Existing	CRR

 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024


ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	System for the full duration of the released rights		

 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024


4.7 Business Process: Manage Market Billing & Settlements (Settlements)

4.7.1 Business Requirements


ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
NSPTO-BRQ-071	Develop new bill determinant to identify Subscriber PTO participant types separately from other participant types	Core	Settlements
NSPTO-BRQ-072	Consume Non-Subscriber Usage Rates (\$/MWh) <ul style="list-style-type: none"> Rates are registered with and approved by FERC 	Core	Settlements
NSPTO-BRQ-073	Map new Non-Subscriber Usage Rate (\$/MWh) to Subscriber PTO participant type in static data table <ul style="list-style-type: none"> There may be three different rates: <ul style="list-style-type: none"> Imports: applies to all non-subscriber exports at a Subscriber PTO intertie location Exports: applies to all non-subscriber imports at a Subscriber PTO intertie location Generation: applies to all non-subscriber generation at a Subscriber PTO intertie location Note: there may be different non-subscriber usage rates by intertie for the same Subscriber PTO	Core	Settlements
NSPTO-BRQ-075	System shall distinguish between Subscriber PTO Loss Resource IDs and other Loss Resource IDs <ul style="list-style-type: none"> Methodology for settling financial loss return for Subscriber PTO is described in BRQ-076 	Core	Settlements
NSPTO-BRQ-076	Calculate financial loss return using loss tags across CAISO entitlements and credit to Subscriber PTO and allocate to measured demand	Core	Settlements
NSPTO-BRQ-077	Exclude subscriber rights from BCR, offsets, IFM Congestion allocation (Existing process: same as other ETCs, up to the valid and balanced portion of their schedule, and has a financial right at the sink location)	Existing	Settlements

 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024


ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
NSPTO-BRQ-078	System configuration changes to reflect updates to TAC/WAC rate assessment: <ul style="list-style-type: none"> LSEs without financial rights will be charged the TAC Export SCs without ETCs or ETCs converted to CRRs will be charged the WAC 	Core	Settlements
NSPTO-BRQ-079	For WAC Revenue: <ul style="list-style-type: none"> Non-subscriber payments to the Subscriber PTO shall be first collected from any WAC revenue associated with intertie schedules that are subject to WAC charges System shall credit the Subscriber PTO WAC portion of the Non-Subscriber Usage Payment Amount: <ul style="list-style-type: none"> The WAC portion of the Non-Subscriber Usage Payment Amount is calculated as the minimum of the WAC rate and the Non-Subscriber Usage rate multiplied by the export quantity (MWh) for exports at Subscriber PTO Scheduling Points without ETCs or ETCs converted to CRRs <ul style="list-style-type: none"> Subscriber PTO Export System resources are exempt from TAC 	Core	Settlements
NSPTO-BRQ-080	For TAC Revenue: <ul style="list-style-type: none"> Any remaining non-subscriber revenue that is not covered by that Subscriber PTO's WAC shall be collected from ISO BAA TAC revenues System shall credit the Subscriber PTO the TAC portion of the Non-Subscriber Payment Amount as formulated below: The TAC portion of the Non-Subscriber Usage Payment Amount is calculated as the minimum of the HVAC rate and the Non-Subscriber Usage rate multiplied by the import quantity (MWh), and the minimum of the HVAC rate and Generator Non-Subscriber Usage Rate multiplied by the generation quantity (MWh) for imports at Subscriber PTO Scheduling Points without ETCs or ETCs converted to CRRs plus generation not associated with Subscribed Capacity 	Core	Settlements

 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	<ul style="list-style-type: none"> Subscriber PTO Export System resources are exempt from TAC 		
NSPTO-BRQ-080a	Non-Subscriber Usage Payment Amount The Non-Subscriber Usage Payment Amount is equal to the sum of the WAC portion of the non-Subscriber Usage Payment Amount plus TAC portion of the non-Subscriber Usage Payment Amount	Core	Settlements
NSPTO-BRQ-081	System shall update Settlement Configuration guides for TAC Allocation: <ul style="list-style-type: none"> Indicate Non-Subscriber usage rate on the Settlement TAC reports 	Core	Settlements
NSPTO-BRQ-082	System shall publish the following in the ISO bill determinant file: <ul style="list-style-type: none"> Intervals for which non-subscriber rate was higher than the TAC rate Monthly gross exports and imports for Non-Subscriber usage of the Subscriber PTO line 	Core	Settlements
NSPTO-BRQ-086	System shall apply UFE calculations to Subscriber PTO UDC areas that have a CLAP defined <ul style="list-style-type: none"> If no CLAP is present, set the UFE exclusion flag to Yes 	Core	Settlements
NSPTO-BRQ-090	Establish Two-year Operational Observation Window for Non-Subscriber Usage Payment <ul style="list-style-type: none"> For the first two years of the full commercial operation of the generation tied to a Subscriber PTO that joins the CAISO BAA, the system shall calculate, but not charge, all imported non-subscriber usage of the Subscriber PTO Transmission line, i.e. BRQ-080 is an advisory Settlement for this two-year period Transitional advisory settlement period shall sunset after two years: after two years all non-subscriber usage (both imports and exports) shall be charged the non-subscriber usage amount (per NSPTO-BRQ-079, NSPTO-BRQ-080, and NSPTO-BRQ-080a). 	Core	Settlements

 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	Note: Subject to change during or after the two-year period. Any changes will be addressed in a future initiative		
NSPTO-BRQ-091	Report on Non-Subscriber Usage During Observational Window <ul style="list-style-type: none"> Provide annual reporting on the amount of import Schedules on Subscriber PTO transmission facilities and the Non-Subscriber Usage Payment Amount that would have resulted without the two-year Observational Window 	Process	Annual Market Reporting
NSPTO-BRQ-095	Settle Subscriber CRRs <ul style="list-style-type: none"> The system shall settle CRR options when a Congestion price difference in the IFM exists between the CRR Source and CRR sink, per existing CRR settlement process <p>Note: No RT congestions settlements for converted Subscriber Rights</p>	Existing	Settlements
NSPTO-BRQ-096	Restrict Subscriber CRR Underfunding Allocation for Constrained Flowgates and Interties <ul style="list-style-type: none"> For each constrained flowgate or intertie, Subscriber CRRs shall not be subject to CRR underfunding allocation Derate the CRRs hourly based on the ratio of the OTC and the TTC of the flowgate or Intertie and the direction of the CRR Source to Sink combination 	Existing	Settlements

 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024

4.8 Business Process: Market/Business Simulation


This section shall provide a basis for the development of the Market/Business Simulation Scenarios. These requirements will provide guidance on the market participant impacts, inputs into the Scenarios, endpoints to the Scenarios and reasons for potential Scenarios. The guidance on market participant impacts shall be gathered from the requirements that impact rules, interfaces, applications/reports, new system processes, new/modified data models, and new user roles. The source and sink systems shall be determined through the development of the system context diagram and the web service requirements. The *Reason for the Potential Scenario* column will be to offer guidance regarding what potential scenarios, and their context, may be needed for this project. This section applies to all policy development projects, market enhancements, technology enhancements, operation enhancements, Energy Imbalance Market (EIM) implementations, and Reliability Coordination (RC) service implementations. If the project team has deemed that no structured testing is needed, an end-to-end test case must be specified.

In the Reason for Potential Scenario column, select one or more of the following reasons:


- 1. Rule impacts:** Generalized changes in market rules, bidding rules, settlements rules, market design changes, or other business rules.
- 2. Interface changes:** Changes that impact templates (e.g., the Resource Adequacy (RA) supply plan), user interface (UI), and application programming interface (API) (e.g., retrievals of new shadow settlement data).
- 3. New application/report:** Changes that cause addition/modification of market software or reports, especially when market data input is required by the market participant.
- 4. New system process:** Modification of data flow in systems, especially if the new process requires the market participant to demonstrate proficiency prior to production.
- 5. New/Modified model data:** Addition or substantial modification of model data as a market solution or export provided by the ISO.
- 6. New user role:** The addition or modification of access permissions for a user role applied to specific business units within an EIM entity or market participant organization (e.g., Load Serving Entity (LSE) as a Local Regulatory Authority (LRA) role). Scenarios are beneficial for market participants taking on a new function or process within their organization.

4.8.1 Business Requirements

ID#	Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Scenario
NSPTO-MSIM-001a	<ul style="list-style-type: none"> Subscriber PTO generating resource SCs submit self-schedules using ETC/TOR rights 	SIBR	IFM/RTM	Verify that Subscriber PTO generating resource

 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024

ID#	Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Scenario
	<ul style="list-style-type: none"> Market optimization produces schedules and awards for subscriber PTOs that submitted self-schedules 			contract rights are observed
NSPTO-MSIM-001b	<ul style="list-style-type: none"> Subscriber PTO generating resource SCs submit self-schedules using ETC/TOR rights Subscriber PTO resource ETC/TORs receive the perfect hedge and are excluded from TAC/WAC collection/allocation process 	SIBR IFM/RTM	Settlements	Verify that Subscriber PTO generating resource contract rights are observed
NSPTO-MSIM-002a	<ul style="list-style-type: none"> Non-Subscriber generating resource SCs submit economic energy bids. <ul style="list-style-type: none"> Market awards and dispatches these resources (non-subscriber usage) Non-Subscriber generating resource SCs submit economic import/export bids at new Subscriber PTO interties (e.g. Pinal Central, NOT Palo Verde). 	SIBR	IFM/RTM	Verify that non-subscriber usage is properly accounted for
NSPTO-MSIM-002b	<ul style="list-style-type: none"> Non-Subscriber generating resource SCs submit economic energy bids. Market awards and dispatches these resources (i.e. non-subscriber usage) Non-Subscriber generating resource SCs submit economic import/export bids at new Subscriber PTO interties. Settlements system collects revenues for non-subscriber usage and allocates revenues to the Subscriber PTO: compare the non-subscriber usage rate with the applicable TAC/WAC rate and credit Subscriber PTO the minimum. <ul style="list-style-type: none"> Non-subscriber usage rate(s) must be defined for each Subscriber PTO 	SIBR IFM/RTM	Settlements	Verify that Subscriber PTOs are properly compensated for non-subscriber usage of their transmission lines

 California ISO	Technology	Template Version:	7.1
		Document Version:	1
Subscriber Participating Transmission Ownership Model Business Requirements Specification		Date Created:	7/18/2024

ID#	Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Scenario
NSPTO-MSIM-003	<ul style="list-style-type: none"> Subscriber resource SCs interconnected to non-contiguous Subscriber PTO transmission lines submit tag Verify any specific tagging criteria established specifically for Subscriber PTO generation tags is functioning properly 	Participant tagging systems	ITS WebSmart Tag	Tagging Validation
NSPTO-MSIM-004	<ul style="list-style-type: none"> Subscriber generating resource SCs submit self-schedules using their ETC/TOR rights for Subscriber PTO transmission lines Market applies scheduling limits and determines awards. Awards cannot exceed physical transmission constraints that define what can be scheduled into the main CAISO BAA 	SIBR	IFM/RTM	Market awards cannot exceed transmission constraints
NSPTO-MSIM-005	<ul style="list-style-type: none"> Metering system or ITS broadcasts intertie mirror to Settlements Subscriber PTO UDC is NOT settled for UFE 	EDAS ITS	Settlements	Verify that UFE is not calculated for Subscriber PTO UDC
NSPTO-MSIM-006	<ul style="list-style-type: none"> Subscriber Resource SCs convert ETCs to CRRs Subscriber Resource SCs with CRRs submit bids at Export System resources or at the Generator on Subscriber PTO scheduling Points Subscriber Resources converted to CRRs are exempt from WAC/TAC charges 	CRR SIBR	Settlements	Verify that ETCs converted to CRRs are exempted from WAC/TAC