



Business Requirements Specification

FERC 841- Non-Generator Resource Model

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Revision History

Date	Version	Description
06/10/2019	1.0	Initial document release
6/18/2019	1.1	<p>Updated the following:</p> <p>Section 3 Acronyms Definition – Added new items</p> <p>Section 6.1</p> <p>BRQ103:</p> <ul style="list-style-type: none"> • Added CC373 • Added CC375 <p>Section 6.2</p> <ul style="list-style-type: none"> • Revised description in 6.2.1 <p>Section 6.3</p> <ul style="list-style-type: none"> • Revised ID# FERC841-MKTSIM-000 [Added (HVAC) for clarification] • Added ID# FERC841-MKTSIM-010 • Added ID# FERC841-MKTSIM-015

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1 Introduction

1.1 Purpose

Through issuance of FERC Order 841, the Federal Energy Regulatory Commission amended its regulations under the Federal Power Act (FPA) to remove barriers to the participation of electric storage resources in the capacity, energy, and ancillary service markets operated by Regional Transmission Organizations (RTO) and Independent System Operators (ISO) (RTO/ISO markets).

FERC Order 841 requires the CAISO to have a participation model that consist of market rules that recognize physical and operational characteristics of electric storage resources and facilitate their participation in the CAISO markets.

CAISO’s “non-generator resource” (NGR) Model for storage resources established in 2011, and continued tailoring of market rules and participation models, satisfy nearly all the requirements imposed by FERC Order 841. The CAISO’s Pumped Storage Hydro Unit model and demand response models also comply with FERC Order 841.

To comply with FERC Order 841, the CAISO has amended its Minimum Size Requirement to meet FERC’s 100 kW minimum threshold for storage resources.

The CAISO also has amended its Tariff to remove the Transmission Access Charge (TAC) for pumping load of Pumped-Storage Hydro Units. This change will align with the CAISO’s treatment of NGR resource charging for which no TAC is assessed.

All of the above is subject to change based on FERC’s review of the CAISO’s compliance filing.

1.2 References

Information related to this FERC Order 841 can be found on the following CAISO web page at:

<http://www.caiso.com/rules/Pages/Regulatory/Amendments/Default.aspx>

Information for this initiative can be found under 2109 Releases/Fall 2019/Draft settlements technical documentation/CG PC HVAC Metered Load located on the following CAISO web page at:

<http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx>

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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.

The CAISO retains all intellectual property rights for the content of this Business Requirements Specification.

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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. Contact the Legal Department if you have any questions regarding intellectual property.

2.2 Checklist

No new intellectual property will be involved with this project.

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3 Acronym Definition

Acronym	Definition
CC	Charge Code
HVAC	High Voltage Access Charge
LVAC	Low Voltage Access Charge
NGR	Non-Generator Resources
RIMS	Resource Interconnection Management System
TAC	Transmission Access Charge

4 Details of Business Need/Problem

The focus of the CAISO regarding energy storage resources is to lower barriers and enhance the abilities for storage resources to participate in the CAISO markets. The growing number and diversity of these resources represent an increasingly important part of the future grid.

FERC Order 841 reinforces the CAISO’s continuing efforts to engage and enable storage resources to participate in CAISO markets. Given the CAISO’s current Tariff and utilization of the NGR Model, significant participation by storage resources is already enabled. Thus, minimal changes are required to be in full compliance with the requirements of FERC Order 841.

To ensure Compliance with FERC Order 841, all required changes noted below will be effective on or before December 3, 2019.

This FERC 841–NGR Model project will involve the following two (2) changes.

1. Removal of Transmission Access Charge (TAC) for pumping load of Pumped-Storage Hydro Units.
 - a. Tariff change to Section 26.1 (a)
 - b. Charge code changes will be made in Settlements
 - c. Implementation will be in 2019 Fall Release

2. Reducing the minimum rated capacity for storage resources to 100kW
 - a. Tariff change to Section 4.6.3.2
 - b. Tariff change to Definition of Participating Generators to recognize minimum rated capacity for storage resources to be 100 kW
 - c. BPM changes identifying minimum rated capacity for storage resources to be 100 kW
 - d. No automation changes in RIMS are required for compliance
 - e. Future enhancements to RIMS will be identified in an updated BRS

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5 Business Process Impacts

5.1 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	N/A
Market Operations	Yes – Update of minimal rating for Participating Generators to 100 kW
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	Yes - Participating Generator revised to reflect storage resource minimum rated capacity of 100 kW
Settlements & Billing	Yes - TAC charges to be removed for Pumped-Storage Hydro Units
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

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BPM	Description of Impact(s)
Generator Interconnection and Deliverability Allocation Procedures	N/A
Generator Management	Yes - Participating Generator Agreement section to be revised to reflect new storage resource minimum rated capacity of 100 kW

5.2 Other

Impact:	Description: (optional)
Market Simulation	Yes
Market Participant Impact	Yes
External Training	Yes
Policy Initiative	No

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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: Manage Billing & Settlements for TAC

Currently, pumping load for Pumped-Storage Hydro Units are assessed a Transmission Access Charge (TAC) in the Settlements process. Per CAISO's Tariff Amendment related to compliance to FERC Order 841, TAC will no longer be assessed to Pumped-Storage Hydro Units.

6.1.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
FERC841-BRQ102	System to modify pre-calculations required to support removal of Transmission Access Charge (TAC) for Pumped-Storage Hydro Units Pre-calculations affected include: <ul style="list-style-type: none"> • HVAC Metered Load 	Core FERC Tariff 26.1 (a)	Settlements
FERC841-BRQ103	System to be modified such that Pumped-Storage Hydro Units are not assessed Transmission Access Charges (TAC) Charge codes affected include: <ul style="list-style-type: none"> • CC372 • CC373 • CC374 • CC375 	Core FERC Tariff 26.1 (a)	Settlements

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6.2 Business Process: Manage Storage Resources

Currently, a Generating Unit is required to have a minimum rated capacity of 500 kW to be considered a Participating Generator. Per FERC Order 841 and CAISO's updated Tariff Definition of Participating Generator, a storage resource with a rated capacity of 100 kW or greater will be considered a Participating Generator and be able to participate in CAISO markets.

6.2.1 Business Requirements

No changes to CAISO systems are required for compliance with the new minimum rated capacity of 100 kW for a storage resource. Any future enhancements to RIMS to facilitate implementation of the new requirement will be identified in the CAISO Resource Interconnection Fair (RIF).

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
N/A			

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6.3 Business Process: Market/Business Simulation

The following Identifiers are used as a guide to indicate the reason for Potential Structured or Unstructured Scenarios.

- 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 provided by the ISO (e.g. BANC split into SMUD and non-EIM BAAs, PowerEx Overlapping Resource Aggregation).
- 6. New user role:** The addition or modification of access permissions for a user role applied to specific business units within an EIM entity or market participant organization (e.g. Load Serving Entity (LSE) as a Local Regulatory Authority (LRA) role). Structured Scenarios would be beneficial for market participants taking on a new function or process within their organization.

6.3.1 Business Requirements

ID#	Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Scenario
FERC841-MKTSIM-000	Verify Pumped-Storage Hydro Units are not charged HV TAC (HVAC) (CC372)	Market Systems	Settlements	1. Rule Impacts
FERC841-MKTSIM-005	Verify HVAC revenue payment does not include revenue from Pumped-Storage Hydro Units (CC374)	Market Systems	Settlements	1. Rule Impacts
FERC841-MKTSIM-010	Verify Pumped-Storage Hydro Units are not charged LV TAC (LVAC) (CC373)	Market Systems	Settlements	1. Rule Impacts
FERC841-MKTSIM-015	Verify LVAC revenue payment does not include revenue from Pumped-Storage Hydro Units (CC375)	Market Systems	Settlements	1. Rule Impacts

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