

Business Requirements Specification

Reliability Services Initiative Phase 2

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Revision History

Date	Version	Description
1/31/2017	1.0	Creation of Document
4/6/2017	1.1	Move the following items to 2018 project scope: <ul style="list-style-type: none">• BRQ011 & BRQ012 removed from document and will be slated for 2018.• Addition of BRQ044 – validation check based on section 40.7 of the tariff.• Removed Section 4.3: Process to Update Effective Flexible Capacity (EFC) list during the year. This automation will occur in 2018.• Removed the following sections from Section 4.4: BRQ027, 037, 025, 036, 026, and 029. These requirements are slated for 2018.

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1. Purpose

The RSI Phase 2 initiative seeks to implement and enhance the following scope items:

1. Local and system RA capacity designation – Under current rules, an RA resource located in a local area that goes on a forced outage must substitute its capacity with another resource located in the same local area, regardless of whether the resource was procured to meet a local capacity requirement. Management proposes to allow resources procured as system capacity in a local area to no longer be required to provide substitute capacity in the same local area. The ISO will modify the RA showings and supply plan templates to allow entities to clearly designate and distinguish the capacity that is being used to meet local and system capacity requirements.
2. RA showing requirements for small load serving entities (LSEs) – LSEs whose flexible or local RA requirement is calculated to be less than one megawatt (MW) for all 12 months of the applicable RA compliance year will be considered to have an actual monthly flexible or local RA requirement of zero, and as such the LSE will not be required to submit a flexible or local RA showing. This change will bring treatment of calculated flexible and local RA requirements of less than one MW into alignment with how calculated system requirements of less than one MW are currently treated.
3. Process to update effective flexible capacity (EFC) list during the year – The ISO will clarify the process by which a resource may change its EFC through the course of the RA year. **For 2017, this functionality will not be automated.**
4. RA showing tracking and notification – The ISO will track RA showings through a reporting tool in its RA business application and implement a communication process to ensure that all LSEs, regardless of size, are notified when they have not submitted a timely RA showing. **Some of this functionality will be automated in 2018.**

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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 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 Guidelines

Intellectual property ownership must be considered by all applicable stakeholders before the services are performed. The level of analysis is two-fold. One, the business owner must determine if the intellectual property necessary to perform the services is owned by the California ISO or whether it must be obtained from a third party. Once it has been determined that the California ISO has secured the proper intellectual property rights to perform the services (i.e., the intellectual property is owned by the California ISO or we have licensed it from a third party), then the second step in the analysis is to consider whether new intellectual property will be created as a result of the business requirements or service requirements to be performed and how that intellectual property will be owned and protected by the California ISO. In order to assist the business owner in the analysis previously described, refer to the California Intellectual Property Policy available at <http://www.caiso.com/rules/Pages/LegalPoliciesNotices/Default.aspx>, which provides a brief tutorial on what Intellectual Property is and how the California ISO can go about protecting its intellectual property. Please contact the Legal Department if you have any questions regarding intellectual property.

2.2 Checklist

<i>Task</i>	<i>Outcome</i>
<i>Identify the type of Intellectual Property (copyright, trademark, patent, and/or trade secret) to be used in performing the services, including ownership of the work in the business requirements section</i>	<i>© California ISO, 2011-2016. All rights reserved.</i>
<i>Determine if California ISO should claim ownership to any works created as a result of the services performed</i>	<i>Intellectual ownership of included business requirements is retained by California ISO.</i>
<i>Determine the level of protection the California ISO will seek for any new works created if it is to be owned by the California ISO (i.e., notice requirements, federal registration of the work). For example, place © 2010 California ISO on the cover of this requirements document to claim copyright to the software codes provided in the business requirements section.</i>	<i>California ISO INTERNAL use only.</i> <i>For use by all authorized California ISO personnel and vendors with a signed NDA in place with CAISO.</i> <i>Do not release or disclose outside of the California ISO, unless classified as "External".</i>

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3. Business Process Impacts

3.1 High Level Description of Business Process

- Manage Monthly & Intra-Monthly Reliability Requirements: Update/Create diagram based on project scope
- Manage Yearly Reliability Requirements: Update/Create diagram based on project scope

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3.2 Business Practice Manual (BPM)

BPM	Description of Impact(s)
Managing Full Network Model	N/A
Congestion Revenue Rights	N/A
Market Instruments	N/A
Outage Management	N/A
Reliability Requirement	<ul style="list-style-type: none"> • Description of the breakup of local and system on Supply and RA Plans. • Monthly EFC Updates
Market Operations	N/A
Compliance Monitoring	N/A
Metering	N/A
Scheduling Coordinator Certification & Termination	N/A
Rules of Conduct Administration	N/A
BPM Change Management	N/A
Definitions & Acronyms	N/A
Settlements & Billing	N/A
Credit Management	N/A
Candidate CRR Holder	N/A
Transmission Planning Process	N/A
Direct Telemetry	N/A
Distributed Generation for Deliverability	N/A
Energy Imbalance Market (EIM)	N/A
Generator Interconnection Procedure (GIP)	N/A
Generator Interconnection and Deliverability Allocation Procedures	N/A
Generator Management	N/A

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BPM	Description of Impact(s)
Managing Full Network Model	N/A

3.3 Other

Impact:	Description: (optional)
Market Simulation	Yes
Market Participant Impact	Yes
Internal Training	Yes
External Training	Yes
Policy Initiative	Yes
Vendor	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. The effective date of these requirements shall occur on 1/1/2018.

4.1 Business Process: RA/Supply Template Changes and Showing Validation

This section applies to both annual and monthly RA.

4.1.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
RSI2-BRQ001	RA application shall accept the new RA/Supply Plan template. Note: RSI2-BRQs in this section apply to both Annual and Monthly RA. Note: RA application must have the ability to support the old and new RA and Supply Plan templates. The data submitted for the 2017 RA compliance year must use the old template and the data submitted for the 2018 RA compliance year must use the new template.	Core	CIRA

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RS12-BRQ002	<p>RA application shall validate the following on submission of a Supply plan:</p> <ol style="list-style-type: none"> 1. On RA Capacity tab: <ol style="list-style-type: none"> a. Sum of local RA + system RA sold across LSEs <= NQC of the resource b. Only local resources can have a MW value in the local RA capacity column and system RA capacity column c. Non local resources cannot have a MW value in the local RA capacity column d. Resource ID has to be valid ID defined in master file e. Resource ID has to be associated to the SC submitting the plan for the RA month f. No changes to validation rules imposed on import resources implemented in RSI 1 A g. LSE ID has to be a valid ID defined in master file h. The time stamp is removed for start and end date from the template. <ol style="list-style-type: none"> i. Note: Physical resource must be shown for the entire month and Import resources (TG, Dynamic, ITIE) can be shown for subset of days only. This was implemented in RSI 1A 2. No change to validation rules on flex RA capacity. The Flex tab is removed and data elements are moved to RA Capacity tab. 3. No change to validation rules on admin tab 	Core Reliability Requirements BPM	CIRA
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ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	<p>4. No change to remaining validation rules on upload of a plan</p> <p>Note: Contract ID has been removed across the template since it is not used by the application and there is no business use for this field.</p> <p>Note: Local designation field is only for substitution, CV, and POSO purposes. This shall not impact the TAC area validation (this validation shall still use the total MW).</p>		

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ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
RSI2-BRQ003	<p>RA application shall validate the following on submission of a RA plan:</p> <ol style="list-style-type: none"> 1. On RA Capacity tab: <ol style="list-style-type: none"> a. Only local resources can have a MW value in the local RA capacity column and/or system RA capacity column b. Non local resources cannot have a MW value in the local RA capacity column c. The time stamp is removed for start and end date from the template. <ol style="list-style-type: none"> i. Note: Physical resource must be shown for the entire month and Import resources (TG, Dynamic, ITIE) can be shown for subset of days only. This was implemented in RSI 1A 2. No change to validation rules on flex RA capacity. The flex tab is removed and consolidated within the RA capacity tab. 3. No change to validation rules on admin tab 4. No change to remaining validation rules on upload of a plan <p>Note: Contract ID has been removed across the template since it is not used by the application and there is business use for this field.</p> <p>Note: Local designation field is only for substitution, CV, and POSO purposes. This shall not impact the TAC area validation (this validation shall still use the total MW).</p>	Core	CIRA

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ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
RSI2-BRQ004	<p>RA application shall store and display local RA, system RA and total generic RA MW on a resource.</p> <p>Potential UI impacted: RA report; RA/Supply plans displays; CPUC Reports; CV validation screens; Transmission planning.</p>	Core	CIRA
RSI2-BRQ006	<p>Cross validation between RA and Supply plans shall validate the breakup of local and system RA MWs between LSE and Supplier.</p> <p>Example – If LSE 1 claims 100 MW local, 50 MW system on res A and supplier shows 100 MW local and 40 MW system on res A for LSE 1 then cross validation shall display a warning to LSE 1 for claiming an excess of 10 MW system RA and cap LSE MW to the supplier MW.</p> <p>If LSE 1 claims 100 MW local, 50 MW system on res A and supplier shows 100 MW local and 50 MW system on res A for LSE 1 then cross validation shall pass the records.</p> <p>If LSE 1 claims 100 MW local, 50 MW system on res A and supplier shows 110 MW local and 60 MW system on res A for LSE 1 then cross validation shall pass the records.</p> <p>If LSE 1 claims 100 MW local, 50 MW system on res A and supplier shows 90 MW local and 60 MW system on res A for LSE 1 then cross validation shall display a warning to LSE 1 for claiming an excess of 10 MW local RA and cap LSE MW to supplier MW.</p>	Core	CIRA

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ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
RSI2-BRQ007	<p>RA application shall use the total generic RA MW for determining the planned outage substitution obligation.</p> <p>Note: The breakup of system and local should not impact POSO as POSO is a system requirement.</p>	Core	CIRA
RSI2-BRQ008	<p>Total generic RA shall be used for system RA validation (Peak Obligation validation – all resources), Total Generic RA MW = Local RA MW + System RA MW</p> <p>Business rule: All MWs of capacity designated as local on RA plans and supply plans will automatically count towards the LSE's system RA requirement.</p>	Core	CIRA
RSI2-BRQ009	<p>RA application shall use Total RA MWs of capacity for local RA resources on RA plans and supply plans in validating LSE's local RA requirement.</p>	Core	CIRA

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ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
RSI2-BRQ009 (cont.)	<u>Local Obligation:</u> RA system shall validate the TAC obligation check based on current practice. <ul style="list-style-type: none"> a. The MW split between local and system shall not be considered for year/month ahead for a local deficiency validation of a LSE. <ul style="list-style-type: none"> i. Example – Res A is a local resource in PGE TAC with NQC 110 MW. It is listed as 60 MW local and 40 MW system on the RA plan. RA system shall count 100 MW (60 + 40) towards meeting the ISO local obligation of the LSE. The ISO shall count total generic MWs of a local resource listed as local and system in meeting its local obligation (irrespective of how resource is contracted). 	Core	CIRA
RSI2-BRQ010	Splitting of local and system RA shall not impact any downstream application/process.	Core	CIRA

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ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
RSI2-BRQ044	<p>System shall evaluate Local Capacity demonstration in two phases:</p> <ol style="list-style-type: none"> 1. Phase 1 of the Local Capacity Area Resource sufficiency evaluation will be made without regard to capacity's identification as Listed Local RA Capacity 2. Phase 2 of the Local Capacity Area Resource sufficiency evaluation will consider capacity to be a Local Capacity Area Resource only if it is Listed Local RA Capacity. <p>The above validation check shall be accessible in cross validation of RA and Supply plans and the results must be viewable by both internal and external stakeholders.</p>	Core	CIRA
RSI2-BRQ011	<p>RA application shall allow SCs/ISO users the capability to download the new RA, Supply, NQC, and EFC Template.</p>	Core	CIRA
RSI2-BRQ012	<p>RA application shall allow ISO users the capability to upload the new RA, Supply, NQC, and EFC Template.</p>	Core	CIRA

4.2 Business Process: Forced Outage Substitution

4.2.1 Business Requirements

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ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
RSI2-BRQ014	Forced outage substitution in RA application shall be enhanced to include the break up generic RA in to local and system RA	Core	CIRA
RSI2-BRQ015	<p>Following rules shall apply for forced outage substitution:</p> <ol style="list-style-type: none"> 1. If a local RA resource is shown as 100 MW system and 50 MW local goes on forced outage then <ol style="list-style-type: none"> a. RA application shall allow the SC of the resource on outage to use any CAISO system resource or local resource to substitute the 100 MW shown as system RA <ol style="list-style-type: none"> i. RA application shall limit the total substitute MW to 100 MW of system substitution ii. If a local resource is used to substitute the 100 MW of system RA on outage then the substitute MW is considered as system RA MW b. RA application shall allow the SC of the resource on outage to use any local resource (same local area) to substitute the 50 MW shown as local RA <ol style="list-style-type: none"> i. The existing local substitution rules apply 	Core	CIRA

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ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
RSI2-BRQ016	<p>RA application UI for forced outage substitution shall be modified to include the breakup of generic RA into local and system RA.</p> <p>The RA MWs row shall be split in to local RA MW and system RA MW.</p> <p>The substitute MW row shall be split into local MW and system MW.</p> <p>Note: Submission and view screens need to be modified.</p>	Core	CIRA
RSI2-BRQ017	<p>A local resource shown as partial local RA (part of the resource has been shown as local capacity and the remaining is available) must have the ability to be used for substitution of a resource shown as system RA on outage. The substitute resource will now have local and system RA obligation</p> <p>Example: Assume two resources. Res A is a local RA resource with 100 MW NQC which is shown as 50 MW local. Res B is shown as a 50 MW system RA resource. Res B has a forced outage of 20 MW. Res A substitutes 20 MW of its remaining Non-RA capacity. Res A will need to show 50 MW of local and 20 MW of system RA.</p>	Core	CIRA
RSI2-BRQ034	<p>For data starting from 2017 RA compliance year and before, market participants must have the ability to view historical substitution data.</p>	Core	CIRA

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4.3 Business Process: ~~Monthly EFC updates~~

4.3.1 Business Requirements

ID#	Business Feature	Requirement Type	Business Unit(s) Affected	Potential Application(s) Impacted
RSI2-BRQ018	RA application shall compute EFC for a dispatchable resources after approval of NQC values.	Core	OES	GIRA
RSI2-BRQ019	RA application shall display EFC values (approved) and category information to external participants. The EFC report must be displayed similar to NQC report.	Core	OES	GIRA
RSI2-BRQ020	RA application shall allow SCs/ISO users to download the EFC values in to a spreadsheet similar to the NQC report.	Core	OES	GIRA
RSI2-BRQ021	RA application shall allow ISO users the ability to override the monthly EFC values and category values calculated by the application.	Core	OES	GIRA



RSI2-BRQ023	<p>EFC is computed as follows:</p> <p>If resource Dispatchability = 'Y' and Start-up time greater than 90 minutes then EFC = Minimum of ((NQC-Pmin) or (180 min * RRavg))</p> <p>or</p> <p>If resource Dispatchability = 'Y' and Start-up time less than 90 minutes then EFC = Minimum of ((NQC) or (Pmin + (180 min - SUT) * RRavg))</p> <p>Where:</p> <p>EFC: Effective Flexible Capacity</p> <p>NQC: Net Qualifying Capacity</p> <p>SUT: Start up Time</p> <p>RRavg: Average Ramp Rate</p>	Core	OES	GIRA
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ID#	Business Feature	Requirement Type	Business Unit(s) Affected	Potential Application(s) Impacted
RSI2-BRQ005	Upon go live the EFC report must be populated with all of 2017 EFC and 2018 EFC data.	Core	OES	CIRA
RSI2-BRQ025	For TG and dynamic (tie) resource the EFC calculation shall use PMAX of the resource instead of NQC. The equation defined in RSI2-BRQ23 applies for these resources.	Core	OES	CIRA

4.4 Business Process: Tracking missing and late plans

4.4.1 Business Requirements

ID#	Business Feature	Requirement Type	Business Unit(s) Affected	Potential Application(s) Impacted
RSI2-BRQ027	System shall allow ISO/SC users to add/delete email IDs in the RA distribution list. A user shall have the capability to register one or more e-mail addresses per SC.	Core	OES	CIRA
RSI2-BRQ037	Market Participant shall maintain only e-mail addresses for their respective SCID.	Core	OES	CIRA
RSI2-BRQ025	RA application shall send out a reminder email to an RA distribution list on T-46 (timing configurable) regarding the upcoming deadline to submit RA and supply plans.	Core	OES	CIRA

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ID#	Business Feature	Requirement Type	Business Unit(s) Affected	Potential Application(s) Impacted
RSI2-BRQ036	System shall only send out a reminder e-mail if a LSE/SC has registered a valid e-mail listed within the RA distribution list.	Core	OES	CIRA
RSI2-BRQ026	RA application shall send out an email to SCs distribution list missing RA or Supply plans on T-44 for monthly RA and 11/01 for annual RA	Core	OES	CIRA
RSI2-BRQ029	RA application shall send out a reminder email to an RA distribution list on 10/30 regarding the upcoming deadline to submit RA and supply plans for annual RA.	Core	OES	CIRA
RSI2-BRQ030	<p>The missing plans report in CIRA shall be modified to exempt LSEs with an obligation less than 1 MW (configurable).</p> <p>If LSE total peak obligation (across TACs) is less than 1 MW then the SC should not show up in the missing plans report.</p>	Core	OES	CIRA
RSI2-BRQ031	<p>The missing plans report in CIRA shall be enhanced to include late RA and supply plans. The report must be renamed "missing or late plans report".</p> <p>If RA plan and/or supply plan is submitted after T-45 then the plan should show up as a late plan. The report should include the plan submit date and the number of days it is late.</p> <p>This data set shall be accessible to ISO/SC users.</p>	Core	OES	CIRA

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ID#	Business Feature	Requirement Type	Business Unit(s) Affected	Potential Application(s) Impacted
RSI2-BRQ032	RSI2-BRQ 30 and RSI2-BRQ 31 apply to monthly and annual RA.	Core	OES	CIRA