

Business Requirements Specification

Washington WEIM Greenhouse Gas Enhancements

Document Version: 1.0

Current Version Date: 2/6/2023

 California ISO	Technology	Template Version:	6.6
		Document Version:	1.0
Washington WEIM Greenhouse Gas Enhancements Business Requirements Specification - Planning		Date Created:	1/30/2023

Disclaimer

All information contained in this draft Business Requirements Specification (BRS) as provided by the California Independent System Operator Corporation (ISO) is prepared for discussion and information purposes only. The draft BRS is provided “as is” without representation or warranty of any kind, including, without limitation, a representation or warranty as to accuracy, completeness, or appropriateness for any particular purpose. The draft BRS shall be revised as the development and review of the business requirements progresses. The ISO assumes no responsibility for the consequences of any errors or omissions. The ISO may revise or withdraw all or part of this information at any time at its discretion without notice.

 California ISO	Technology	Template Version:	6.6
		Document Version:	1.0
Washington WEIM Greenhouse Gas Enhancements Business Requirements Specification - Planning		Date Created:	1/30/2023

Table of Contents

1 Introduction.....4

 1.1 Purpose.....4

2 Details of Business Need/Problem5

 2.1 Description5

3 Business Process Impacts.....6

 3.1 Business Practice Manuals (BPM)6

 3.2 Other.....6

4 Business Requirements7

 4.1 Policy and Tariff Requirements7

 4.2 Business Process: Manage Masterfile9

 4.2.1 *Business Requirements*.....9

 4.3 Business Process: Manage Reference Levels11

 4.3.1 *Business Requirements*.....11

 4.4 Business Process: Manage SIBR14

 4.4.1 *Business Requirements*.....14

 4.5 Business Process: Manage IFM/RTM15

 4.5.1 *Business Requirements*.....15

 4.6 Business Process: Manage CMRI.....16

 4.6.1 *Business Requirements*.....16

 4.7 Business Process: Manage Settlements17

 4.7.1 *Business Requirements*.....17

 4.8 Business Process: Manage OASIS.....18

 4.8.1 *Business Requirements*.....18

 4.9 Business Process: Market/Business Simulation19

 4.9.1 *Business Requirements*.....19

 California ISO	Technology	Template Version:	6.6
		Document Version:	1.0
Washington WEIM Greenhouse Gas Enhancements Business Requirements Specification - Planning		Date Created:	1/30/2023

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 (SRS) 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).

Background

Pursuant to State of Washington’s recently revised Clean Air Act and beginning in 2023, Washington (WA) will require reporting of emissions associated with Western Energy Imbalance Market (WEIM) transactions. Emissions reporting is a key element of Washington’s new cap-and-invest program that sets a limit on overall carbon emissions in Washington and requires emitters to obtain allowances equal to their covered GHG emissions.

Similarly beginning in 2023, Washington’s cap-and-invest program, established under the Washington Climate Commitment Act, sets a limit on overall carbon emissions in Washington and requires emitters to obtain allowances equal to their covered GHG emissions. The Washington cap-and-invest proposed rules do not yet contain sufficient details for the CAISO to immediately implement market changes to facilitate compliance by entities participating in a centralized market. As a result, the scope of this initiative is limited to supporting the Washington reporting requirements, and reference level updates. This initiative comprises the first phase of enhancements to support reporting WEIM transactions for emissions year 2022. As reporting rules continue to develop, additional enhancements outside of the scope of this initiative will likely be necessary.

Project Scope

- Identify resources within WA State boundary
- Update WA State associated resources’ greenhouse gas (GHG) reference levels with dynamic pricing using vendor-provided indices
 - Note: while Tariff stipulates use of static pricing as an interim measure prior to the first Washington allowance auction, due to implementation timing, this is not anticipated to be necessary. This first auction is scheduled for February 28, 2023.
- Calculate and publish monthly projected GHG prices for Washington State
- Develop reports to support WEIM Entity annual reporting to Washington State

 California ISO	Technology	Template Version:	6.6
		Document Version:	1.0
Washington WEIM Greenhouse Gas Enhancements Business Requirements Specification - Planning		Date Created:	1/30/2023

2 Details of Business Need/Problem

2.1 Description

Business Opportunity/Problem Statement:	
What:	This initiative supports Washington State WEIM greenhouse gas reporting starting in emission years 2022 and beyond and reflects compliance obligations in the GHG reference levels beginning for compliance year 2023.
When:	WA State program goes live January 1, 2023 -WEIM entities associated with Washington must provide annual reports to WA by March 31, 2023 (MPs will need reports from the CAISO ahead of this deadline to provide emissions reports to WA) -Compliance obligation under the cap-and-invest program similarly begin in January 2023.
Why do we have this opportunity/problem:	Washington Administrative Code (WAC) Chapter 173-441 sets forth requirements for reporting by Washington WEIM entities and Washington’s Climate Commitment Act, RCW Chapter 70A.65, creates a new compliance obligation for emitting resources under a cap-and-invest program. As the WEIM market operator, the CAISO seeks to support these efforts.

 California ISO	Technology	Template Version:	6.6
		Document Version:	1.0
Washington WEIM Greenhouse Gas Enhancements Business Requirements Specification - Planning		Date Created:	1/30/2023

3 Business Process Impacts

3.1 Business Practice Manuals (BPM)

BPM	Description of Impact(s)
Energy Imbalance Market	Updates to reflect addition of Washington GHG Program
Market Instruments	-Updates to GHG emission rates, reference levels, DEBS -Missing price index data will not be re-populated

3.2 Other

Impact	Description (optional)
Market Simulation	No
Market Participant Impact	WEIM resources associated with WA State to provide resource specified emission rate to the CAISO (if not already provided).
External Bid Publication	No external bid publication required. Only annual reporting to WA State required.
Operational Procedures	No impacts
Customer Readiness Impact	
<ul style="list-style-type: none"> • External Communication Needed 	Yes
<ul style="list-style-type: none"> • External Onboarding and Maintenance 	TBD
<ul style="list-style-type: none"> • External Training 	Yes
<ul style="list-style-type: none"> • External Computer Based Training 	No
Policy Initiative	Yes

 California ISO	Technology	Template Version:	6.6
		Document Version:	1.0
Washington WEIM Greenhouse Gas Enhancements Business Requirements Specification - Planning		Date Created:	1/30/2023

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 Policy and Tariff Requirements

Requirement	Requirement Type	Potential Application(s) Impacted
<p>The CAISO proposes to revise the cost-based reference levels for resources inside of Washington. The revised calculation would use Washington-specific GHG allowance prices when calculating a GHG-emitting generating resource’s default energy Bid (DEB) and default commitment costs (collectively referred to as reference levels).</p>	Policy	MF INTERNAL SYSTEM SIBR
<p>Ahead of an allowance auction in Washington, the CAISO will use the economic and market modeling and analysis conducted by Vivid Economics for the Washington Department of Ecology.</p> <p>Specifically, the CAISO plans to use the assumption that GHG regulation areas will be linked, which assumes \$41 per MT CO₂e. Once an allowance auction is held in Washington, the CAISO will use the auction clearing price.</p> <p>Note: Due to implementation timing, utilization of static pricing is not anticipated to be necessary,</p>	Policy	INTERNAL SYSTEM SIBR
<p>When index prices are available and implementable by the CAISO, the CAISO will use index prices.</p>	Policy	INTERNAL SYSTEM SIBR OASIS
<p>The CAISO plans to calculate the market dispatches, based on instructed imbalance energy, on an annual basis for WEIM Entities to meet the reporting requirements to the Washington Department of Ecology. Real-time instructed imbalance energy reflects WEIM transactions used to serve electricity demand.</p>	Policy	MF EDR OASIS

 California ISO	Technology	Template Version:	6.6
		Document Version:	1.0
Washington WEIM Greenhouse Gas Enhancements Business Requirements Specification - Planning		Date Created:	1/30/2023

Requirement	Requirement Type	Potential Application(s) Impacted
<p>The projected Greenhouse Gas Allowance Price component will be calculated by averaging the applicable daily Greenhouse Gas Allowance Prices calculated over the first twenty (20) days of the month using the methodology set forth in Section 39.7.1.1.1.4.</p> <p>The CAISO will calculate a projected Greenhouse Gas Allowance Price separately for each unlinked jurisdiction that regulates greenhouse gas compliance obligations. (Section 39.6.1.6.2)</p>	Tariff	MF INTERNAL SYSTEM SIBR
<p>The CAISO will calculate the Greenhouse Gas Allowance Price separately for each unlinked jurisdiction that regulates greenhouse gas compliance obligations. (Section 39.7.1.1.1.4)</p>	Tariff	MF INTERNAL SYSTEM SIBR
<p>To calculate the Greenhouse Gas Allowance Price for each unlinked jurisdiction, the CAISO will average applicable prices from two vendors specified in the BPM. (Section 39.7.1.1.1.4)</p>	Tariff	INTERNAL SYSTEM
<p>If a greenhouse gas price from a vendor is unavailable for any reason, the CAISO will use the most recent available greenhouse gas price from that vendor. (Existing Section 39.7.1.1.1.4)</p>	Tariff	INTERNAL SYSTEM SIBR
<p>If greenhouse gas prices from two vendors have not yet been calculated for a jurisdiction, the CAISO will utilize the best available proxy, as follows: for Washington State, the CAISO will utilize \$41/MT CO₂e until an allowance auction is held in Washington, at which point the CAISO will use, as soon as is practicable, the allowance auction clearing price. (Section 39.7.1.1.1.4)</p> <p>Note: due to implementation timing, utilization of static pricing is not anticipated to be necessary</p>	Tariff	INTERNAL SYSTEM SIBR
<p>If for any reason the CAISO cannot calculate a Greenhouse Gas Allowance Price, it will use the most recently calculated value. (Existing Section 39.7.1.1.1.4)</p>	Tariff	INTERNAL SYSTEM SIBR

 California ISO	Technology	Template Version:	6.6
		Document Version:	1.0
Washington WEIM Greenhouse Gas Enhancements Business Requirements Specification - Planning		Date Created:	1/30/2023

4.2 Business Process: Manage Masterfile

4.2.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
WAGHG-BRQ001	<p>System shall add a new BAA level attribute to identify BAAs associated with Washington State</p> <p>--BAA Associated with Washington State=Any BAA with geographic overlap with Washington State</p>	Core	MF
WAGHG-BRQ002	System shall broadcast the BAA level attribute in BRQ001 to identify BAAs associated with Washington State to downstream systems	Core	MF
WAGHG-BRQ003	System shall populate the "State" field=WA for generator resources within Washington State	Business Process	MF
WAGHG-BRQ004	<p>System shall add a new field for WA State GHG emissions rate applicable to WA state associated resources</p> <p>--Exception: Resources within BPA are not subject to the WA State Policy</p> <p>--Exception: Resources with emissions rates below the minimum threshold (25,000 metric tons CO₂e) are not subject to the WA State Policy</p> <p>-Validate customer submitted emissions rates against publicly posted emissions rates on WA DOE GHG Reporting Tool (manual process-same as validation for CA emission rates)</p>	Core	MF
WAGHG-BRQ005	System shall broadcast WA state associated GHG emission rates to downstream systems	Core	MF

 California ISO	Technology	Template Version:	6.6
		Document Version:	1.0
Washington WEIM Greenhouse Gas Enhancements Business Requirements Specification - Planning		Date Created:	1/30/2023

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
WAGHG-BRQ006	System shall receive and store the WA State monthly projected GHG allowance price	Core	MF
WAGHG-BRQ007	System shall update the Registered Cost Validation rule to use the WA State projected GHG price for WA State associated resources Note: CA resources shall continue to use the CA price.	Existing Process	MF
WAGHG-BRQ008	The monthly projected GHG price for WA State shall be published on the ISO website -Follows current process for CA	Existing Process	MF

 California ISO	Technology	Template Version:	6.6
		Document Version:	1.0
Washington WEIM Greenhouse Gas Enhancements Business Requirements Specification - Planning		Date Created:	1/30/2023

4.3 Business Process: Manage Reference Levels

4.3.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
WAGHG-BRQ010	The system shall receive WA State associated resources GHG emission rates	Core	Internal System
WAGHG-BRQ012	<p>The system shall utilize dynamic GHG pricing for WA State to using vendor-provided indices</p> <p>--Follows existing process used for California BAAs (i.e. dynamic pricing is the average of two vendor indices)</p> <p>--If vendor feeds are not available in line with implementation timing, then system shall support static pricing</p>	Core	Internal System
WAGHG-BRQ013	<p>The system shall differentiate between CA and WA associated resources</p> <p>--If MF State flag="WA", use WA GHG price index</p>	Core	Internal System
WAGHG-BRQ014	<p>The system shall update the GHG Startup Cost Curve for WA State associated resources to include the WA State GHG emissions rate and GHG price</p> <p>--Applies to all resources for which:</p> <ul style="list-style-type: none"> • MF State="WA" AND • WA Emissions Rate ≠ Null <p>--Adders are at resource level for non-MSGs</p> <p>--Adders are at configuration level for MSGs</p>	Core	Internal System

 California ISO	Technology	Template Version:	6.6
		Document Version:	1.0
Washington WEIM Greenhouse Gas Enhancements Business Requirements Specification - Planning		Date Created:	1/30/2023

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
	--Exception: Resources within BPA are not subject to the WA State Policy		
WAGHG-BRQ015	<p>The system shall update the GHG Minimum Load Cost for WA State associated resources to include the WA State GHG emissions rate and GHG price</p> <p>--Applies to all resources for which:</p> <ul style="list-style-type: none"> • MF State="WA" AND • WA Emissions Rate ≠ Null <p>--Adders are at resource level for non-MSGs</p> <p>--Adders are at configuration level for MSGs</p> <p>--Exception: Resources within BPA are not subject to the WA State Policy</p>	Core	Internal System
WAGHG-BRQ016	<p>The system shall update the variable cost-based Default Energy Bids and reasonableness threshold for WA State associated resources to include the WA State GHG emissions rate and GHG price</p> <p>--Applies to all resources for which:</p> <ul style="list-style-type: none"> • MF State="WA" AND • WA Emissions Rate ≠ Null <p>--Adders are at configuration level for MSGs</p> <p>--Adders are at resource level for non-MSGs</p> <p>--Exception: Resources within BPA are not subject to the WA State Policy</p>	Core	Internal System

 California ISO	Technology	Template Version:	6.6
		Document Version:	1.0
Washington WEIM Greenhouse Gas Enhancements Business Requirements Specification - Planning		Date Created:	1/30/2023

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
WAGHG-BRQ017	The system shall broadcast the Startup Cost Curve (BRQ014), MLC (BRQ015), and variable cost-based DEBs (BRQ016) to downstream systems	Core	Internal System
WAGHG-BRQ018	The system shall broadcast the average of the daily WA GHG Price Indices to downstream systems --Must differentiate between CA index prices and WA index prices	Core	Internal System
WAGHG-BRQ019	The system shall calculate the projected GHG allowance price for WA State on a daily basis Note: Follow the same methodology as CA monthly projected GHG allowance price calculation	Core	Internal System
WAGHG-BRQ020	System shall add the WA State monthly projected GHG allowance price to the existing payload that is broadcasted to downstream systems	Core	Internal System

 California ISO	Technology	Template Version:	6.6
		Document Version:	1.0
Washington WEIM Greenhouse Gas Enhancements Business Requirements Specification - Planning		Date Created:	1/30/2023

4.4 Business Process: Manage SIBR

4.4.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
WAGHG-BRQ030	The system shall receive startup and minimum load GHG adders for WA State associated resources for the use of commitment cost calculations (including reasonableness thresholds, default MLC, and default startup costs) Note: If there is no adder, it won't be used	Existing Process	SIBR
WAGHG-BRQ031	The system shall perform regression checks to confirm GHG values used in the generated commitment costs for WA state associated resources are successfully received and processed	Existing Process	SIBR
WAGHG-BRQ032	WA WEIM resources shall use the CA GHG adders for their CA GHG bid	Existing Process	SIBR

 California ISO	Technology	Template Version:	6.6
		Document Version:	1.0
Washington WEIM Greenhouse Gas Enhancements Business Requirements Specification - Planning		Date Created:	1/30/2023

4.5 Business Process: Manage IFM/RTM

4.5.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
WAGHG-BRQ033	<p>The system shall continue to receive and broadcast existing schema</p> <p>Note: Changes to the payload:</p> <ol style="list-style-type: none"> 1. New attribute "State" to GHGAllowanceIndex element to indicate CA, WA etc. 2. New record for GHGAllowanceIndex to include GHG index price for each State (CA, WA etc.). 	Core	IFM/RTM

 California ISO	Technology	Template Version:	6.6
		Document Version:	1.0
Washington WEIM Greenhouse Gas Enhancements Business Requirements Specification - Planning		Date Created:	1/30/2023

4.6 Business Process: Manage CMRI

4.6.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
WAGHG-036	<p>The system shall continue to receive existing schema</p> <p>Note: Changes to the payload:</p> <ol style="list-style-type: none"> 1. New attribute "State" to GHGAllowanceIndex element to indicate CA, WA etc. 2. New record for GHGAllowanceIndex to include GHG index price for each State (CA, WA etc.). 	Existing Process	CMRI

 California ISO	Technology	Template Version:	6.6
		Document Version:	1.0
Washington WEIM Greenhouse Gas Enhancements Business Requirements Specification - Planning		Date Created:	1/30/2023

4.7 Business Process: Manage Settlements

4.7.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
WAGHG-037	<p>The system shall continue to receive existing schema</p> <p>Note: Changes to the payload:</p> <ol style="list-style-type: none"> 1. New attribute "State" to GHGAllowanceIndex element to indicate CA, WA etc. 2. New record for GHGAllowanceIndex to include GHG index price for each State (CA, WA etc.). 	Existing Process	Settlements

 California ISO	Technology	Template Version:	6.6
		Document Version:	1.0
Washington WEIM Greenhouse Gas Enhancements Business Requirements Specification - Planning		Date Created:	1/30/2023

4.8 Business Process: Manage OASIS

4.8.1 Business Requirements

ID#	Business Feature	Requirement Type	Potential Application(s) Impacted
WAGHG-BRQ050	System shall receive the average of the daily WA GHG Price Indices Impacted Report: Prices -> Index Prices -> Greenhouse Gas Allowance Index Prices report	Core	OASIS
WAGHG-BRQ051	System shall add WA GHG index prices to existing GHG Index Price OASIS report --Must differentiate between CA index prices and WA index prices Impacted Report: Prices -> Index Prices -> Greenhouse Gas Allowance Index Prices report	Core	OASIS

 California ISO	Technology	Template Version:	6.6
		Document Version:	1.0
Washington WEIM Greenhouse Gas Enhancements Business Requirements Specification - Planning		Date Created:	1/30/2023

4.9 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, Energy Imbalance Market (EIM) implementations, and Reliability Coordination (RC) service implementations. If the project team has deemed that no structured testing is needed, an end-to-end test case must be specified.

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 an EIM 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.

4.9.1 Business Requirements

NO MARKET SIMULATION REQUIRED