Western Resource Adequacy Program

203 Program Sharing Calculation Inputs

200 – Operations

Revision History

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203	0.1	RAPC Glance Version	Maya McNichol	1/8/2024
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203 Program Sharing Calculation Inputs

1. Introduction

This Program Sharing Calculation Inputs Business Practice Manual (BPM 203) describes the Program Administrator inputs into the Western Resource Adequacy Program (WRAP) Operations Program Sharing Calculation. At present, there is only one such input, i.e., the Uncertainty Factor. *BPM 202 Participant Sharing Calculation Inputs* describes the Participant provided inputs to the Sharing Calculation.

1.1. Intended Audience

BPM 203 is intended for WRAP Participants and other interested individuals or entities. It will be particularly useful for those individuals that support and have responsibility for participation in the WRAP Operations Program on a day-to-day basis, including trading and scheduling staff, front-office technology and systems support staff, and staff with other similar responsibilities.

1.2. What Will You Find in This Manual?

BPM 203 details the Uncertainty Factor, which is a Program Administrator provided input to the Operations Program Sharing Calculation.

1.3. Purpose

BPM 203 explains the purpose, derivation, and use of the Uncertainty Factor in the Sharing Calculation of the Operations Program.

1.4. Definitions

All capitalized terms that are not otherwise defined in BPM 203 have the meaning set forth in the Tariff. Any capitalized terms not found in the Tariff are defined here.

Holdback Capacity: As defined in *BPM 204 Holdback Requirement.*

Load Forecast: As defined in *BPM 202 Participant Sharing Calculation Inputs*.

Program Interface Tool: As defined in *BPM 201 Operations Program Timeline.*

Waiver: As defined in *BPM 209 Energy Delivery Failure Charge.*

2. Background

The WRAP Operations Program Sharing Calculation compares each Participant's FS Capacity Requirement (adjusted for forced outages and resource performance) to that Participant's capacity need for each hour in the Multi-Day-Ahead, Preschedule Day, and Operating Day timeframes. Each Participant sends updated forecasts of their expected load, outages, resource performance, and Contingency Reserves as inputs to the Sharing

Calculation (see *BPM 202 Participant Sharing Calculation Inputs* for more information). Along with these Participant-supplied inputs, the Sharing Calculation includes an additional term for the Uncertainty Factor during each run of the Sharing Calculation for the Multi-Day-Ahead Assessment and the Preschedule Day.

3. Uncertainty Factor

The Uncertainty Factor is meant to account for the variances between forecasts of load, VERs, and Run-of-River Qualifying Resources for each operating hour on the Preschedule Day and the actual load and resource performance during such hour on the Operating Day. The Uncertainty Factor helps ensure that Participants retain capacity to account for near-term forecast error that would understate capacity needs, i.e. variances in the upward direction for load and variances in the downward direction for resource performance. Per Tariff section 20.1.1, the Uncertainty Factor is determined by the Program Administrator and set forth in the Business Practice Manuals. BPM 203 sets the parameters for the Uncertainty Factor in various scenarios, determined in consultation with, and to be implemented by, the Program Operator.

At a high-level, the Sharing Calculation takes a Participant's FS Capacity Requirement, adjusts it for performance changes (forced outages, Run-of-River, VERs), and then subtracts (among other things) the Load Forecast and Uncertainty Factor. The Uncertainty Factor effectively reduces a Participant's Sharing Requirement to account for variances between load and resource forecast on the Preschedule Day and actual load and resource performance on the Operating Day. Specifically, the Uncertainty Factor will initially be set at a default value of 10% of each Participant's Load Forecast, based on analysis of the best available data. The 10% value reflects the combination of 5% uncertainty in WRAP load and 5% uncertainty in WRAP generation.

Because the Uncertainty Factor is subtracted from a Participant's FS Capacity Requirement, the Uncertainty Factor will reduce a Participant's surplus when a Participant is otherwise surplus. The Uncertainty Factor will make an otherwise deficient Participant more deficient (eligible for more help from surplus Participants). When a Subregion is in a deficient condition overall, the Uncertainty Factor is incrementally reduced to increase a Participant's surplus, making more potential capacity available to the Operations Program and Participants in need. The Program Operator may decrease the Uncertainty Factor for all Participants in that Subregion by increments of 0.5% of the Load Forecast for the deficit Subregion until there is a sufficient overall surplus to meet the aggregate deficiency in that Subregion or the Uncertainty Factor reaches 3%, whichever comes first.

The Uncertainty Factor will be determined in the following ways:

- If the Subregion is not deficient in the Multi-Day-Ahead Assessment, meaning that the sum of all the Sharing Calculation results in the Subregion is zero or positive, the Uncertainty Factor remains 10% of Load Forecast for the Subregion.
- If the Subregion is deficient in the Multi-Day-Ahead Assessment, meaning that the sum of all the Sharing Calculation results in the Subregion is negative, the Uncertainty Factor is iteratively decreased by 0.5% of Load Forecast for the Subregion. This iterative step-down by 0.5% increments is repeated until there is sufficient Holdback Capacity to meet the deficiency in the Subregion or the Uncertainty Factor reaches 3%, whichever comes first. The revised Uncertainty Factor is then applied to each Participant's Sharing Calculation. An example is included in Table 1 below.

The allocation of Holdback Capacity to deficient Participants is described in *BPM 204 Holdback Allocation.*

The Uncertainty Factor to be utilized on the Preschedule Day is determined by the by the Program Administrator with assistance of the Program Operator two hours ahead of the Sharing Calculation run described in *BPM 201 Operations Program Timeline*. The final value of the Uncertainty Factor used for each hour of the Preschedule Day will be shown in the Program Interface Tool, as will the Uncertainty Factor values used in the Multi-Day-Ahead Assessment.

If during a Binding Season the Program Administrator identifies an issue with the implementation and application of the Uncertainty Factor which materially impacts a Participant's ability to provide load service, the Program Administrator may suspend the reduction in the Uncertainty Factor until such time as a change to correct the issue can be addressed through the normal governance process (as detailed in the BPM 300's Stakeholder Engagement series).

The Program Administrator will propose an updated value, using a data driven approach, for the default Uncertainty Factor (initially set at 10%) after the Summer 2025 Binding Season and prior to the start of the Summer 2026 Binding Season. If the proposed updated default Uncertainty Factor is endorsed by RAPC and approved by the Board, this BPM will be updated to reflect the new default value.

Table 1. Uncertainty Factor example for deficient Subregion.

Participant	A	B	A	B	A	B	A	B	A	B	A	B
Uncertainty Factor	10.00%	10.00%	9.50%	9.50%	9.00%	9.00%	8.50%	8.50%	8.00%	8.00%	7.50%	7.50%
P50+PRM	148	120	148	120	148	120	148	120	148	120	148	120
Load Forecast	100	150	100	150	100	150	100	150	100	150	100	150
Uncertainty MWs	10	15	9.5	14.25	9	13.5	8.5	12.75	8	12	7.5	11.25
Sharing Calculation Result	38	-45	39	-44	39	-44	40	-43	40	-42	41	-41
Subregion Total	-7		-5		-5		-3		-2		0	