



WESTERN
POWERPOOL

Western Resource Adequacy Program

203 Program Sharing Calculation
Inputs

Revision History

Manual Number	Version	Description	Revised By	Date
203	0.1	RAPC Glance Version	Maya McNichol	1/8/2024
203	0.2	Public Comment Version	Maya McNichol	1/9/2024



Table of Contents

1. Introduction.....	3
1.1. Intended Audience.....	3
1.2. What Will You Find in This Manual?.....	3
1.3. Purpose.....	3
1.4. Definitions.....	3
2. Background	3
3. Uncertainty Factor.....	4



203 Program Sharing Calculation Inputs

1. Introduction

The Program Sharing Calculation Inputs Business Practice Manual (BPM 203) describes the Program Operator 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 have responsibility for and support of 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 other similar responsibilities.

1.2. What Will You Find in This Manual?

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

1.3. Purpose

BPM 203 explains the Uncertainty Factor used 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.

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.



3. Uncertainty Factor

The Uncertainty Factor is meant to account for the variances between forecasts of load, forced outages, 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 of load and outages and in the downward direction for resource performance. Per the Tariff, the Uncertainty Factor is determined by the Program Administrator and set forth in the Business Practice Manuals. BPM 203 sets forth the parameters for setting the Uncertainty Factor in various scenarios, determined in consultation with, and to be implemented by, the Program Operator.

Specifically, the Uncertainty Factor will be set at a default value of 10% of each Participant's Load Forecast. The 10% value reflects the combination of 5% uncertainty in WRAP load and 5% uncertainty in WRAP generation. The 10% factor is reasonably applied to the Load Forecast as a proxy for combined load and generation uncertainty, because the Forward Showing Program requires that Participants demonstrate sufficient generating capacity in each Month to meet the Forward Showing (FS) Capacity Requirement.

If a Participant is otherwise surplus, the Uncertainty Factor will make it less surplus. If a Participant is otherwise deficient, the Uncertainty Factor will make it more deficient. As more fully explained below, when a Subregion is in a deficient condition overall, the Program Operator may decrease the Uncertainty Factor 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 will remain 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 will be 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 Uncertainty Factor to be utilized on the Preschedule Day is performed by the Program Operator 2 hours ahead of the Sharing Calculation run described in *BPM 201 Operations Program Timeline*.

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	

