


# **Business Requirements Specification**

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## **Replacement Requirement for Scheduled Generation Outages**


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# 1. Introduction

## 1.1 Purpose


This document describes 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 determining the scope of Information Systems projects and to all Business Process Modeling and System Requirements Specifications efforts.

These requirements are intended for submission to the Program Office and will serve as the initial set of business unit requirements for the appropriate software application/systems development effort. It is understood that ITS will perform additional requirements and systems analysis and may produce “To Be” Business Process Models, System Requirements Specifications, and Use Cases to serve as the set of requirements documents used by the ITS development teams to buy, modify, or build the necessary software and hardware systems. The Business Unit(s) involved in the project will have an opportunity to review and approve all ITS requirements documentation produced.

## 1.2 References

All references represent external requirements documents or stakeholder requests developed and submitted by the Business Units.


1. Policy-related documents, including the Draft Final Proposal and stakeholder comments are located on the “Replacement Requirement for Scheduled Generation Outages” Stakeholder Initiatives web page at:  
<http://www.caiso.com/Documents/Replacement%20requirement%20for%20scheduled%20generation%20outages%20-%20papers%20and%20proposals>
2. The Tariff filing requesting authorization from the Federal Energy Regulatory Commission (FERC or Commission) to implement the Replacement Requirement for Scheduled Generation Outages initiative are located on the “FERC Posted in 2012” web page at:  
<http://www.caiso.com/2afb/2afb7a751a1c0.html>

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## 2. Details of Business Need/Problem

### 2.1 Description

In D.11-06-0221, the California Public Utilities Commission (CPUC) decided that, starting with the 2013 Resource Adequacy (RA) year, the CPUC would no longer apply a replacement rule requiring its jurisdictional load serving entities (LSEs) to provide replacement RA capacity under certain circumstances when RA resources were on planned outages. The ISO is developing changes to its outage management process and resource adequacy policy to address the elimination of the CPUC's RA replacement rule.

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## 3. Business Process Impacts

### 3.1 High Level Business Process

#### 3.1.1 Description

Implementing the Replacement Requirement for Scheduled Generation Outages will impact the following existing business processes:

Manage Reliability Requirements


Manage Generation Outages

### 3.2 Description

Specific impacts on these business processes that the Replacement Requirement for Scheduled Generation Outages team has identified to date are as follows:

**Manage Reliability Requirements:** One component of the Replacement Requirement for Scheduled Generation Outages initiative will be to create a level III business process flow to document the validation process for RA Plans, Outages, and Supply Plans. See Appendix.

**Manage Generation Outages:** The Replacement Requirement for Scheduled Generation Outages initiative will require changes to the Manage Generation Outages business process mainly around the incorporation of the RA Outage Management business process.

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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: Resource Adequacy Outage Management


#### 4.1.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
RR-BRQ001	Outage Management system must have an attribute flag for RA resources.	Core	SLIC
RR-BRQ002	System must capture all valid outages at T-45d. Valid is defined as the categories of approved, pending, and waiting to be finalized.  Business Rule: First resource with an outage receives outage priority (in granting planned outage request).	Core	SLIC
RR-BRQ003	There must be a mechanism to identify short term opportunity outage.	Core	SLIC
RR-BRQ004	On a resource level system must show monthly supply plan value for RA (MW).	Core	SLIC
RR-BRQ005	System must compare RA supply plan data and monthly forecast for system and local requirements against outage request.	Core	TBD
RR-BRQ006	System must convey the RA shortfall to outage management (per RA supplier).	Core	TBD
RR-BRQ007	Outage submitter (external user) must have the capability to know the RA shortfall due to an outage (per RA supplier).	Core	SLIC
RR-BRQ008	Outage Management must have the ability to see that unit substitution occurred for a particular outage.	Core	SLIC, RAAM
RR-BRQ009	Unit status report shall be modified to be based on availability.  Business Rule: Report shall identify all resources, however, explicitly call out RA resources.	Core  Reporting Requirement	SLIC

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<b>ID#</b>	<b>Business Feature</b>	<b>Requirement Type</b>	<b>Potential Application(s) Impacted</b>
RR-BRQ010	RA capacity levels shall be considered among the criteria used to approve or deny outage requests from RA resources.	BPM	SLIC
RR-BRQ011	RA capacity levels shall be considered when determining the need to dispatch resources (thus incurring CPM designation) as a backstop to RA resources procured through the RA program.  Business Rule: This shall be treated as a new CPM type.	BPM  Tariff	IRR
RR-BRQ012	Up until the final showing of RA capacity, outages must be managed to maintain each LSE's System RA level at the 115% requirement.	BPM	IRR, SLIC
RR-BRQ013	If the LSEs and/or generators fail to provide the needed replacement capacity, the ISO may procure that capacity to ensure that the 115% planning reserve margin for the month is met, and allocate the costs to the LSE.	BPM	IRR
RR-BRQ014	The ISO may consider non-RA reliability measures in local RA, as long as the system RA remains at or above 115%.	BPM	IRR
RR-BRQ015	All approvals for planned outages are subject to change due to changes in systems conditions that may occur as a result of unanticipated events (including forced outages, forecast error, significant events, unanticipated events, etc.)	BPM  Tariff	SLIC
RR-BRQ016	Existing provisions regarding compensation for cancelled planned outages will remain unchanged.	BPM	SLIC
RR-BRQ017	Requests for planned transmission outages will similarly be evaluated in combination with generation outages with consideration of RA capacity levels.	BPM	SLIC




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## 4.2 Business Process: Annual/Monthly Resource Adequacy


Describes changes to the RA systems and timelines associated with the Replacement Requirement for Scheduled Generation Outages initiative.

### 4.2.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
RR-BRQ018	The due date for the monthly RA showing will be extended from the current timing of 30 days prior to the start of the operating month to 45 days prior to the start of the operating month.	Core	IRR
RR-BRQ019	System must accept non-designated RA resource data.	Core Tariff	IRR
RR-BRQ020	System must consume outages information.	Core	IRR
RR-BRQ021	System must apply outages to supply plan data and revalidate data.	Core	TBD
RR-BRQ022	System must identify the specific outages that are causing the RA shortfall.	Core	TBD
RR-BRQ023	ISO may consider replacement resources from non-designated RA list.  Business Rule: Can be a manual process.	Core	TBD (potentially IRR)
RR-BRQ024	The rank order for the non-designated RA list shall be: <ul style="list-style-type: none"> <li>Ranked order (submitted by LSE)</li> </ul>	Core	TBD (potentially IRR)
RR-BRQ025	Replacements using the non-designated RA list must be tracked and stored from T-45d to T-0d.  Business Rule: Once the final operating month RA resource plan is sent to downstream systems, the replacements made between T-45d to T-0d can be purged.	Core	TBD
RR-BRQ026	System must send final operating month RA resource plan to downstream systems at T-7d.  Business Rule: There shall be no further changes published after T-7d.	Core BPM	IRR
RR-BRQ027	System shall have the capability to send RA resource plan data to downstream system up to T-1d.	Core	IRR

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<b>ID#</b>	<b>Business Feature</b>	<b>Requirement Type</b>	<b>Potential Application(s) Impacted</b>
RR-BRQ028	Outage coordination must have the capability to approve unit substitution request for planned outages.  Business Rule: Approval happens after T-45d.	Core	RAAM
RR-BRQ040	RA capacity calculations must be performed on a daily basis.	Core	IRR
RR-BRQ041	Supply plan and RA plan data must match from the first operating day/hour to the last operating day/hour of the month. Everyday must match.	Core	IRR
RR-BRQ042	When automated replacement is complete, the ISO need to replace on a daily basis.	Core	RAAM

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## 4.3 Business Process: Approval of Outages T-45d to T-10d

Describes the process in which market participants can make arrangements for replacement of RA capacity.

### 4.3.1 Business Requirements


ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
RR-BRQ030	Planned outages after T-45d must provide substitute capacity in order to be approved.	Core  BPM  Tariff	SLIC, RAAM
RR-BRQ031	System must have the means to track how much RA capacity the LSE must replace based upon outage derate information.	Core	IRR
RR-BRQ032	A outage shall be reviewed and replacement requirement shall be applied to LSE in respect to: <ul style="list-style-type: none"> <li>Pro-rata either/or</li> <li>RA Supplier provides the LSE allocation</li> </ul> Business Rule: System default is the RA Supplier provides the LSE allocation.	Core	IRR

## 4.4 Business Process: Substitute Capacity Bulletin Board


Describes the process in which market participants can make arrangements for replacement of RA capacity.

### 4.4.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
RR-BRQ033	The ISO shall establish an electronic "bulletin board" as a forum through which market participants can make arrangements for replacement RA capacity.	Core	TBD

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<b>ID#</b>	<b>Business Feature</b>	<b>Requirement Type</b>	<b>Potential Application(s) Impacted</b>
RR-BRQ034	The bulletin board should enable a list of all available capacity that can be used for substitution or requests for RA capacity.  Business Rule: Any agreement to procure the RA capacity for replacement would be the responsibility of the parties.	Core	TBD
RR-BRQ035	The entities which have negotiated for substitute capacity must communicate the information regarding the substitute capacity to the ISO as is the practice today.	Core	TBD
RR-BRQ036	Parties agreeing to provide such capacity must be willing to sell this capacity to accommodate requests to provide replacement RA capacity from 1 day to 31 days during the month.	Core	TBD
RR-BRQ037	The bulletin board must have modifiable expiration dates.	Core	TBD
RR-BRQ038	Market Participants must have the capability to contact prospective buyers/sellers.	Core	TBD
RR-BRQ039	System shall be stand alone and have no interfaces with any ISO market systems.	Core	TBD

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## Appendix A: Terms and Definitions

The following terms are used within this document. Where applicable, the terms are sourced from the current Business Practice Manual for Definitions & Acronyms.

<b>Term</b>	<b>Acronym</b>	<b>Definition</b>	<b>Potential Tariff or BPM Term?</b>
ISO Reliability Requirements	IRR	This application validates, maintains, and reports on Resource Adequacy information.	Existing Term
Master File	MF	This application maintains reference data for Market Participants, Resources, Contracts, etc. for use by Market Participants and downstream applications.	Existing Term
Non-Designated RA		Capacity used to substitute for a RA resource with scheduled planned outages that requires replacement of RA capacity.	Potential
Resource Adequacy Availability Management	RAAM	Software application used to request unit substitution for RA Resources.	Existing Term
Resource Adequacy Compliance Year		The calendar year in which RA activities are conducted.	Existing Term
Resource Adequacy Plan		A submission by a Scheduling Coordinator for a Load Serving Entity in order to satisfy the requirements of Section 40 of the ISO Tariff.	Existing Term
Scheduling Logging for ISO of California	SLIC	Schedule and Logging system for the CAISO.	Existing Term
Supply Plan		A submission by a Scheduling Coordinator for a Resource Adequacy Resource in order to satisfy the requirements of Section 40 of the ISO Tariff.	Existing Term

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## Appendix B: Timeline

