

Business Requirements Specification

Transmission Exchange Agreement Renegotiation

Document Version: 1.2

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Revision History

Date	Version	Description
1/18/2024	1.0	External BRS created for WAPA only.
1/23/2024	1.1	Updated BRQ003
8/6/2024	1.2	Updated BRQ002B, BRQ003, BRQ004, BRQ008, BRQ112, and Integration.


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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.

Project Overview:

The ISO is committed to develop a process or system that allows Western Area Power Administration – Sierra Nevada Region (“WAPA”) to resell some or all of their 400 MW ownership rights on the PACI#1 line¹ to other SCIDs and retain the perfect hedge and scheduling priority to further contract negotiations to extend the term of the Transmission Exchange Agreement.

- WAPA needs functionality to sell their TOR to other parties on their OASIS.
- If the TOR rights are sold then WAPA will notify the CAISO to provide the purchaser the hedging and scheduling priority opportunity provided all ETCs/TORs.
- The market and settlement systems need to be able to “move” the Contract Reference Number (“CRN”) from the WAPA CRN to the purchaser SCIDs so that the settlement to the purchaser SCID reverses the costs of the transmission access charge and congestion (aka the perfect hedge) and provides a high scheduling priority in the IFM and RTM.
- WAPA will not take on the obligation to settle with their purchaser.
- WAPA can sell any increments of MWs up to their 400 MW ownership rights. Therefore, the solution needs to be flexible enough to allow the “existing” TORs to vary the MWs capabilities. [Note: The MW increments to be sold can be no less than 5 MW.]
- WAPA’s functionality allows them to schedule between Malin and Round Mountain, Malin and PG&E DLAP, and Malin and Tracy. This would be the source and sink that that functionality needs to provide.
- If there are outages on the line, the curtailment should be consistent with current practice.

¹ Note: This value may change in the future based on any amendment to the Transmission Exchange Agreement.


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2 Details of Business Need/Problem


2.1 Description

Business Opportunity/Problem Statement:	
What:	A provision of the original WAPA-SNR and CAISO operating agreement executed in 2004 committed the ISO to develop a system that allowed WAPA to sell their unused capacity on their line, which the ISO has not yet implemented. This requires a determination that a modification to the Existing Transmission Contract Calculator is feasible and the parameters/requirements that WAPA-SNR would need to meet to have their sales settled by the ISO's settlement system.
When:	<p>The Transmission Exchange Agreement ("TEA") with WAPA-SNR, PG&E and ISO is scheduled to expire 1/1/2025. A solution to the scheduling issue needs to be in place by June 2024 (market sim spring 2024) to ensure that the ISO has solved the problem and support execution of an amendment and extension of the TEA at FERC.²</p> <p>Updated as of 7/17/24:</p> <p><i>The new term contract is for 20 years and shall span from January 1, 2025 to December 31, 2045. The capacity split has been updated where of the 1600 MW on WAPA's Malin – Round Mountain line, the ISO will get 1,000 outright and WAPA will have 600 MW for its use. Also, 400 MW will be used from Malin – Round Mountain or Cottonwood, and 200 MW can be used from Malin to Round Mountain, Cottonwood, Tracy or the PG&E DLAP. WAPA can use/sell the full 600 MW. If the full 600 MW is not scheduled in the RT market, then the market can use any excess.</i></p>

² To have a new agreement in place by January 1, 2025, the agreement execution would be in September to allow time for the FERC approval process and implementation in December. The CAISO needs to show it is committed to deliver this functionality before that time.

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Business Opportunity/Problem Statement:	
Why do we have this opportunity/problem:	The TEA is expiring in 2025 and, absent WAPA's ability to resell their capacity on the Pacific AC Intertie ("PACI") #1 line which is owned and operated by WAPA-SNR and within the CAISO BAA, WAPA-SNR may not agree to an extension, which could result in moving the line to the BANC BAA and the CAISO market participants losing 1200 MW of transfer capability at Malin.

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3 Project Impact Assessment (IA)

3.1 Business Practice Manuals (BPM)

BPM	Description of Impact(s)
BPM Change Management	Not Impacted
Candidate CRR Holder Registration	Not Impacted
Compliance Monitoring	Not Impacted
Congestion Revenue Rights	Not Impacted
Credit Management and Market Clearing	Not Impacted
Definitions and Acronyms	Not Impacted
Demand Response	Not Impacted
Direct Telemetry	Not Impacted
Distributed Generation for Deliverability	Not Impacted
Energy Imbalance Market	Not Impacted
Generator Interconnection and Deliverability Allocation Procedures	Not Impacted
Generator Interconnection Procedures	Not Impacted
Generator Management	Not Impacted
Managing Full Network Model	Not Impacted
Market Instruments	Not Impacted
Market Operations	Not Impacted
Metering	Not Impacted
Outage Management	Not Impacted
Reliability Coordinator Services	Not Impacted
Reliability Requirements	Not Impacted
Rules of Conduct Administration	Not Impacted

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BPM	Description of Impact(s)
Scheduling Coordinator Certification and Termination	Not Impacted
Settlements and Billing	Not Impacted
Transmission Planning Process	Not Impacted


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3.2 Tariff Business Ownership


Tariff Section	Business Owner
Not Impacted	Not Applicable

3.3 Other

Impact	Description (optional)		
Market Simulation	Yes , unstructured market sim only for WAPA. <ul style="list-style-type: none"> Ensure sold transmission on WAPA OASIS passes through to downstream systems as expected. May be completed in Mapstage rather than maptest 		
Market Participant Impact	External Participant Type	Impacted?	Notes
	Demand Response Entity	No	
	Financial Entity	No	
	Forecast Service Provider (FSP)	No	
	Government/Regulatory Agency	No	
	Reliability Coordination (RC) Customer	No	
	Scheduling Coordinator (SC)	Yes	WAPA sells to entities through SCs
	Transmission Owner (TO)	Yes	WAPA

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Impact	Description (optional)		
	WEIM Entity	No	
	Adjacent BA	No	
	Other	Yes	CAISO BA
External Bid Publication	No		
Customer Readiness Impact	Yes, see below.		
<ul style="list-style-type: none"> External Communication Needed 	Yes – Only to WAPA		
<ul style="list-style-type: none"> External Onboarding and Maintenance 	No		
<ul style="list-style-type: none"> External Training 	Yes – Only for WAPA		
<ul style="list-style-type: none"> External Computer Based Training 	No		
Policy Initiative	Yes		
Intellectual Property Impact	No		

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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:

4.1.1 Business Requirements: MasterFile


ID#	Business Feature	Req Type	Potential Application(s) Impacted
Not Applicable	<p><u>Pre-register potential buyer of transmission rights.</u></p> <p>Potential buyers of TEA rights will coordinate with CAISO (Master file) to pre-register resources they wish to use when purchasing TEA rights.</p> <p><u>Implementation notes:</u></p> <ul style="list-style-type: none"> • New process for adding sub CRNs to MF (which would be placeholder contracts activated in Internal ISO System when purchase transactions occur. Sub CRNs shall be treated the same as existing Parent CRNs by downstream systems, existing process for adding contract rights. • By default, the limit of the sub CRN will be set to 0 and the parent CRN will received its fully assigned entitlements. • MCI team estimates 5-11 business days to process each pre-registration request. • WAPA must pre-register its own sub CRN for entitlements it wishes to retain. The existing CRN names can be used for the new sub CRNs. 	Business Process	MF

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ID#	Business Feature	Req Type	Potential Application(s) Impacted
TEA-BRQ001	<p>System (MF) shall provide a mapping data structure which determines parent and sub-CRN relationships.</p> <p>Sub-CRNs will be assigned an SCID and unique Resource ID (separate from Parent and other Sub-CRNs). Mapping relationship shall remain effective until WAPA or Purchaser notifies the CAISO of any change.</p> <p>Master File shall, by default, assign a 0 MW entitlement amount to Sub-CRNs. Pre-registration entitlement amounts for Parent CRNs will remain as defined in Master File. Adjustments to these entitlement values will be managed by the Internal ISO System once activated when contract rights transaction data is received from WAPA.</p>	Core	MF

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ID#	Business Feature	Req Type	Potential Application(s) Impacted
TEA-BRQ002A	<p>System (MF) shall transfer the following Parent and Sub CRN Definition, CRN Mapping data to downstream applications:</p> <ul style="list-style-type: none"> • SCID of CRN Holder (Parent or Child – Sub CRN) • CRN • Parent CRN ID (if a Sub CRN) • Parent Status Identifier (if a Parent CRN) • MW Entitlement for CRN = Original Entitlement MW limit for Parent = 0 MW for Sub • Resource ID (unique for each CRN) <p>0..n Sub-CRNs may associate with 1 Parent CRN</p> <p>Each CRN must have a unique Resource ID</p> <p><u>Implementation notes:</u></p> <ul style="list-style-type: none"> • Master File shall transfer CRN definition, mapping data by DB-to-DB script for consumption • Downstream systems shall not consume resource level sub CRN limits, except Internal ISO System. • Internal ISO System does not receive ResourceID, Unique ResourceID assigned per Sub CRN in MF and Sub CRN is sent from MF to Internal ISO System so can be mapped downstream. 	Core	MF


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ID#	Business Feature	Req Type	Potential Application(s) Impacted
Not Applicable	<p>Pre-registration only relates to purchasers of contract rights that are a Scheduling Coordinator with the ISO, which allows their purchased rights to be reflected in ISO markets, settlements, and reporting.</p> <p>Purchasers shall be required to register through existing AIM process prior to submitting market schedules/bids.</p>	Existing, Business Process	AIM


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4.1.2 Business Requirements: Internal ISO System


ID#	Business Feature	Req Type	Potential Application(s) Impacted
TEA-BRQ002B	<p>System (Internal ISO System) shall receive the following Parent and Sub CRN Definition data from Master File:</p> <ul style="list-style-type: none"> • SCID of CRN Holder (Parent or Sub) • CRN • Parent CRN ID (if a Sub CRN) • Parent Status Identifier (if a Parent CRN) • MW Entitlement for CRN <ul style="list-style-type: none"> = Original Entitlement MW limit for Parent = 0 MW for Sub <p>• Resource ID</p> <p>0..n Sub-CRNs may associate with 1 Parent CRN Each CRN must have a unique Resource ID</p> <p>Business Rules for receiving Master File Contract Definition data include:</p> <ul style="list-style-type: none"> • Parent CRN Rights shall initialize to its original entitlements as defined by Master File. If initialized during a line outage, Contract Rights from Parent CRN available to sell will be adjusted to what the line outage permits, with the unusable (or unsellable) portion restored if/when the line rating is raised. • Sub CRN Rights shall initialize to 0 MW; Sub CRNs are considered active contracts for a specific time period once purchased contract rights/entitlements are received from WAPA <p><u>Implementation notes:</u></p> <ul style="list-style-type: none"> • Existing MF transfer script will populate CRN definition, mapping data in Internal ISO System materialized view • Internal ISO System must receive pre-registered MF data prior to receiving CRN transaction data from WAPA • Internal ISO System will consider Parent, Sub relationships when adjusting entitlements, and will 	Core	Internal ISO System

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	publish each CRN's contract entitlement MW limits to downstream systems as an individual contract.		
TEA-BRQ026	<p>A certificate role shall be created to permit submissions of CRN transaction payloads to the CISO MAPSTAGE, STAGE and PRODUCTION systems.</p> <p>This certificate will be a single purpose for WAPA, and not its purchasers, to only submit CRN incremental purchases involving WAPA and its purchaser SCs via a B2B API service with Internal ISO System.</p> <p>WAPA must register with CAISO to access this certificate.</p>	Core, Business Process	Internal ISO System

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TEA-BRQ003	<p><u>WAPA to broadcast records of sale/purchase transmission rights transactions via external OASIS system.</u></p> <p>System (Internal ISO SystEDem) shall receive by push the following Contract Rights Sale/Purchase Transaction data from the WAPA OASIS system, as authenticated by its own certificate specific to this submission:</p> <p>Contract Data Level (1 contract periods per CRN):</p> <ul style="list-style-type: none"> CRN (Parent or Sub) <p>Transaction Data Level (1 transactions per CRN)</p> <ul style="list-style-type: none"> Incremental Purchase Amount <ul style="list-style-type: none"> WAPA ETC value submission for the same sub CRN in the same time frame is not incremental. Internal ISO system replaces the existing ETC value with the new ETC value submitted for same time frame/ Sub CRN. The new purchase value should be more than the previously submitted value. Each time period (1 hour to 1 trade date) must be independently submitted CRN Contract Period Start Date/Time (no less than hourly granularity, only for trade dates within the submission window) CRN Contract Period End Date/Time (no less than hourly granularity, only for trade dates within the submission window) <p>If submitted transactions exceed (partially or wholly) available entitlements, CAISO will reject the payload.</p> <p>WAPA submission horizon to Internal ISO System of Parent, Sub CRN Transaction Data:</p> <ul style="list-style-type: none"> Submissions for trade dates may initiate 7 days in advance and must end at 0800 hrs day of market close Submissions for trade date's occurring prior to the submission horizon, or after its deadline, shall be rejected by Internal ISO System <p><u>Implementation notes:</u></p>	Core	Internal ISO System
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	<ul style="list-style-type: none"> • New B2B service receive (push) required from external WAPA OASIS to Internal ISO System • Purchasers do not have the ability to rescind or resell their purchases, and if there were any derates, would have rights adjusted pro rata with the purchased amount. • As an example: Total Contract Right 400 Purchaser 1 – 100MW Purchaser 2 – 100MW Western – 100MW Scenario 1 – Derate causes rights to drop to 350MW Impact – No change to Purchaser rights to Western's usage rights Scenario 2 – Derate causes rights to drop to 210MW Impact – CRNs will be reduced by 90MW, and reduce each CRN by 30MW. This reduction is applied using prorated logic. Purchaser 1 – 100MW → 70MW Purchaser 2 – 100MW → 70MW Western – 100MW → 70MW • • BU following up with WAPA for additional details (data schema, service names, WSDLs, etc.) • TEA-BRQ005 provides additional requirements of service • TEA-BRQ026 provides certificate requirements for WAPA • TEA-BRQ005 provides additional requirements of service • TEA-BRQ026 provides certificate requirements for WAPA 		
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ID#	Business Feature	Req Type	Potential Application(s) Impacted
TEA-BRQ005	<p>System (Internal ISO System) shall receive, via push, adjusted CRN entitlements (both Parent and Sub) as required in TEA-BRQ003 from WAPA prior to 0800 hrs of the trade date's Day-Ahead Market close.</p> <p>WAPA submission horizon of Parent, Sub CRN Transaction Data for Internal ISO System is as follows:</p> <ul style="list-style-type: none"> • Submissions period for trade date initiates 7 days in advance, and must end at 0800 hrs on day of its DA market close • Submissions for trade date's occurring prior to the submission horizon, or after its deadline, shall be rejected by Internal ISO System <p><u>Implementation notes:</u></p> <ul style="list-style-type: none"> • CRN Holders shall transact CRN entitlement sales, purchases through WAPA OASIS (OATI external system), which then submits to Internal ISO System with a timeline consistent to SIBR. • Rights can be sold in DA and RT markets (HASP). • Internal ISO System must store the data per its existing retention period 	Core	Internal ISO System
TEA-BRQ005 B	<p>Upon receiving the WAPA transaction payload, system (Internal ISO System) shall record the following audit information for each CRN purchase transaction:</p> <ul style="list-style-type: none"> • WAPA submission source system, timestamp (audit) • Entitlement purchase transaction amount for each Sub CRN; timestamp of transaction payload receipt from WAPA 	Core	Internal ISO System

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TEA-BRQ004	<p>System (Internal ISO System) must have user interface to display the following for internal ISO user:</p> <ul style="list-style-type: none"> • Which TOR owner sold contract rights – WAPA • Which Registered SC received contract rights • How much the TOR owner sold (in MWh) to each entity • Time frame in which sold rights are valid <p>-</p>	Core	Internal ISO System
TEA-BRQ006	<p>Upon Internal ISO System receiving WAPA contract right transaction data from WAPA OASIS, System (Internal ISO System) shall adjust the limits of the Parent and Sub CRN to reflect the transaction as reflected in the business rules TEA-BRQ002B (Master File Contract Definition Initialization), TEA-BRQ007 (receiving WAPA purchase transactions), and TEA-BRQ008 (line outage events).</p> <p><u>Implementation Notes:</u></p> <ul style="list-style-type: none"> • Source and sink would remain the same. Resources would be specific to the purchaser. • MF data sent to Internal ISO System in BRQ002 sets default entitlement for Sub CRN = 0 MW (prior to receiving WAPA transaction updates). 	Core	Internal ISO System

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TEA-BRQ007	<p>System (Internal ISO System) shall ensure purchased rights do not exceed available entitlement amount for sale when receiving CRN transaction payloads from WAPA based on the Parent contract's remaining amount of rights available to be sold.</p> <p>If WAPA publishes purchase transaction amounts that exceed the available rights for sale for any time period within the submission, Internal ISO System shall reject the entire submission and provide an error message similar to:</p> <p>"Contract purchase submission exceeded the available rights for sale in one or more time intervals."</p> <p>Business Rules for transaction submission of CRN rights include:</p> <ul style="list-style-type: none"> ▪ Purchase transaction submissions from WAPA that, in aggregate, exceed the Parent CRN's sellable contract rights (either wholly or partially) for at least one trade hour within the submitted time period will be rejected in its entirety. Otherwise, transactions shall be accepted and transferred from the Parent CRN contract amount to the purchasing Sub CRN contract amount. Calculated amounts of Parent CRN Sellable Rights shall consider both line outages and prior purchases made to Sub CRN contract holders <p><u>Implementation Notes:</u></p> <ul style="list-style-type: none"> • The sub CRNs sold for a trade hour cannot exceed the rights of the parent CRN. Reject sale if sub CRN exceeds parent CRN. Accept sales as they come in on first come first serve basis, so if most recent sale exceeds parent CRN then would reject sale. • Discuss with WAPA functionality for them to be able to make determination on who to accept or reject if requests come in at same time and exceed parent CRN. • Internal ISO System shall be the system of record of Parent and Sub CRN entitlements, WAPA submission transaction timestamps. 	Core	Internal ISO System
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ID#	Business Feature	Req Type	Potential Application(s) Impacted
	<ul style="list-style-type: none"> This BRQ must be reviewed during design phase for derate use cases. 		
TEA-BRQ008	<p>In the event of an ETC derate or rerate due to a line outage, System (Internal ISO System) must recalculate the subcontract(s) on sold rights that are generated through an ETC sale.</p> <p>Business Rules for line outage adjustment of CRN rights include:</p> <ul style="list-style-type: none"> Line Outage reductions to CRN rights will first reduce Parent CRN Rights, then pro-rate the existing Sub CRN Rights once the Parent CRN Rights are fully depleted Line Outage restorations to CRN rights will first restore reduced Sub CRN Rights, then reduced Parent CRN Rights once Sub CRNs are fully restored to its unsold contract rights amount <p><u>Implementation Notes:</u></p> <ul style="list-style-type: none"> If the Parent CRN Right is not fully used, then the unused capacity will be reduced prior to reducing capacity in the Sub CRN Rights that are being used. Additional Functional Requirements will be added based on WAPA's response for either selling on TTC or ATC. These requirements will be added to Appendix. 	Core	Internal ISO System


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4.1.3 Business Requirements: CMRI


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TEA-BRQ002F	<p>System (CMRI) shall receive the following Parent and Sub CRN Definition data from Master File:</p> <ul style="list-style-type: none"> • Parents CRN • PARENT_SC_ID • CRN (Sub CRN) <p>And the following definition data from Settlements:</p> <ul style="list-style-type: none"> • SC_ID • Resource ID • CRN Amount • Self Scheduling MW <p>0..n Sub-CRNs may associate with 1 Parent CRN</p> <p>Each CRN must have a unique Resource ID</p> <p>Implementation note: Refer to Appendix C for example of report visible to WAPA vs report visible to SCs. SCs can only see their own data in CMRI.</p> <p>Business Rules for receiving Master File Contract Definition data include:</p> <ul style="list-style-type: none"> • Sub CRNs with mapping to a Parent CRN associated with the new Associated Group Owner user role (i.e. "WAPA user") shall be presented in the report. • MF effective dates for Parent/Sub CRN relationships shall determine when a given Sub CRN may be included in the Associated Group Owner's report, and shall omit Sub CRNs from its report for any trade date outside of its effective date period(s). • Sub CRN users shall have access to their own data under the existing user roles 	Core	CMRI

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TEA-BRQ010B	<p>System (CMRI) shall receive Internal ISO System adjusted entitlements (or contract rights) associated to Parent, Sub CRNs and display existing reporting information to the purchaser SC.</p> <p>Implementation note: The current CMRI CRN report is not being changed.</p>	Core	CMRI
TEA-BRQ111	<p>System (CMRI) shall support a new Associated Group Owner user role (i.e. "WAPA user"). This new role will provide the user with CRN Report read access to all record data for Sub CRNs mapped to its own Parent CRN.</p> <p>Sub CRNs will only be included in user's report for Trade Dates within the relationship effective date period in Master File.</p> <p>This role shall provide access to both the CMRI application portal display, and B2B service request/retrieve.</p> <p>User must request certificate for this role from existing CISO processes.</p>	Core	CMRI
TEA-BRQ112	<p>System's CRN Report shall provide an additional "CRN Amount" column, which will provide Internal ISO System entitlement MW data (i.e. contract rights) that associate with the trade date, trade hour, interval (5-min granular), market type (DA, RT), CRN Number. See Appendix D for CRN Report column addition display mockup.</p> <ul style="list-style-type: none"> • 	Core	CMRI

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ID#	Business Feature	Req Type	Potential Application(s) Impacted
TEA-BRQ120	<p>System external CRN Report API shall include the added "CRN Amount" data element to its payload.</p> <p>The Associated Group Owner role shall be given access to consume CRN Report API data for its Sub CRNs that it has an active Parent/Sub CRN relationship.</p> <p>•</p>	Core	CMRI
TEA-BRQ121	System (CMRI) shall populate the CRN Report as data is received.	Core	CMRI
TEA-BRQ122	CRN Report Data shall be retained for three years, or the system's existing record retention standard, whichever is greater.	Core	CMRI


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4.2 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.

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4.2.1 Business Requirements

ID#	Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Scenario
MKT-001	Owner of Transmission Owner Rights must have the capability to send sale information to CAISO. Note: See BRQ003 for more information.	OASIS OATI	Internal ISO System	Interface changes, New system process
MKT-002	Entities with pre-registered CRNs must have the capability to purchase Transmission Owner Rights. Note: See BRQ002 for more information.	N/A	MF	Interface changes, New system process, Rule Impacts
MKT-003	Entities with Parent CRN and have active transacted purchases with Sub CRNs will have access to both Parent and Sub CRN Report data in CMRI.	CMRI	User Client, System	Interface changes, Report Changes, New system process, Rule Impacts

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5 Integration Data & Service Requirements

5.1 Integration Data Requirements

5.1.1 External Web Services

This table lists the web services between systems external to the CAISO (market participants) and CAISO-based systems:

Data Set ID	Data Set Name	Data Schema	Description/Context/Use Case (List Elements/Structure/Cardinality in Appendix or External Link)
TEA-DAT003	Contract Entitlement Submit Request	Refer to OpenAPI document	Constraint: Submit 1 contract per submission per entitlement value (multiple submission for different time periods, or entitlement values) See TEA-BRQ003, TEA-BRQ004
TEA-DAT004	Contract Entitlement Submit Response	Refer to OpenAPI document	See TEA-BRQ003, TEA-BRQ004
TEA-DAT005	ContractUsage	ContractUsage_v2	<p>Add new CRN Amount data element (MW entitlements):</p> <ul style="list-style-type: none"> - CRN Amount (MW entitlements) - ParentCRN (Seller CRN transferring rights) - ParentSCID (SCID of seller of CRN rights) <p>Existing CMRI B2B retrieve services:</p> <p>RetrieveContractUsage_CMRIv2 RetrieveContractUsage_CMRIv2_DocAttach</p> <p>See TEA-BRQ120, 121</p>

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Appendix C: Display Mockup and Report Questionnaire

Provide any display mockups that may help the implementation team in the design of the solution.

CMRI CRN Report Enhancement Mockup (“CRN Amount”)

Visible to WAPA:

PARENT CRN	PARENT_SC_ID	CRN	SC_ID	RESOURCE_ID	CRN AMOUNT	SELF SCHEDULING MW
		MED_1102	WAPA	RES1	400	400
MED_1102	WAPA	MED_1102_1	PCG2	RES2	100	100
MED_1102	WAPA	MED_1102_2	SCE1	RES3	100	100
MED_1104	NCPA	MED_1103	NCPA			

Visible to SCE1:

PARENT CRN	PARENT_SC_ID	CRN	SC_ID	RESOURCE_ID	CRN AMOUNT	SELF SCHEDULING MW
MED_1102	WAPA	MED_1102_2	SCE1	RES3	100	100