California ISO

Business Requirements Specification

WEIM Resource Sufficiency Evaluation Enhancements – Phase-1 (RSEE-1)

Document Version: ~~1~~1.1

Current Version Date: ~~3/4/2022~~4/7/2022

Revision History

Date	Version	Description
3/4/2022	1.0	Initial Document Release.
4/7/2022	1.1	• Section 1.3 (Overview and Scope) o Added implementation note for Phase-1 to clarify that WEIM Sub-Entity related functionalities will not be implemented in this project. • Section 5.1 (BPM) o Removed RSEE-1060 from Market Operations BPM impact for RTM. o Added for Market Operations BPM impact for RSEE-1060 for the process of submission of non-participating DR schedules into ALFS. • RSEE1-1060-BRQ-01040 o Removed DR Inclusion Flag definition on LF Zone and replaced it with a flag on WEIM Entity or WEIM Sub-Entity level. • RSEE1-1060-BRQ-02010 o Added as business process for Submission of Non-Participating DR Schedules by WEIM BAAs and WEIM Sub-Entities. • RSEE1-1060-BRQ-02040, RSEE1-1060-BRQ-02120, RSEE1-1060-BRQ-02140, RSEE1-1060-BRQ-02160 o Deleted. • RSEE1-1010-BRQ-03110, RSEE1-1010-BRQ-03130 o Changed Requirement Type to Core. • RSEE1-1010-BRQ-03110, RSEE1-1010-BRQ-03120, RSEE1-1010-BRQ-03130, RSEE1-1010-BRQ-03140, RSEE1-1010-BRQ-03180 o Updated to make disqualifying rules higher priority and list the related BRQs in the note. • RSEE1-1010-BRQ-03110, RSEE1-1010-BRQ-03120, RSEE1-1010-BRQ-03200, RSEE1-1010-BRQ-03210 o Clarified the note to include applicability to PSH resources. • RSEE1-1010-BRQ-03120 o Clarified the note for applicability to all startable MSG resources. • RSEE1-1010-BRQ-03120, RSEE1-1010-BRQ-03130, RSEE1-1010-BRQ-03140 o Clarified the note for calculation of available capacity for MSG resources as the highest value among all applicable MSG configurations.

Date	Version	Description
		• RSEE1-1010-BRQ-03130 o Updated to include applicability to in-Transition state. • RSEE1-1010-BRQ-03160 o Deleted it. • RSEE1-1010-BRQ-03170 o Added as manual adjustments per the logic that will be documented in the BPM. • RSEE1-1010-BRQ-03190 o Updated the rule to include continuous online statuses for all applicable RTPD intervals and use of available good quality telemetry and for RTPD advisory horizon to overlap with all RSE time intervals. o Deleted examples. o Added a note to reference examples in Appendix-B. o Added a note of inapplicability to PSH resources. • RSEE1-1010-BRQ-03210 o Updated note about Outages inclusion of the SUT to add reference to Market Operations BPM section. • RSEE1-1060-BRQ-03575 o Added for BAAOP to allow entry of DR LF Adjustments (that reflect Non-Participating DR Schedules) from WEIM Entity or WEIM Sub-Entity. • RSEE1-1060-BRQ-03600 o Updated to have DR LF Adjustments entered on LF Zone via BAAOP. o Deleted the use of average hourly DR LF Adjustments in Balancing and Feasibility Tests. o Added a bullet for the use of hourly DR LF Adjustment for each of the corresponding 15-min interval for Capacity Teats and Flexible Ramping Test. • RSEE1-1060-BRQ-03620 o Updated to include data that is submitted via API. • RSEE1-1060-BRQ-03680, RSEE1-1060-BRQ-03700 o Deleted them. • RSEE1-1090-BRQ-04080

Date	Version	Description
		○ Updated list of items to include Net Import/Export Base Schedule. ○ Clarified Incremental Capacity to be Incremental Bid Range Capacity, by direction. • RSEE1-1090-BRQ-04090 ○ Added for existing system functionality of publishing BAA RSE Flexible Ramping Test Data in OASIS. • RSEE1-1090-BRQ-04100 ○ Clarified Change in LF to be (including any DR LF adjustments). • RSEE1-1100-BRQ-04240 ○ Corrected BRQ title to Flexible Ramping Test. • RSEE1-1100-BRQ-04260 ○ Updated notes to add reference BRQ. • RSEE1-1060-BRQ-05100 ○ Added for FERC data publishing. • RSEE1-1050-MSIM-07040 ○ Deleted it. • RSEE1-1050-MSIM-07060 ○ Deleted condition about load is not within 5% threshold. • RSEE1-1060-MSIM-07080 ○ Deleted ALFS and replaced it with BAAOP. ○ Updated data submission by WEIM Entity. ○ Deleted RTM from market run. • Appendix-B (Formulas, Calculation Details, and Examples) ○ Added examples for RSEE1-1010-BRQ-03190.

Table of Contents

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 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).

The purpose of this initiative is to implement enhancements to the WEIM Resource Sufficiency Evaluation (RSE). The CAISO and stakeholders reviewed several potential changes in the recent Market Enhancements for Summer 2021 Readiness initiative, where net-load uncertainty to the RSE's capacity test was implemented. This initiative's goal is to implement potential enhancements to ensure the RSE is administered accurately and applied equitably.

1.2 Conventions

- None

1.3 Overview and Scope

CAISO proposes to bifurcate this initiative into two phases. This will allow the CAISO to implement enhancements that improve the accuracy and transparency of the RSE more quickly. The enhancements the CAISO proposes to implement include:

~~1.1.1~~1.3.1 Phase-1

RSEE ID	Description
RSEE-1010	Consideration of Supply Conditions in the Capacity Test
RSEE-1020	Flexible Ramping Test Modifications – PBC
RSEE-1030	Consider a Resource's Transition through FOR in the Flexible Ramping Test.

RSEE ID	Description
RSEE-1040	RSE Modifications – Storage Resources Treatment
RSEE-1050	Balancing Test Modifications
RSEE-1060	DR Inclusion with RSE
RSEE-1070	Reliability of CAISO Interchange Schedules
RSEE-1090	Increased RSE Data on RSE Results and Additional Data Transparency and Reporting
RSEE-1100	Increased WEIM Entities Situational Awareness Regarding Test Performance
RSEE-1110	Net-Load Uncertainty Calculation Removal from Capacity Test
RSEE-1120	Intertie Uncertainty Calculation Removal from Capacity Test

Implementation Note:

- For RSEE-1060, WEIM Sub-Entity related functionalities will not be implemented in this project and will be deferred for implementation with WEIM Sub-Entity Scheduling Coordinator Role project.

2 Intellectual Property Ownership

Intellectual Property covers a broad array of information and materials, including written works, computer programs, software, business manuals, processes, symbols, logos and other work products. Determining ownership of Intellectual Property is very important in preserving the rights of the California ISO, and helps to avoid Intellectual Property infringement issues. In considering the business requirements or service requirements to be performed, the business owner of the project must determine Intellectual Property Ownership.

2.1 Checklist

All information in this document is the Intellectual Property (copyright, trademark, patent, and/or trade secret) of the California ISO.

3 Acronym and Terms Definitions

Refer to Appendix-A – Acronym Definition~~Appendix-A – Acronym Definition~~

4 Details of Business Need/Problem

4.1 Description

Business Opportunity/Problem Statement:	
What:	• **Phase-1**

RSEE ID	Description
RSEE-1010	Consideration of Supply Conditions in the Capacity Test
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RSEE-1110	Net-Load Uncertainty Calculation Removal from Capacity Test
RSEE-1120	Intertie Uncertainty Calculation Removal from Capacity Test

Business Opportunity/Problem Statement:	
When:	Policy changes that require tariff amendments received WEIM governing body approval and Board approval. • Implementation is expected by **Summer 2022**
Why do we have this opportunity/problem:	The CAISO and stakeholders reviewed several potential changes in the recent Market Enhancements for Summer 2021 Readiness initiative. This initiative's goal is to continue reviewing potential enhancements to ensure the RSE is administered accurately and applied equitably with these principles: • RSE should accurately and transparently measure the capacity and ramping capability of a balancing authority area • The consequences of RSE failures should not cause operational or reliability issues • RSE does not dictate resource adequacy or integrated resource plans in individual balancing authority areas.
Who does this opportunity/problem impact:	• Real-Time Operations • MAF • Market Participants • Customer Service • Policy • Legal

5 Business Impacts

5.1 Business Practice Manual (BPM)

BPM	RSEE ID#	Description of Impact(s)
Demand Response	RSEE-1060 (DR Inclusion with RSE)	~~• RSEE-1060 – Inclusion of DR in RSE~~ ~~o~~ • Non-Participating DR Schedule submission process.
Western Energy Imbalance Market (WEIM)	~~•~~ RSEE-1010, RSEE-1020, RSEE-1030, RSEE-1040, RSEE-1060, RSEE-1070 ~~o~~ ~~RSEE-1110~~ ~~o Changes regarding suspending net-load uncertainty calculation from Capacity Test.~~ ~~RSEE-1120~~ ~~o Changes regarding suspending Intertie uncertainty calculation from Capacity Test.~~	• RTBS / RSE Changes
	RSEE-1110 (Net-Load Uncertainty Calculation Removal from Capacity Test)	• Changes regarding suspending net-load uncertainty calculation from Capacity Test.

BPM	RSEE ID#	Description of Impact(s)
	RSEE-1120 (Intertie Uncertainty Calculation Removal from Capacity Test)	• Changes regarding suspending Intertie uncertainty calculation from Capacity Test.
Market Instruments	RSEE-1090 (Increased RSE Data on RSE Results and Additional Data Transparency and Reporting)	~~• **RSEE-1090**~~ ~~○ OASIS Changes~~ ~~• **RSEE-1100**~~ ~~○ CMRI/OASIS Changes~~ ~~• **RSEE-1060**~~ ~~○ • BAAOP Changes~~
	RSEE-1100 (Increased WEIM Entities Situational Awareness Regarding Test Performance)	• CMRI/OASIS Changes
	RSEE-1060 (DR Inclusion with RSE)	• BAAOP Changes
Market Operations	~~•~~ RSEE-1040~~,~~ ~~**RSEE-1060**~~ ~~○~~ (RSE Modifications – Storage Resources Treatment)	• RTM Changes
	RSEE-1060 (DR Inclusion with RSE)	• Process of submission of non-participating DR schedules into ALFS.
Settlements and Billing	RSEE-1050	~~• **RSEE-1050**~~ ~~○ •~~ Settlements charge code configuration changes

BPM	RSEE ID#	Description of Impact(s)
	(Balancing Test Modifications)	

5.2 Other

Impact	RSEE ID#	Description (optional)
Market Simulation	RSEE-1020, RSEE-1050, RSEE-1060	• Yes
Market Participant Impact	RSEE-1060 (DR Inclusion with RSE)	• Attestations and Non-Participating DR Schedules submissions.
	RSEE-1060	• BAAOP changes.
	RSEE-1050 (Balancing Test Modifications)	• Settlements charge code configurations changes.
	RSEE-1090 (Increased RSE Data on RSE Results and Additional Data Transparency and Reporting)	• OASIS changes.
	RSEE-1100 (Increased WEIM Entities Situational Awareness Regarding Test Performance)	• CMRI and OASIS changes.
~~Market Simulation~~External Training	~~• Yes~~ ~~o~~ SEE-1010, RSEE-1020, RSEE-1030, RSEE-1040, RSEE-1050, RSEE-1060, RSEE-1070, RSEE-1090, RSEE-1100, RSEE-1110, RSEE-1120	Yes

Impact	RSEE ID#	Description (optional)
~~Market Participant Impact~~Policy Initiative	• RSEE-~~1060~~ ○ 1010, ~~Attestations and Non-Participating DR Schedules submissions.~~ • RSEE-~~1060~~ ○ 1020, RSEE-1030, RSEE-1040, ~~BAAOP changes.~~ • RSEE-1050 ○ , RSEE-1060, RSEE-1070, ~~Settlements charge code configurations changes.~~ • RSEE-1090 ○ , ~~OASIS changes.~~ • RSEE-1100 ○ RSEE-1110, RSEE-1120~~CMRI and OASIS changes.~~	Yes
~~External Training~~	~~Yes~~	
~~Policy Initiative~~	~~Yes~~	
Tariff Modifications	RSEE-1010, RSEE-1020, RSEE-1030, RSEE-1040, RSEE-1050, RSEE-1060, RSEE-1070, RSEE-1110, RSEE-1120	Yes

6 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.

6.1 Business Process: Resource Management

6.1.1 Business Requirements

ID#	RSEE ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
RSEE1-1060-BRQ-01020	RSEE-1060 (DR Inclusion with RSE)	**Entities Sign Attestation for Non-Participating DR Schedules Submission** Each WEIM Entity and/or Sub-Entity that plans to utilize a DR program shall sign an attestation that adjustments made to the demand forecast used by the RSE (via submission of Non-Participating DR Schedules) corresponds to expected increases or reductions in demand provided by their programs.	Business Process	• Business Process
RSEE1-1060-BRQ-01040	RSEE-1060 (DR Inclusion with RSE)	**Definition of DR Inclusion Flag** • System shall define a flag on ~~LF zone~~WEIM Entity and/or WEIM Sub-Entity level, if enabled, shall allow ~~the entity with which it is associated and responsible for its LF submission (whether it is BAA or WEIM Sub-Entity)~~them to submit Non-Participating DR Schedules. ~~This shall exclude the aggregate LF zone, in case there are more granular LF zones.~~ • That flag shall be enabled for a ~~LF zone if the entity with which it is associated and responsible for LF submission (whether it is BAA~~WEIM Entity or WEIM Sub-Entity~~)~~ only if it has signed attestation stating that adjustments made to the demand forecast used by the RSE corresponds to expected increases or reductions (non-zero values) in demand provided by their programs.	Core	• MF

6.2 Business Process: Short-Term Forecasting – Load Forecast

6.2.1 Business Requirements

ID#	RSEE ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
RSEE1-1060-BRQ-02010	RSEE-1060 (DR Inclusion with RSE)	**Submission of Non-Participating DR Schedules by WEIM BAAs and WEIM Sub-Entities** The following business process shall be utilized: • Each WEIM Entity and/or Sub-Entity that plans to utilize a DR that are not explicitly modeled in RTM (DRPs that are not able to be represented by the PDR or RDRR models), regardless of the 5% of load forecast threshold, shall submit these non-participating DR schedules to CAISO's STF via existing manual process. • If the submitted non-participating DR schedules are at or above the 5% LF threshold, existing logic to process them into LF via ALFS shall persist, and these WEIM Entity and/or Sub-Entity shall not submit these non-participating DR schedules as DR LF Adjustment via BAAOP UI/API. • If the submitted non-participating DR schedules are below the 5% LF threshold, CAISO's STF team will evaluate the submitted data and communicate to the submitting Entities whether they have been processed into the ALFS's LF. If the data are processed into ALFS's LF, these entities shall not submit these non-participating DR schedules as DR LF Adjustments into BAAOP UI/API.	**Existing System Functionality**	• Business Process
~~RSEE1-1060-BRQ-02040~~	~~RSEE-1060 (DR Inclusion with RSE)~~	~~**Receive Non-Participating DR Schedules from WEIM Entity BAA or WEIM Sub-Entity**~~ ~~System shall have the capability to receive the following for DRPs that are not able to be represented by the PDR or RDRR models in the market from LF zones that have enabled MF DR Inclusion Flag, using similar mechanism as receiving existing LF:~~ ~~• Non-Participating DR Schedules~~ ~~**Notes:**~~ ~~• The DRPs can be reflected as an increase in load that captures expected "pre-cooling" as well as a decrease in LF that reflects the DR event itself.~~	~~Core~~	~~• ALFS~~

ID#	RSEE ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
~~RSEE1-1060-BRQ-02120~~	~~RSEE-1060~~	~~**Aggregating PDR and RDRR LF on BAA and/or WEIM Sub-Entity Levels**~~ ~~System shall have the capability to automatically aggregate PDR and RDRR on LF zone for applicable CAISO and/or WEIM BAA and/or WEIM Sub-Entity, for utilization by Demand Forecast.~~	~~Core~~	~~• ALFS~~
~~RSEE1-1060-BRQ-02140~~	~~RSEE-1060~~ ~~(DR Inclusion with RSE)~~	~~**Utilize PDR, RDRR and Non-Participating DR Schedules on BAA or WEIM Sub-Entity Levels to Create RT Demand Forecast**~~ ~~System shall have the ability to utilize PDR, RDRR and Non-Participating DR Schedules (as applicable by STF business process), on LF zone for BAA and/or WEIM Sub-Entity, in the creation of RT Demand Forecast.~~ ~~**Notes:**~~ ~~• This shall include WEIM Entity/Sub-Entity and CAISO BAAs.~~	~~Core~~	~~• ALFS~~
~~RSEE1-1060-BRQ-02160~~	~~RSEE-1060~~ ~~(DR Inclusion with RSE)~~	~~**Accounting for DR LF Adjustment in RT Demand Forecast Process**~~ ~~For each BAA and/or WEIM Sub-Entity, System shall utilize applicable business process to either:~~ ~~• Account for the provided Non-Participating DR Schedules in the load forecast(s) that are streamed to RTBS and RTM, and automatically set the DR LF Adjustment component to zero for all applicable LF zones that are associated with BAAs and/or WEIM Sub-Entities, or~~ ~~• Not account for the provided Non-Participating DR Schedules in the load forecast(s) that are streamed to RTBS and RTM and automatically include the provided Non-Participating DR Schedules as a separate DR LF Adjustment component for applicable LF zones that are associated with BAAs and/or WEIM Sub-Entities that will be streamed to RTBS and RTM.~~	~~Core~~	~~• ALFS~~

6.3 Business Process: Manage RTM

- **Manage Real Time Operations**

6.3.1 Business Requirements

ID#	RSEE ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
RSEE1-1010-BRQ-03110	RSEE-1010 (Consideration of Supply Conditions in the Capacity Test)	**Counting Online Supply Resources as Available Supply in the Capacity Test** System shall account for the following as available supply in RSE Capacity Test~~:~~, unless any disqualifying rule is triggered: • A Supply resource with a Bid, an ED or a WEIM MD Instruction, or commitment override in the RTM through the upcoming hour that is online in the last 15 minute interval before the hour under evaluation (T). **Notes:** • This enhancement applies to both WEIM and CAISO BAAs. • Supply resources include Generating Units (including MSG resources) and "PDRs). • Generating resources include existing resource types that are in production, including, but not limited to, Pump Storage Hydro (PSH) resources. • The disqualifying rules shall include these BRQs: ○ RSEE1-1010-BRQ-03190 ○ RSEE1-1010-BRQ-03200 ○ RSEE1-1010-BRQ-03210	Core~~Existing System Functionality~~	• RTBS
RSEE1-1010-BRQ-03120	RSEE-1010 (Consideration of Supply Conditions in the Capacity Test)	**Counting Offline Short-Start Units as Available Supply in the Capacity Test** System shall account for the following as available supply in RSE Capacity Test~~:~~, unless any disqualifying rule is triggered: • A short-start Unit with a Bid in the RTM through the upcoming hour that is offline in the last 15 minute interval before the hour under evaluation (T), provided the Short Start Unit has remaining start-ups in the day (i.e. did not reach its MDS constraint already); otherwise, it shall not be counted as available supply (e.g. short start units that do not meet the aforementioned criteria and long start units).	Core	• RTBS

ID#	RSEE ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
		Notes: • This enhancement applies to both WEIM and CAISO BAAs. • Short-start unit are Supply resources that can start within (SUT+MUT <= 255 minutes [configurable]). • Supply resources include Generating Units (including MSG resources) and "PDRs). • For MSG resources, this rule shall apply to all startable MSG configurations that meet the conditions described in this requirement. • Per existing functionality, available capacity is calculated as the highest value among all applicable MSG configurations. • Generating resources include existing resource types that are in production, including, but not limited to, Pump Storage Hydro (PSH) resources. • The disqualifying rules shall include these BRQs: ○ RSEE1-1010-BRQ-03190 ○ RSEE1-1010-BRQ-03200 ○ RSEE1-1010-BRQ-03210		
RSEE1-1010-BRQ-03130	RSEE-1010 (Consideration of Supply Conditions in the Capacity Test)	**Counting Online (or In-Transition State to) MSG Configurations as Available Supply in the Capacity Test** System shall account for the following as available supply in RSE Capacity Test, unless any disqualifying rule is triggered: • ~~A~~An MSG configuration with a Bid, an ED, a WEIM MD Instruction, or commitment override, in the RTM through the upcoming hour that is online (or in-transition state) in the last 15 minute interval before the hour under evaluation (T). **Notes:** • This enhancement applies to both WEIM and CAISO BAAs. • This functionality applies to Capacity Test. • Per existing functionality, available capacity is calculated as the highest value among all applicable MSG configurations. • The disqualifying rules shall include these BRQs: ○ RSEE1-1010-BRQ-03190 ○ RSEE1-1010-BRQ-03200 ○ RSEE1-1010-BRQ-03210	Core~~Existing System Functionality~~	• RTBS

ID#	RSEE ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
RSEE1-1010-BRQ-03140	RSEE-1010 (Consideration of Supply Conditions in the Capacity Test)	**Counting Offline Short-Transition MSG Configurations as Available Supply in the Capacity Test** System shall account for the following as available supply in RSE Capacity Test~~:~~, unless any disqualifying rule is triggered: • A MSG configuration (that is Short-Transition to it) with a Bid in the RTM through the upcoming hour that is offline in the last 15 minute interval before the hour under evaluation (T) provided the MSG configuration has remaining MSG state transition to it in the day (i.e. did not reach its maximum daily state transition constraint already); otherwise, it shall not be counted as available supply (e.g. short transition configuration that do not meet the aforementioned criteria or long transition configuration). • If there is multiple transitions to the above configuration, the max capacity among upward transitions and/or min capacity among downward transitions shall be utilized. **Notes:** • This enhancement applies to both WEIM and CAISO BAAs. • MSG configurations (with Short Transition to them) are the ones that can transition to them within (Transition Time to that configuration + MUT <= 255 minutes [configurable]). • Per existing functionality, available capacity is calculated as the highest value among all applicable MSG configurations. • This functionality applies to Capacity Test. • System will only consider only one transition in this evaluation (i.e. no back to back transitions shall be considered). • The disqualifying rules shall include these BRQs: ○ RSEE1-1010-BRQ-03190 ○ RSEE1-1010-BRQ-03200 ○ RSEE1-1010-BRQ-03210	Core	• RTBS
RSEE1-1010-BRQ-	RSEE-1010 (Consideration of Supply	~~DMM~~Data-Driven ~~CAISO~~ IT-User Adjustments of ~~Max Bid-In Capabilities for the Calculations of~~Counted **Available Supply in the Capacity Test** • System shall provide the capability for ~~CAISO~~ IT users to adjust the resource-specific ~~max bid-in MW~~	Existing System Functionality ~~Core~~	• RTBS

ID#	RSEE ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
~~0316003170~~	Conditions in the Capacity Test)	~~capabilities, for offline Supply resources that submit RTM bids for the hour under evaluation (T) in the Capacity Test.~~ • ~~An additional CAISO IT-user-editable resource-specific Adjustable Max Bid-In constraint (with a default value of 99999) shall be utilized and system shall respect the most restrictive value of this constraint and the Max Bid-In constraint~~available capacity. **Notes:** • This enhancement applies to both WEIM and CAISO BAAs. • The ~~DMM~~data-driven adjustments will be in accordance with the timelines and procedures provided in the WEIM BPM to ~~account for limitations that the DMM has reported significantly reduce the~~address significant over-counting of Supply ~~that was~~ available to ~~the~~ RTM that has been identified and documented.		
RSEE1-1010-BRQ-03180	RSEE-1010 (Consideration of Supply Conditions in the Capacity Test)	**Counting Capacity Made Available during FOR Transition as Available Supply in the Capacity Test** System shall account for the following as available supply in RSE Capacity Test, similar to logic used in Flexible Ramping Test~~:~~, unless any disqualifying rule is triggered: • Capacity made available by a Supply resource while it is transitioning through a FOR. **Notes:** • This enhancement applies to both WEIM and CAISO BAAs. • The disqualifying rules shall include these BRQs: ○ RSEE1-1010-BRQ-03190 ○ RSEE1-1010-BRQ-03200 ○ RSEE1-1010-BRQ-03210	**Existing System Functionality**	• RTBS
RSEE1-1010-BRQ-03190	RSEE-1010 (Consideration of Supply Conditions in	**Not Counting Failed-to-Start Short-Start Units as Available Supply in the Capacity Test** System shall NOT account for the following as available supply in RSE Capacity Test: • ~~An online status~~A resource that meet ALL of the following triggers: ○ A Short-Start Unit ~~with~~.	Core	• RTBS

ID#	RSEE ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	the Capacity Test)	○ Startable resource (i.e. does not apply to storage resources that is considered always online) ○ Has a bid in the RTM for the hour under evaluation (T~~) and~~). ○ Has continuous RTPD online statuses starting from the time interval that is aligned with the time of RSE execution all the way until the end RSE time horizon, using the latest RTPD run that is available before RSE execution. ○ RTPD advisory horizon overlaps with all RSE time intervals. ○ A non-positive telemetry at the time of the RSE execution. ○ Available Telemetry with Good Quality Flag. **Notes:** • Refer to **Examples** in **Appendix-B: Formulas, Calculation Details, and Examples** • This enhancement applies to both WEIM and CAISO BAAs. • ~~Online status is obtained from the 15 min RTPD interval that corresponds to the RSE execution time (retrieved from the latest RTPD run preceding the RSE run under consideration).~~ ○ ~~Example~~ ▪ ~~RSE executed at 12:46:45, online status comes from RTPD interval 12:45-13:00.~~ • ~~Telemetries will be retrieved from the latest RTPD run preceding the RSE run under consideration.~~ • Latest Telemetries are retrieved at the time of RSE execution. • Non positive telemetry is telemetry <=0 (indicating the resource failed to ~~initiate~~ start-up) • Short-start unit are Supply resources that can start within (SUT+MUT <= 255 minutes [configurable]). • Supply resources include Generating Units (including MSG resources) and “PDRs). • ~~Only startable resources shall be considered in this functionalities (i.e. does not apply to storage resources that is considered always online).~~		

ID#	RSEE ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
		• This rule shall not apply to PSH resources.		
RSEE1-1010-BRQ-03200	RSEE-1010 (Consideration of Supply Conditions in the Capacity Test)	**Not Counting Outaged Supply Resources as Available Supply in the Capacity Test** System shall NOT account for the following as available supply in RSE Capacity Test: • A Supply resource that is on outage during the hour under evaluation (T). **Notes:** • This enhancement applies to both WEIM and CAISO BAAs. • Supply resources include Generating Units (including MSG resources) and "PDRs). • Generating resources include existing resource types that are in production, including, but not limited to, Pump Storage Hydro (PSH) resources.	**Existing System Functionality**	• RTBS
RSEE1-1010-BRQ-03210	RSEE-1010 (Consideration of Supply Conditions in the Capacity Test)	**Not Counting Supply Resources that are Unable to Start after Returning from Outages as Available Supply in the Capacity Test** System shall NOT account for the following as available supply in RSE Capacity Test: • A Supply resource that has returned from an outage but is unable to start-up within hour T. **Notes:** • This enhancement applies to both WEIM and CAISO BAAs. • Outages will be inclusive of the SUT. (refer to section 7.1 in Market Operations BPM). • Supply resources include Generating Units (including MSG resources) and "PDRs). • Generating resources include existing resource types that are in production, including, but not limited to, Pump Storage Hydro (PSH) resources.	**Existing System Functionality**	• RTBS
RSEE1-1020-BRQ-03300	RSEE-1020	**Adjustments to Initial Reference Point used in Flexible Ramping Test** • System shall calculate PBC under-gen relaxation quantity that account for any PBC under-gen relaxation, that is present in the market solution and account for it	Core	• RTBS

ID#	RSEE ID#	Business Feature	Requirement Type	Potential Application(s) Impacted

	(Flexible Ramping Test Modifications – PBC)	in the Flexible Ramping Test, for both the upward and downward requirements, in order to increase the accuracy of this test.
		• System shall modify the final FRU and FRD requirements for the Flexible Ramping Test in RTBS due to under-generation conditions in the T-7.5' solution from RTPD.
		  ○ For the upward Flexible Ramping Test, System shall increase FRU requirement by the PBC under-gen relaxation quantity.
		  ○ For the downward Flexible Ramping Test, System shall decrease FRD requirement by the PBC under-gen relaxation quantity.
		• That PBC under-gen relaxation quantity shall exclude any operator load conformance inherent to the market schedule.
		• Mathematically, PBC Under-Gen Relaxation Quantity = max (0, [Under Generation Infeasibility - Operator Load Conformance])
		
		Notes:
		• This enhancement applies to both WEIM and CAISO BAAs.
		• The flexible ramping test currently measures a BAA ability to ramp between forecasted demand, including uncertainty, for each 15-min interval within the hour under evaluation. This measurement is conducted using the RTPD schedule for the interval immediately prior to the hour being evaluated, as the reference point.
		• This enhancement will ensure that the market schedule that is used as the reference point in the Flexible Ramping Test does not have an artificially biased ramping requirement due to capacity shortfalls preventing market schedules from fully balancing to demand.
		• No modification to FRU and FRD requirements due to over-generation conditions.		

RSEE1-1030-BRQ-03370	RSEE-1030	**Account for the Ramping Capability of MSG Transitions in RSE Flexible Ramping Test** While evaluating a WEIM entity's ramping capability in Flexible Ramping Test, System shall account for the ramping capability of MSG resources, while they transition	**Existing System Functionality**	• RTBS

ID#	RSEE ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	(Consider a Resource's Transition through FOR in the Flexible Ramping Test)	between MSG configurations as an additional upward or downward ramp. **Notes:** • This enhancement applies to both WEIM and CAISO BAAs.		
RSEE1-1030-BRQ-03380	RSEE-1030 (Consider a Resource's Transition through FOR in the Flexible Ramping Test)	**Account for the Ramping Capability of Resources with FORs in RSE Flexible Ramping Test, while Transitioning through their FORs** While evaluating a WEIM entity's ramping capability in Flexible Ramping Test, System shall account for the ramping capability of resources with FORs, while they transition through their FORs as an additional upward or downward ramp. **Notes:** • This enhancement applies to both WEIM and CAISO BAAs. • Currently the market transitions resources through these FORs in the least number of intervals possible.	Core	• RTBS
RSEE1-1040-BRQ-03460	RSEE-1040 (RSE Modifications – Storage Resources Treatment)	**Accounting for Storage Resources SOC in RSE Tests** System shall consider SOC from the most recent RTPD run at T-7.5' in the calculation of storage resources capacities in RSE Balancing Test, Capacity Test, and upward and downward tests of Flexible Ramping Test. • System shall account for energy and AS Awards and/or self-provision. • For CAISO BAA, System shall account for maintaining AS schedules for 30-minutes (configurable). • For WEIM BAAs, System shall account for maintaining AS schedules for 30-minutes (configurable) **Notes:**	Core	• RTBS

ID#	RSEE ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
		• This functionality shall apply to both WEIM and CAISO BAAs. • This applies to storage resources with CAISO-manageable SOC. • This functionality will ensure accurate assessment of the flexibility provided by the resource at the time of the test in addition to its ability to provide flexibility in the upcoming hour. • This functionality will ensure equitable treatment between the CAISO and WEIM entities.		
RSEE1-1040-BRQ-03480	RSEE-1040 (RSE Modifications – Storage Resources Treatment)	**Accounting for Storage Resources SOC in RTM for WEIM** For manageable-SOC storage resources within WEIM BAAs and/or Sub-Entities, System shall account for maintaining AS schedules for 30-minutes (configurable) in market optimization.	Core	• RTM ○ STUC ○ RTPD ○ RTD
RSEE1-1060-BRQ-~~036000~~3575	RSEE-1060 (DR Inclusion with RSE)	~~**Accounting for**~~ **Submission of DR LF Adjustments** ~~**in RSE**~~**(that Reflect Non-Participating DR Schedules) by WEIM BAA or WEIM Sub-Entity** • System shall ~~have~~provide the capability for WEIM BAA and/or WEIM Sub-Entity that have enabled MF DR Inclusion Flag to ~~automatically account~~ submit the following for DRPs that are not able to be represented by the PDR or RDRR models in the market: • DR LF ~~Adjustment~~Adjustments (that reflect Non-Participating DR Schedules) (hourly values in the ~~load forecast that~~ future, on LF Zone Level). • If WEIM BAA is ~~used in Bid Range Capacity Test and Flexible Ramping Test for the applicable BAAs WEIM Sub-Entities, through either an increase of decrease in those requirements~~the one that has enabled DR Inclusion Flag, the DR LF Adjustments (that reflect Non-Participating DR Schedules) shall be submitted on the LF zone(s) that corresponds to ELAP(s) for each WEIM BAA.	Core	• ~~RTBS~~BAAOP

ID#	RSEE ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
		~~• System shall apply the average for the corresponding four 15-min intervals of the DR LF Adjustment to the load forecast of the Balancing Test and Feasibility Test.~~ ~~• System shall use the most updated DR LF Adjustment present for the run at T-75', T-55', and T-40'.~~ • If WEIM Sub-Entity is the one that has enabled DR Inclusion Flag, the DR LF Adjustments (that reflect Non-Participating DR Schedules) shall be entered on the LF zone that is associated with that WEIM Sub-Entity. • DR LF Adjustments (that reflect Non-Participating DR Schedules) data submission by WEIM BAA and/or WEIM Sub-Entity shall be facilitated by a both UI and API. **Notes:** • The ~~purpose of this functionality is to provide~~DRPs can be reflected as an increase in load that captures expected "pre-cooling" as well as a decrease in LF that reflects the DR event itself. • The submitted hourly DR LF Adjustments that reflects (that reflects Non-Participating DR Schedules) shall be treated as DR LF Adjustment for RTBS. • Via business process, only WEIM BAA and WEIM Sub-Entities ~~and/or Sub-Entity the ability to adjust~~that have all of the ~~demand forecast to account for DRP that are~~following can submit their DR LF Adjustment via BAAOP UI or API: ○ Have enabled MF DR Inclusion Flag ○ Have their non-participating DR schedules below 5% LF threshold. ○ Either did not ~~currently able to be represented within RTM~~submit their non-participating DR schedules via ALFS or submitted them via ALFS but got notified by CAISO's STF team that their non-participating DR schedules did not get accounted for in CAISO's LF.		
~~RSEE1-1060-BRQ-03620~~	~~(DR Inclusion with RSE)~~	~~**Display Accounted DR LF Adjustments in RSE**~~ ~~System shall display the accounted DR LF Adjustment (side by side with LF) in RSE to BAA Operators via UI.~~	~~Core~~	~~• BAAOP~~

ID#	RSEE ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
RSEE1-1060-BRQ-~~036800~~3600	RSEE-1060 (DR Inclusion with RSE)	**Accounting for DR LF Adjustments in ~~RTM~~RSE** • System shall ~~provide~~have the capability to automatically account the submitted DR LF Adjustment (on LF zone level) in ~~RTM~~the load forecast that is used in RSE Tests (Balancing Test, Feasibility Test, Bid Range Capacity Test, and Flexible Ramping Test) for the applicable ~~BAAs and/or~~ WEIM ~~Sub-Entities~~BAAs that are associated with these LF zone, through either an increase of decrease in those requirements. • System shall ~~have~~apply the ~~capability to account for the hourly~~ DR LF Adjustment ~~anywhere within~~for each of the corresponding four 15-min intervals for Capacity Test and Flexible Ramping Test. • System shall use the ~~RT operating horizon including STUC~~most updated DR LF Adjustment present for the run at T-75', T-55', and T-40'. **Notes:** ~~• STUC and RTPD shall use 15-min granularity of DR LF Adjustments.~~ ~~• RTD shall use 5-min granularity of DR LF Adjustments~~ • The purpose of this functionality is to provide WEIM ~~Entities~~BAA and/or Sub-~~Entities~~Entity the ability to adjust the demand forecast to account for DRP that are not currently able to be represented within RTM.	Core	~~•~~ RTBS~~RTM~~ ~~○ STUC~~ ~~○ RTPD~~ ~~○~~ ~~•~~ ~~RTD~~
RSEE1-1060-BRQ-~~037000~~3620	RSEE-1060 (DR Inclusion with RSE)	**Display Accounted DR LF Adjustments in ~~RTM~~RSE** System shall display the accounted DR LF Adjustment (side by side with LF) in ~~RTM~~RSE to ~~CAISO~~ BAA Operators via UI. **Notes:** • This functionality shall still be applicable when the DR LF Adjustment data are submitted via API.	Core	~~•~~ ~~RTM~~ ~~○ STUC~~ ~~○ RTPD~~ ~~○~~ ~~•~~ ~~RTD~~BAAOP
RSEE1-1070-BRQ-03760	RSEE-1070 (Reliability of CAISO Interchange Schedules)	**Discount CAISO Interchange Awards that have not submitted Transmission Profile e-Tag** System shall discount any interchange (import/export) awards that have not submitted a transmission profile e-Tag equal to their HASP award by the T-40' deadline for Capacity Test and Flexible Ramping Test. **Example:**	Core	• RTBS

ID#	RSEE ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
		• CAISO clears 100 MW of import supply in HASP. • Only 60MW of import submits transmission profile e-tag by T-40'. • CAISO will not account for the other 40 MW in the RSE.		
RSEE1-1110-BRQ-03960	RSEE-1110 (Net-Load Uncertainty Calculation Removal from Capacity Test)	**Net-Load Uncertainty Calculation Removal from Capacity Test** System shall remove net-load uncertainty in the capacity test pursuant to existing tariff authority. **Notes:** • This enhancement has already been implemented and is currently in production.	**Existing System Functionality**	• RTBS
RSEE1-1120-BRQ-03980	RSEE-1120 (Intertie Uncertainty Calculation Removal from Capacity Test)	**Intertie Uncertainty Calculation Removal from Capacity Test** System shall remove intertie uncertainty adder from the capacity test until Phase-2 implementation.	**Existing System Functionality**	• RTBS

6.4 Business Process: Manage Market Reporting

- **Manage Real Time Operations**

6.4.1 Business Requirements

ID#	RSEE ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
RSEE1-1090-BRQ-04080	RSEE-1090 (Increased RSE Data on RSE Results and Additional Data Transparency and Reporting)	**Publish BAA RSE Capacity Test Data** Upon data receipt, System shall report the following detailed RSE results to each WEIM BAA for their Capacity Test: • Trade Date • Test Time • BAA ○ Test Status (Pass/Fail~~)~~), by Direction ○ Generation Base Schedule ○ Import Base Schedule ○ Export Base Schedule ○ Net Base Schedule ○ Intertie Uncertainty ○ Net-Load Uncertainty ○ Bid Range Capacity ~~Change (aka bid range upward/downward capacity)~~, by direction **Note:** ~~○~~ • Refer to **RSEE1-1100-BRQ-04260** for other data posted on same report.	Core	• OASIS
RSEE1-1090-BRQ-04090	RSEE-1090 (Increased RSE Data on RSE Results and Additional Data Transparency and Reporting)	**Publish BAA RSE Flexible Ramping Test Data** Upon data receipt, System shall report the following detailed RSE results to each WEIM BAA for their Flexible Ramping Test: • Trade Date • Test Time • BAA ○ Up Credits ○ Down Credits ○ Net Import Capability ○ Net Export Capability	**Existing System Functionality**	• OASIS

ID#	RSEE ID#	Business Feature	Requirement Type	Potential Application(s) Impacted

RSEE1-1090-BRQ-04100	RSEE-1090
	
	(Increased RSE Data on RSE Results and Additional Data Transparency and Reporting)
		Publish BAA RSE Flexible Ramping Test Data
		Upon data receipt, System shall report the following detailed RSE results to each WEIM BAA for their Flexible Ramping Test:
		• Trade Date
		• Test Time
		• BAA
		  ○ Test Status (Pass/Fail) by Direction
		  ○ Change in Load Forecast (including any DR LF adjustments)
		  ○ Net-Load Uncertainty
		  ○ Ramping Upward Capacity
		  ○ Ramping Downward Capacity
			Core	• OASIS

RSEE1-1100-BRQ-04160	RSEE-1100
	
	(Increased WEIM Entities Situational Awareness Regarding Test Performance)
		Publish Resource-Specific RSE Capacity Test Data
		Upon data receipt, System shall report the following detailed RSE results to each WEIM BAA for their Capacity and Flexible Ramping Tests:
		• Trade Date
		• Test Time
		• Resource ID
		  ○ Resource-Specific 15-minute Bid Range Capacity MW
		  ○ Resource-Specific Ramping Type (Up/Down)
			Core	• CMRI

RSEE1-1100-BRQ-04180	RSEE-1100
	
	(Increased WEIM Entities Situational Awareness Regarding Test Performance)
		Publish Resource-Specific RSE Flexible Ramping Test Data
		Upon data receipt, System shall report the following detailed RSE results to each WEIM BAA for their Capacity and Flexible Ramping Tests:
		• Trade Date
		• Test Time
		• Resource ID
		  ○ Resource-Specific 15-minute Ramping Capacity MW
		  ○ Resource-Specific Ramping Type (Up/Down)
			Existing System Functionality	• CMRI

RSEE1-1100-BRQ-04240	RSEE-1100 (Increased WEIM Entities Situational	**Publish BAA RSE ~~Capacity~~Flexible Ramping Test Data** Upon data receipt, System shall report the following detailed RSE results to each WEIM BAA for their Flexible Ramping Test: • Trade Date	**Existing System Functionality**	• OASIS

ID#	RSEE ID#	Business Feature	Requirement Type	Potential Application(s) Impacted

	Awareness Regarding Test Performance)	• Test Time
		• BAA
		  ○ 15-minute BAA Uncertainty Requirement
		  ○ 15-minute BAA Diversity Benefit Amount		

RSEE1-1100-BRQ-04260	RSEE-1100
	
	(Increased WEIM Entities Situational Awareness Regarding Test Performance)
		Publish BAA RSE Capacity Test Data
		Upon data receipt, System shall report the following detailed RSE results to each WEIM BAA for their Capacity Test:
		• Trade Date
		• Test Time
		• BAA
		  ○ 15-minute BAA LF (including any DR LF adjustments).
		  ○ 15-minute BAA Import Quantity
		  ○ 15-minute BAA Export Quantity
		  ○ 15-minute BAA Net Quantity
		
		Note:
		~~○~~• Refer to **RSEE1-1090-BRQ-04080** for other data posted on same report.
			Core	• OASIS

6.5 Business Process: Manage FERC Reporting

6.5.1 Business Requirements

ID#	RSEE ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
RSEE1-1060-BRQ-05100	RSEE-1060 (DR Inclusion with RSE)	**Publish to FERC** System shall have the capability to automatically publish the following data to FERC: • DR Inclusion Flag ○ (WEIM Entity Level) ○ (WEIM Sub-Entity Level) • DR LF Adjustments	Core	• Internal ISO System

~~6.5~~6.6 Business Process: Manage Market Billing and Settlements

~~6.5.1~~6.6.1 Business Requirements

ID#	RSEE ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
RSEE1-1050-BRQ-06040	RSEE-1050 (Balancing Test Modifications)	**Exclusion of CAISO BAA from Allocation of Funds Resulting from Failures of Balancing Tests** System shall exclude CAISO BAA, from the potential revenues resulting from failures of Balancing Test, as it is not subject to the Balancing Test that derives these revenues.	Core	• Settlements

~~6.6~~6.7 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, Western Energy Imbalance Market (WEIM) implementations, and Reliability Coordination (RC) service implementations.

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 a WEIM 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.

~~6.6.1~~6.7.1 Business Requirements

ID#	RSEE ID#	Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Scenario
RSEE1-1020-	RSEE-1020 (Flexible Ramping Test	• Set up a scenario where PBC Under-Gen Relaxation Quantity is triggered for WEIM BAAs.	• ALFS • SIBR	• BAAOP • CMRI	1. Rule Impact 5. New/Modified model data

ID#	RSEE ID#	Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Scenario
MSIM-07020	Modifications – PBC)	• Run market (RTBS). • Follow the results in the sink systems.			
~~RSEE1-1050-MSIM-07040~~		~~• Set up a scenario where several WEIM BAAs fail Balancing Test and the load is within the 5% threshold.~~ ~~• Run market (RTBS).~~ ~~• Run Settlements~~ ~~• Follow the results in the Settlements systems to verify that CAISO BAA is not excluded from fund allocation.~~	~~• MRI-S(Metering)~~	~~• Settlements~~	~~1. Rule Impact~~ ~~5. New/Modified model data~~
RSEE1-1050-MSIM-07060	RSEE-1050 (Balancing Test Modifications)	• Set up a scenario where several WEIM BAAs fail Balancing Test ~~and the load is beyond the 5% threshold.~~ . • Run market (RTBS). • Run Settlements • Follow the results in the Settlements systems to verify that CAISO BAA is excluded from fund allocation.	• MRI-S(Metering)	• Settlements	1. Rule Impact 5. New/Modified model data
RSEE1-1060-MSIM-07080	RSEE-1060 (DR Inclusion with RSE)	• Set up a scenario where WEIM ~~BAA~~Entity participants submit DR LF Adjustments (that reflect Non-Participating DR Schedules~~,~~), on LF zone level, to CAISO: • Run market (~~RTM and~~ RTBS). • Follow the results in the sink systems.	• ~~ALFS~~BAAOP	• BAAOP • CMRI • OASIS	1. Rule Impact 5. New/Modified model data

7 Appendices

7.1 Appendix-A – Acronym Definition

Acronym	Definition
A2A	Application-to-Application
ABC	Available Balancing Capacity
ACL	Access Control List
ADS	Automatic Dispatch System
AGC	Automatic Generation Control
AIM	Access and Identity Management
ALFS	Automated Load Forecast System
Anode	Aggregate Node
API	Application Program Interface
Apnode	Aggregate Pricing Node
AS	Ancillary Services
AUX	Auxiliary
B2B	Business-to-Business
BA	Business Analyst
BAA	Balancing Authority Area
BAAOP	Balancing Authority Area Operations Portal
BCR	Bid Cost Recovery
BPM	Business Process Manual
BRS	Business Requirement Specifications

Acronym	Definition
BSAP	Base Schedule Aggregation Portal
BSC	Base Schedule Coordinator
BSSD	(WEIM) Base Schedule Submission Deadline
CAISO	California Independent System Operator
CB	Convergence Bidding
CC	Commitment Cost
CCDEBE	Commitment Costs and Default Energy Bid Enhancements
CDN	Conformed Dispatch Notice
CIM	Common Information Model
CIP	Critical Infrastructure Protection
CIRA	Customer Interface for Resource Adequacy
CISO	California Independent System Operator
CLAP	Custom Load Aggregation Point
CMRI	Customer Market Results Interface
Cnode	Connectivity Node
COG	Constrained-Output Generator
CPM	Capacity Procurement Mechanism
CRN	Contract Reference Number
CRR	Congestion Revenue Rights
CRRS	Congestion Revenue Rights Settlements (aka CRR Clawback system)
CSS	Critical Systems Support

Acronym	Definition
DA	Day-Ahead
DACA	Day-Ahead Contingency Analysis
DAM	Day-Ahead Market
DART	Day-Ahead Reliability Tool
DCPA	Dynamic Competitive Path Assessment
DEB	Default Energy Bid
DER	Distributed Energy Resource
DCC	Default Commitment Cost
DGAP	Default Generation Aggregation Point
DMLC	Default Minimum Load Cost
DMM	Department of Market Monitoring
DOP	Dispatch Operating Point
DOT	Dispatch Operating Target
DR	Demand Response
DRP	Demand Response Program
DSA	Dynamic Stability Analysis
DSTC	Default State Transition Cost
DSUC	Default Start Up Cost
ECIC	Energy Costs and Index Calculator
ED	Exceptional Dispatch
EDAM	Extended Day-Ahead Market

Acronym	Definition
EDR	Enterprise Data Repository
EE	Expected Energy
EEA	Expected Energy Allocation
EESC	Energy Imbalance Market Entity Scheduling Coordinator
EFC	Effective Flexible Capacity
EMM	Enterprise Model Management
EMMS	Enterprise Model Management System
EMNA	Energy Management Network Application
EMS	Energy Management System
EPI	Electricity Price Index
ESP	Electronic Security Perimeter
ETC	Existing Transmission Contract
ETSR	Energy Transfer System Resources
FERC	Federal Energy Regulatory Commission
FMCA	Fifteen-Minute Contingency Analysis
FMM	Fifteen-Minute Market
FMU	Frequently Mitigated Unit
FNM	Full Network Model
FODD	FERC Outgoing Data Depository
FRCT	Forbidden Region Crossing Time
FRD	Flexible Ramp Down

Acronym	Definition
FRU	Flexible Ramp Up
GDF	Generation Distribution Factor
GHG	Green House Gas
GIP	Generator Interconnection Procedure
GMC	Grid Management Charge
GPI	Gas Price Index
GRDT	Generator Resource Data Template
GUI	Graphical User Interface
HASP	Hour-Ahead Scheduling Process
HAVGC	Heat Average Cost (for non-gas resources)
HR	Heat Rate
ICE	InterContinental Exchange
ICM	Infrastructure Contracts and Management
ID	Identifier
IFM	Integrated Forward Market
ISL	Intertie Scheduling Limit
ISO	California Independent System Operator
IOOC	Integrated Optimal Outage Coordination
IT	Information Technology
ITC	Inter-Tie Constraint
ITPD	Information Technology Product Development

Acronym	Definition
ITS	Interchange Transaction Scheduler
ITSM	Information Technology Service Management
JOU	Joint Owned Unit
LACA	Look-Ahead Contingency Analysis
LAP	Load Aggregation Point
LDF	Load Distribution Factor
LEL	Lower Economic Limit
LFR	Lower Forbidden Region
LF	Load Forecast
LMDR	Load Modifying Demand Response
LMP	Locational Marginal Price
LMPM	Locational Market Power Mitigation
LOL	Lower Operating Limit
LRA	*Local Regulatory Authority*
LRL	Lower Regulation Limit
LSE	Load Serving Entity
LTCA	Long-Term Contingency Analysis
MCI	Model and Contract Implementation
MD	Manual Dispatch
MDT	Minimum Down Time
MDS	Maximum Daily Startups

Acronym	Definition
MF	Master File
MLAC	Minimum Load Average Cost
MLC	Minimum Load Cost
MLHAVGC	Minimum Load Heat Average Cost (for non-gas resources)
MLHR	Minimum Load Heat Rate
MMA	Major Maintenance Adder
MMAMLC	Major Maintenance Adder for Minimum Load Cost
MMASUC	Major Maintenance Adder for Start Up Cost
MMASTC	Major Maintenance Adder for MSG State Transition Cost
MMG	Manage Markets & Grid
MMR	Manage Market & Reliability
MOS	Manage Operations Support & Settlements
MPM	market Power Mitigation
MQS	Market Quality System
MRID	Master Resource IDentifier
MRI-S	Market Results Interface – Settlements
MSSA	Metered Sub System Agreement
MSG	Multi-Stage Generator
MUT	Minimum Up Time
MV&A	Market Validation & Analysis
MVT	Market Validation Tool

Acronym	Definition
N/A	Not Applicable
NA	Network Application
NDEB	Negotiated Default Energy Bid
NGR	Non-Generating Resource
NM	Network Model
NQC	Net Qualifying Capacity
OASIS	Open Access Same-time information System
OATI	Open Access Technology International
OC	Opportunity Cost
OCC	Opportunity Cost Calculator
ODCP	On Demand Capacity Procurement
OES	Operations Engineering Services
OMS	Outage Management System
OOM	Out Of Market
OTS	Operations Training Simulator
PAM	Program and Application Management
PBC	Power Balance Constraint
PC	Pre-Calculation
PCA	Price Correction Admin
PCT	Price Correction Tools
PDR	Proxy Demand Resource

Acronym	Definition
PI	Plant Information
PL	Participating Load
Pmax	Maximum Generation Capacity
Pmin	Minimum Generation Capacity
PMO	Program Management Office
PNM	Public New Mexico
Pnode	Pricing Node
POC	Point Of Contact
PRSC	Participating Resource Scheduling Coordinator
PSH	Pump Storage Hydro
PSTD	Power Systems Technology Development
PSTO	Power Systems Technology Operations
PTO	Participating Transmission Owner
QRB	Quality Review Board
RA	Resource Adequacy
RC	Reliability Coordinator
RC-BSAP	Reliability Coordinator - Base Schedule Aggregation Portal
RCD	Reliability Capacity Down
RCSA	Reliability Coordinator Service Agreement
RCU	Reliability Capacity Up

Acronym	Definition
RDOT	Ramping Dispatch Operating Target (a continuous piecewise linear curve connecting consecutive *DOT*s using their mid-interval points, from RTD, RTCD, or RTDD runs, as applicable)
RDRR	Reliability Demand Response Resource
RDT	Resource Data Template
RIG	Remote Intelligent Gateway
RIMS	Resource Interconnection Management System
RMR	Reliability Must Run
ROPR	Operating Reserve Ramp Rate
RR	Ramp Rate
RREG	Regulation Ramp Rate
RSE	Resource Sufficiency Evaluation
RSEE	Resource Sufficiency Evaluation Enhancements
RT	Real-Time
RTBS	Real-Time Base Scheduler
RTCA	Real-Time Contingency Analysis
RTCD	Real-Time Contingency Dispatch
RTD	Real-Time Dispatch
RTDD	Real-Time Disturbance Dispatch
RTPD	Real-Time Pre-Dispatch
RTM	Real-Time Market
RTUC	Real-Time Unit Commitment

Acronym	Definition
RUC	Residual Unit Commitment
SADS	System And Design Specifications
SC	Scheduling Coordinator
SCME	Scheduling Coordinator Meter Entity
SE	State Estimator
SIBR	Scheduling Infrastructure and Business Rules
SME	Subject Matter Expert
SOA	Service-Oriented Architecture
SQMD	Settlements Quality Meter Data
SRS	System Requirement Specifications
STC	State Transition Cost
STF	Short-Term Forecast
STC	State Transition Cost
STT	State Transition Time
STUC	Short-Term Unit Commitment
SUC	Start Up Cost
SUE	Start Up Energy
SUF	Start Up Fuel
SURT	Start Up Ramp Time
SUT	Start Up Time
T	Trading Hour

Acronym	Definition
TBD	To Be Determined
TEP	Tucson Electric Power
TG	Tie Generator
TNA	Transmission Network Application
TOP	Transmission Operator Provider
TOR	Transmission Ownership Contract
TEE	Total Expected Energy
TTEE	Total Target Expected Energy (based on RDOT)
UAT	User Acceptance Testing
UEL	Upper Economic Limit
UFR	Upper Forbidden Region
UI	User Interface
UIE	Uninstructed Energy Imbalance
UL	User Limited
UOL	Upper Operating Limit
URL	Upper Regulation Limit
VER	Variable Energy Resource
VOM	Variable Operations & Maintenance
VOMC	Variable Operations & Maintenance Cost
WebOMS	Web-based Outage Management System
WEIM	Western Energy Imbalance Market

Acronym	Definition
XML	Extensible Markup Language
XSD	XML Schema Definition

7.2 Appendix-B: Formulas, Calculation Details, and Examples

7.2.1 RSEE-1010 – Consideration of Supply Conditions in the Capacity Test – Not Counting Failed-to-Start Short-Start Units as Available Supply in the Capacity Test – Examples

Reference

- RSEE1-1010-BRQ-03190

7.2.1.1 *Examples for RTBS1 @ T-75'*

RSE Horizon: 18:00-19:00 RTBS1 @ 16:46:30						
Time Interval	**Status**	**Data Source**	**Telemetry Check**	**Telemetry Value**	**Assessed for Disqualification**	**Disqualified**
16:45-17:00	Online	RTPD5	Yes	<=0	No, due to no RTPD advisories for RSE hour	N/A
17:00-17:15	Online	RTPD4	No	N/A	No, due to no RTPD advisories for RSE hour	N/A
17:15-17:30	Online	RTPD4	No	N/A	No, due to no RTPD advisories for RSE hour	N/A
17:30-17:45	Online	RTPD4	No	N/A	No, due to no RTPD advisories for RSE hour	N/A
17:45-18:00	Online	RTPD4	No	N/A	No, due to no RTPD advisories for RSE hour	N/A

RSE Horizon: 18:00-19:00 RTBS1 @ 16:46:30						
Time Interval	**Status**	**Data Source**	**Telemetry Check**	**Telemetry Value**	**Assessed for Disqualification**	**Disqualified**
16:45-17:00	Online	RTPD5	Yes	<=0	No, due to no RTPD advisories for RSE hour	N/A
17:00-17:15	Online	RTPD4	No	N/A	No, due to no RTPD advisories for RSE hour	N/A
17:15-17:30	Online	RTPD4	No	N/A	No, due to no RTPD advisories for RSE hour	N/A
17:30-17:45	Online	RTPD4	No	N/A	No, due to no RTPD advisories for RSE hour	N/A
17:45-18:00	Online	RTPD4	No	N/A	No, due to no RTPD advisories for RSE hour	N/A

7.2.1.2 *Examples for RTBS2 @ T-55'*

RSE Horizon: 18:00-19:00 RTBS2 @ 17:05:30						
Time Interval	**Status**	**Data Source**	**Telemetry Check**	**Telemetry Value**	**Assessed for Disqualification**	**Disqualified**
17:00-17:15	Online	RTPD4	Yes	<=0	No, due to no continuous Online status	N/A
17:15-17:30	Online	HASP	No	N/A	No, due to no continuous Online status	N/A
17:30-17:45	Online	HASP	No	N/A	No, due to no continuous Online status	N/A
17:45-18:00	Online	HASP	No	N/A	No, due to no continuous Online status	N/A
18:00-18:15	Online	HASP	No	N/A	No, due to no continuous Online status	N/A
18:15-18:30	Offline	HASP	No	N/A	No, due to no continuous Online status	N/A
18:30-18:45	Offline	HASP	No	N/A	No, due to no continuous Online status	N/A
18:45-19:00	Offline	HASP	No	N/A	No, due to no continuous Online status	N/A

RSE Horizon: 18:00-19:00 RTBS2 @ 17:05:30						
Time Interval	**Status**	**Data Source**	**Telemetry Check**	**Telemetry Value**	**Assessed for Disqualification**	**Disqualified**
17:00-17:15	Online	RTPD4	Yes	<=0	No, due to no continuous Online status	N/A
17:15-17:30	Online	HASP	No	N/A	No, due to no continuous Online status	N/A
17:30-17:45	Online	HASP	No	N/A	No, due to no continuous Online status	N/A
17:45-18:00	Online	HASP	No	N/A	No, due to no continuous Online status	N/A
18:00-18:15	Online	HASP	No	N/A	No, due to no continuous Online status	N/A
18:15-18:30	Offline	HASP	No	N/A	No, due to no continuous Online status	N/A
18:30-18:45	Offline	HASP	No	N/A	No, due to no continuous Online status	N/A
18:45-19:00	Online	HASP	No	N/A	No, due to no continuous Online status	N/A

RSE Horizon: 18:00-19:00 RTBS2 @ 17:05:30						
Time Interval	Status	Data Source	Telemetry Check	Telemetry Value	Assessed for Disqualification	Disqualified
17:00-17:15	Online	RTPD4	Yes	<=0	No, due to no continuous Online status	N/A
17:15-17:30	Offline	HASP	No	N/A	No, due to no continuous Online status	N/A
17:30-17:45	Offline	HASP	No	N/A	No, due to no continuous Online status	N/A
17:45-18:00	Offline	HASP	No	N/A	No, due to no continuous Online status	N/A
18:00-18:15	Online	HASP	No	N/A	No, due to no continuous Online status	N/A
18:15-18:30	Online	HASP	No	N/A	No, due to no continuous Online status	N/A
18:30-18:45	Online	HASP	No	N/A	No, due to no continuous Online status	N/A
18:45-19:00	Online	HASP	No	N/A	No, due to no continuous Online status	N/A

RSE Horizon: 18:00-19:00 RTBS2 @ 17:05:30						
Time Interval	Status	Data Source	Telemetry Check	Telemetry Value	Assessed for Disqualification	Disqualified
17:00-17:15	Online	RTPD4	Yes	<=0	Yes	Yes
17:15-17:30	Online	HASP	No	N/A	Yes	Yes
17:30-17:45	Online	HASP	No	N/A	Yes	Yes
17:45-18:00	Online	HASP	No	N/A	Yes	Yes
18:00-18:15	Online	HASP	No	N/A	Yes	Yes
18:15-18:30	Online	HASP	No	N/A	Yes	Yes
18:30-18:45	Online	HASP	No	N/A	Yes	Yes
18:45-19:00	Online	HASP	No	N/A	Yes	Yes

7.2.1.3 *Examples for RTBS3 @ T-40'*

RSE Horizon: 18:00-19:00 RTBS3 @ 17:22:30						
Time Interval	**Status**	**Data Source**	**Telemetry Check**	**Telemetry Value**	**Assessed for Disqualification**	**Disqualified**
17:15-17:30	Online	HASP	Yes	<=0	No, due to no continuous Online status	N/A
17:30-17:45	Online	RTPD6	No	N/A	No, due to no continuous Online status	N/A
17:45-18:00	Online	RTPD6	No	N/A	No, due to no continuous Online status	N/A
18:00-18:15	Online	RTPD6	No	N/A	No, due to no continuous Online status	N/A
18:15-18:30	Offline	RTPD6	No	N/A	No, due to no continuous Online status	N/A
18:30-18:45	Offline	RTPD6	No	N/A	No, due to no continuous Online status	N/A
18:45-19:00	Offline	RTPD6	No	N/A	No, due to no continuous Online status	N/A

RSE Horizon: 18:00-19:00 RTBS3 @ 17:22:30						
Time Interval	**Status**	**Data Source**	**Telemetry Check**	**Telemetry Value**	**Assessed for Disqualification**	**Disqualified**
17:15-17:30	Online	HASP	Yes	<=0	No, due to no continuous Online status	N/A
17:30-17:45	Online	RTPD6	No	N/A	No, due to no continuous Online status	N/A
17:45-18:00	Online	RTPD6	No	N/A	No, due to no continuous Online status	N/A
18:00-18:15	Online	RTPD6	No	N/A	No, due to no continuous Online status	N/A
18:15-18:30	Offline	RTPD6	No	N/A	No, due to no continuous Online status	N/A
18:30-18:45	Offline	RTPD6	No	N/A	No, due to no continuous Online status	N/A
18:45-19:00	Online	RTPD6	No	N/A	No, due to no continuous Online status	N/A

RSE Horizon: 18:00-19:00

RTBS3 @ 17:22:30						
Time Interval	Status	Data Source	Telemetry Check	Telemetry Value	Assessed for Disqualification	Disqualified
17:15-17:30	Offline	HASP	Yes	<=0	No, Offline status at time of telemetry check	N/A
17:30-17:45	Offline	RTPD6	No	N/A	No, Offline status at time of telemetry check	N/A
17:45-18:00	Offline	RTPD6	No	N/A	No, Offline status at time of telemetry check	N/A
18:00-18:15	Online	RTPD6	No	N/A	No, Offline status at time of telemetry check	N/A
18:15-18:30	Online	RTPD6	No	N/A	No, Offline status at time of telemetry check	N/A
18:30-18:45	Online	RTPD6	No	N/A	No, Offline status at time of telemetry check	N/A
18:45-19:00	Online	RTPD6	No	N/A	No, Offline status at time of telemetry check	N/A

RSE Horizon: 18:00-19:00 RTBS3 @ 17:22:30						
Time Interval	Status	Data Source	Telemetry Check	Telemetry Value	Assessed for Disqualification	Disqualified
17:15-17:30	Online	HASP	Yes	<=0	Yes	Yes
17:30-17:45	Online	RTPD6	No	N/A	Yes	Yes
17:45-18:00	Online	RTPD6	No	N/A	Yes	Yes
18:00-18:15	Online	RTPD6	No	N/A	Yes	Yes
18:15-18:30	Online	RTPD6	No	N/A	Yes	Yes
18:30-18:45	Online	RTPD6	No	N/A	Yes	Yes
18:45-19:00	Online	RTPD6	No	N/A	Yes	Yes