



Business Requirements Specification

Dispatch Operating Target Tariff Clarification

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1 Introduction

1.1 Purpose

The purpose of this document is to capture and record a description of what the Users and Business Stakeholders of the project wish to obtain by providing high-level business requirements. This document establishes the basis for the agreement between the initiators and implementers of the project. 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 delivery, satisfy or meet the business requirements (what).

Currently, Eligible Intermittent Resources (EIRs) are not consistently following their dispatch operating target (DOT) when certain system conditions persist (overgeneration). When a resource doesn't follow their DOT, it can pose an operational risk in areas where transmission is constrained. As more EIRs are introduced to the CAISO balancing area, this will pose a greater risk. This project will allow EIRs to automate their responses to operational instructions that require the resource not to exceed their DOT. This enhancement will improve reliability during stressed system conditions.

1.2 References

1. Policy documentation and other relevant documents that precede the BRS are located at:
<http://www.caiso.com/informed/Pages/StakeholderProcesses/DispatchOperatingTargetTariffClarification.aspx>

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2 Details of Business Need/Problem

2.1 Description

- Ability for EIRs to automate their response to operational instructions that require the resource not to exceed their DOT.
- Ability for Operations to define list of resources at a region, customer, and system level.

3 Business Impacts

3.1 High Level Description of Business Process

- Manage Market & Grid
 - Manage Real Time Operations – Transmission & Electric System

3.2 Business Practice Manual (BPM)

BPM	Description of Impact(s)
Managing Full Network Model	N/A
Congestion Revenue Rights	N/A
Market Instruments	Yes. BPM will describe what notifications will be sent via API and UI to market participants informing unit to follow their DOT.
Outage Management	N/A
Reliability Requirement	N/A
Market Operations	Yes. BPM will describe what notifications will be sent via API and UI to market participants informing unit to follow their DOT.
Compliance Monitoring	N/A

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

3.3 Other

Impact:	Description: (optional)
Market Simulation	Yes
Market Participant Impact	Yes
User Acceptance Testing (UAT)	Yes
Internal Training	Yes
External Training	Yes
Policy Initiative	Yes
Vendor	Yes – Siemens, True Wind, Meterologica

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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: Manage Real Time Operations – Transmission & Electric System

4.1.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
DOT-BRQ001	Operators must have the ability to define and maintain custom-defined resource groups for purposes of sending operating instructions for multiple resources at one time.	Core	RTM
DOT-BRQ003	Operators must have the ability to define groups of resources from a new user interface. Groups shall be selected from a list of all resources visible to the RTM system.	Core	RTM
DOT-BRQ017	Operators must have the ability to delete custom-defined resource groups if needed.	Core	RTM
DOT-BRQ009	In order to send operating instructions for multiple resources at one time, system shall maintain a list of resource grouping by TAC and HUB as defined by Master File. This list shall be defined for all Eligible Intermittent Resources (and intermittent resources not yet certified) within a TAC or HUB within all BAAs. List shall be updated with each Master File refresh.	Core	RTM
DOT-BRQ005	Operators must have the ability to set a flag from the user interface that will indicate the resource shall follow their DOT. The flag shall be selectable from one or more of the groups defined in BRQ002 and BRQ003.	Core	RTM

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ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
DOT-BRQ018	Operators must have the ability to set a flag from the user interface that will indicate all EIRs (entire system) as currently defined in the master file shall follow their DOT. The flag shall also be selectable from one or more of the groups defined in BRQ002 and BRQ003.	Core	RTM
DOT-BRQ019	<p>When setting the operating instruction flag, operators must have the ability to specify the reason code. The selectable reason codes shall be:</p> <ul style="list-style-type: none"> • <i>“Congestion”</i> • <i>“System Reliability”</i> • <i>“Over generation”</i> <p>Note: If setting the flag for a group of resources or the entire system, operators shall have the ability to set the reason code once and have it apply to all resources in the group/system.</p>	Core	RTM



ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
DOT-BRQ016	<p>When setting the operating instruction flag, operators must have the ability to specify a start and end time.</p> <p>If setting the flag for a group of resources or the entire system, operators shall have the ability to set the start and end time once and have it apply to all resources in the group/system.</p> <p>By default, Start time will be auto populated with the next RTD binding interval time when the operating instruction flag is checked.</p> <p>By default, end time will be auto populated with the last 5 min interval of the current operating day when the operating instruction flag is checked.</p> <p>By default, End time will be auto populated with the next RTD binding interval time when the operating instruction flag is un-checked.</p> <p>If a resource belongs to a group and a hub and the end time of the group instruction and hub instruction are different, the end time of the greater of the two instructions shall be used for dispatch and publication.</p>	Core	RTM
DOT-BRQ023	<p>Once the operating instruction flag has been set, operators shall have the ability to edit the reason code or the start time until the flag has been broadcasted for the first interval.</p> <p>If setting the flag for a group of resources or the entire system, operators shall have the ability to perform this edit once and have it apply to all resources in the group/system.</p>	Core	RTM
DOT-BRQ024	<p>Once the operating instruction flag has been set, operators shall have the ability to edit the end time until the flag has been broadcasted for the last interval.</p> <p>Note: Upon end time, the custom-defined resource group must be inactive.</p>	Core	RTM

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ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
DOT-BRQ004	<p>System shall use the provider forecast instead of the persistence forecast when the operating instruction flag is activated.</p> <p>Note: The dispatch logic for such resources when they are flagged uses the Automated Load Forecast System (ALFS) forecast instead of the persistence forecast for both RTPD and RTD.</p>	Core	RTM
DOT-BRQ020	<p>An additional flag called the EIR flag shall be set by the market optimization when the resource DOT is below the forecast due to reasons such as congestion and over generation, but not due to outage or derate.</p>	Core	RTM
DOT-BRQ025	<p>System shall broadcast EIR flag with RTD dispatch instructions.</p>	Core	RTM
DOT-BRQ006	<p>System shall broadcast operating instruction flag, current reason code, and current start/end time with RTD dispatch instructions, while the RTD interval is within the current start and end time.</p>	Core	RTM
DOT-BRQ008	<p>System shall provide the Operating Instruction notice through the system API as a trajectory compliance element with a notice of "Do not exceed DOT".</p>	Core	ADS

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ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
DOT-BRQ015	<p>Upon system receiving the operational instruction flag along with the operating instruction notices with reason, system will pop up a message to the UI with the reason provided by upstream system (within the payload).</p> <p>The message shall only pop up once per user per time horizon of the instruction, and will remain until acknowledged by the user.</p> <p>System must record the user's acknowledgement.</p> <p>Note: Pop up needs to reappear if any changes have occurred, such as end time extension.</p>	Core	ADS
DOT-BRQ027	<p>On the UI for 5-minute instructions, UI shall display the following fields as a default:</p> <ul style="list-style-type: none"> • Operating instruction flag • Start date/time • End date/time • Reason code <p>Similar to existing functionality, users shall be able to customize their displays to include or exclude these fields as well as the field containing the EIR flag.</p>	Core	ADS
DOT-BRQ022	<p>System must broadcast the EIR resource flag to all external forecast service providers.</p>	Core	ADS

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4.2 Business Process: Market/Business Simulation

4.2.1 Business Requirements

ID#	Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Structured Scenario
DOT-BRQ010	When RTM dispatcher determines an operational system condition, such as over generation, exacerbated by EIRs, they shall issue an operational instruction instructing EIR resources to follow their DOT which can be retrieved through the ADS API.	Market (RTM)	ADS (API)	Interface changes; New application/report
DOT-BRQ011	When RTM dispatcher determines an operational system condition, such as over generation, exacerbated by EIRs, they shall issue an operational instruction instructing EIR resources to follow their DOT through a pop up.	Market (RTM)	ADS (UI)	Interface changes; New application/report