



WESTERN
POWERPOOL

Western Resource Adequacy Program

107 Forward Showing Deficiency
Charge

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107 Forward Showing Deficiency Charge

1. Introduction

A Participant that submits a Forward Showing Demonstration that the Program Operator or Program Administrator finds to be deficient, and that does not cure that deficiency prior to the end of the prescribed Cure Period, is assessed a Deficiency Charge. BPM 107 provides implementing details and practices relevant to the calculation of the Deficiency Charge, and allocation of the revenues received from collection of Deficiency Charges.

1.1 Intended Audience

BPM 107 is intended for the Western Power Pool (WPP) Western Resource Adequacy Program (WRAP) Participants and other interested individuals or entities. BPM 107 is particularly useful for those individuals that are responsible for, and support, participation in the Forward Showing Program.

1.2 What You Will Find in This Manual

BPM 107 contains information regarding the calculation of the Deficiency Charge, including calculation of Capacity Deficiencies, Transmission Deficiencies, and Deficiency Charges, and allocation of revenues received from the collection of Deficiency Charges. Certain adjustments to the Deficiency Charge that are available during the Transition Period are addressed in [BPM 109 Forward Showing Transition Period](#).

1.3 Purpose

To provide implementing details and practices relevant to the calculation of the WRAP Deficiency Charge.

Nothing in BPM 107 changes in any way the exclusive authority of the independent Board of Directors, under Section 3.1 of the [Tariff](#), to approve and direct WPP to file [Tariff](#) amendments and the independent Board's ultimate authority over all aspects of the WRAP.

1.4 Definitions

All capitalized terms that are not otherwise defined in BPM 107 have the meaning set forth in the [Tariff](#) or in another BPM.

Catastrophic Failure Monthly Report: As defined in [BPM 108 Forward Showing Submittal Process](#).

Cure Period: As defined in [BPM 108 Forward Showing Submittal Process](#).



Monthly P50 Peak Load Forecast: The P50 Peak Load Forecast for each month in a given Binding Season.

Monthly Transmission Exception Check-In: As defined in [BPM 108 Forward Showing Submittal Process](#).

Summer % Deficit: A value greater than zero that is the Aggregate Capacity Deficiency for the WRAP as a whole for a Summer Season divided by the sum of the maximum Monthly P50 Peak Load Forecasts for each Participant for that Summer Season.

Winter % Deficit: A value greater than zero that is the Aggregate Capacity Deficiency for the WRAP as a whole for a Winter Season divided by the sum of the maximum Monthly P50 Peak Load Forecasts for each Participant for that Winter Season.

2. Background

The WRAP is a regional resource adequacy program in which Participants demonstrate, in advance of a defined season when resources may need to be deployed, that they have sufficient resources to meet their expected peak loads and a reserve margin. The WRAP imposes standards and requirements related to such matters as the resources that qualify to meet resource adequacy objectives, the calculation of peak loads, and the required minimum reserve margin. Each Participant is required to submit a Forward Showing Submittal in advance of each Binding Season to demonstrate a minimum required quantity of capacity, known as the FS Capacity Requirement, and a minimum required quantity of transmission service rights, known as the FS Transmission Requirement. The WRAP provides for imposition of significant charges on Participants that do not show in advance sufficient resources to meet their loads. Any Participant that fails to cure identified deficiencies in its Forward Showing Submittal is assessed a Deficiency Charge. Specifically, if a Participant fails during the Cure Period to demonstrate that it has resolved any identified deficiencies in either or both of its FS Capacity Requirement and/or its FS Transmission Requirement, the Participant will be assessed a Deficiency Charge for each Month for which a deficiency is identified.

3. Calculating the Deficiency Charge

3.1 Calculating the Deficiency

Deficiencies are calculated for each Month of a Binding Season, in accordance with the following:



Definition: Monthly Deficiency

$$\begin{aligned} & \textit{Participant's Monthly Capacity Deficiency} \\ & = \textit{Maximum}(\textit{Monthly FS Capacity Requirement} \\ & \quad - \textit{Monthly Portfolio QCC}, 0) \end{aligned}$$

$$\begin{aligned} & \textit{Participant's Monthly Transmission Deficiency} \\ & = \textit{Maximum}((75\% \times \textit{Monthly FS Capacity Requirement}) \\ & \quad - (\textit{Monthly Transmission Demonstrated} \\ & \quad + \textit{Approved Monthly Transmission Exemptions}), 0) \end{aligned}$$

Where:

Monthly FS Capacity Requirement is reduced to account for approved catastrophic resource failure exemption requests submitted at the time of Forward Showing Submittal (see [BPM 108 Forward Showing Submittal Process](#))

and

Monthly Transmission Demonstrated is the amount of transmission service rights submitted by a Participant per the requirements in [Tariff](#) Section 16.3 and validated by the Program Administrator as per [BPM 108 Forward Showing Submittal](#) for each month.

Then:

$$\textit{Monthly Deficiency} = \textit{Maximum of} (\textit{Monthly Capacity Deficiency}, \textit{Monthly Transmission Deficiency})$$

The Transition Period rules, as discussed in [BPM 109 Forward Showing Transition Period](#) may, depending on a Participant's circumstances, change or adjust calculation of Deficiencies during the Transition Period.

3.2 Calculating the Deficiency Charge

Deficiency Charge calculations take account of multiple Monthly Deficiencies within a Forward Showing for a single Binding Season, and multiple Deficiencies across a Forward Showing Year, consisting of a Summer Season and the immediately succeeding Winter Season, in accordance with the following formulas and principles. The formulas are drafted to apply to an individual Participant as to its Forward Showings for a Forward Showing Year.

The Monthly Deficiency with the highest MW value in a Forward Showing for a Summer Season shall be assessed a Deficiency Charge as calculated per Formula 1.



Formula 1: Maximum Summer Month

$$\text{Max Monthly Summer Deficiency} \times \text{Annual CONE} \times 1000 \\ \times \text{Summer Season Annual CONE Factor}$$

where the Annual CONE is expressed as a dollars per kW-year calculated in accordance with Section [3.3.1](#), and

where Summer Season Annual CONE Factor is determined in accordance with Section [3.3.2](#).

Any other Monthly Deficiency in the Participant's Forward Showing for the same Summer Season shall be assessed a Deficiency Charge as calculated per Formula 2.

Formula 2: Other Summer Months

$$\text{Additional Summer Deficiency} \times (\text{Annual CONE} / 12) \times 1000 \times 200\%$$

where the Annual CONE is expressed as a dollars per kW-year calculated in accordance with Section [3.3.1](#).

Any Monthly Deficiency in the Forward Showing for the immediately succeeding Winter Season with a higher MW value than the highest MW value of the Monthly Deficiency in the Summer Season shall be assessed a Deficiency Charge on the incremental MW value above the Summer Season as calculated per Formula 3.

Formula 3: Maximum Winter Month

$$\text{Maximum of (Max Winter Deficiency} \\ - \text{Max Summer Deficiency, 0)} \times \text{Annual CONE} \times 1000 \\ \times \text{Winter Season Annual CONE Factor}$$

where the Annual CONE is expressed as a dollars per kW-year calculated in accordance with Section [3.3.1](#), and

where Winter Season Annual CONE Factor is determined in accordance with Section [3.3.2](#).

If there is a Monthly Deficiency in the Winter Season with a higher MW value than the highest MW value of any Monthly Deficiency in the Summer Season, the Monthly Deficiency with the highest MW value in the Summer Season shall be assessed an additional Deficiency Charge calculated per Formula 2.



Any other Monthly Deficiency in the Participant's Forward Showing Submittal for the same Winter Season shall be assessed a Deficiency Charge as calculated per Formula 4.

Formula 4: Other Winter Months

$$\text{Additional Winter Capacity Deficiency} \times (\text{Annual CONE}/12) \times 1000 \\ \times 200\%$$

where the Annual CONE is expressed as a dollars per kW-year calculated in accordance with Section [3.3.1](#).

The Transition Period rules, as discussed in [BPM 109 Forward Showing Transition Period](#) may, depending on a Participant's circumstances, change or adjust calculation of Deficiency Charges during the Transition Period.

Should a Subregion fail to achieve Critical Mass in a Binding Season, Participants electing to participate as Non-Binding Participants will not be subject to Deficiency Charges under the FS Program as described in [Section 7](#).

3.3 Determining Certain Components of the Deficiency Charge Calculation

3.3.1 Cost of New Entry

The Cost of New Entry, also known as CONE, is used in the Deficiency Charge calculation as an indication of the type of cost a deficient Participant avoids by not having sufficient capacity to serve its peak loads. It is not intended to reflect any Participant's actual avoided capacity costs or to establish any precedent as to the types of resources any Participant can or should obtain to meet their marginal capacity needs, or that any type of resource is the expected marginal capacity resource in the WRAP Region or any Subregion.

In accordance with the [Tariff](#), CONE is the estimated cost of a hypothetical new peaking natural gas-fired generation facility. The CONE estimate is based on publicly available information relevant to the estimated annual capital and fixed operating costs of a hypothetical natural gas-fired peaking facility. The estimate of CONE does not consider net revenue from the sale of capacity, energy, or ancillary services from the hypothetical facility, nor does it consider variable operating costs necessary for generating energy.

The Program Administrator posts on its website the current value of CONE, along with key supporting calculations and information that materially affects the estimate. The Program Administrator may initiate a change to CONE at any time. The Program Administrator reviews the CONE estimate annually, but is not required to change the



CONE annually, and can initiate a change to CONE more frequently than annually. Any proposed changes in the CONE are subject to review through the stakeholder process for program rule changes as outlined in [BPM 301 Program Review Committee Workplan Development and Approval](#), [BPM 302 Program Review Committee Proposal Development and Consideration](#), and [BPM 303 Expedited Review Process](#).

3.3.2 Summer Season and Winter Season Annual CONE Factors

The Deficiency Charge calculation uses a CONE Factor to reflect that individual Participant deficiencies are of even greater concern when the Region as a whole is expected to be short of targeted capacity needs. Per the [Tariff](#), there are separate CONE Factors for each Winter Season and each Summer Season, depending on the total deficiency of the WRAP Region.

The Summer Season Annual CONE Factor varies based on the ratio (“Summer % Deficit”) of the Aggregate Capacity Deficiency for the WRAP Region (all Participants) that Summer Season, divided by the aggregated maximum Monthly P50 Peak Load Forecast of all Participants for the Summer Season, as follows:

- 1) If the Summer % Deficit is less than or equal to 1%, the Summer Season Annual CONE Factor = 125%
- 2) If the Summer % Deficit is greater than 1% but less than or equal to 2%, the Summer Season Annual CONE Factor = 150%
- 3) If the Summer % Deficit is greater than 2% but less than or equal to 3%, the Summer Season Annual CONE Factor = 175%
- 4) If the Summer % Deficit is greater than 3%, the Summer Season Annual CONE Factor = 200%

The Winter Season Annual CONE Factor varies based on the ratio (“Winter % Deficit”) of the Aggregate Capacity Deficiency for the WRAP Region (all Participants) that Winter Season, divided by the aggregated maximum Monthly P50 Peak Load Forecast of all Participants for the Winter Season, as follows:

- 1) If the Winter % Deficit is less than or equal to 1%, the Winter Season Annual CONE Factor = 125%
- 2) If the Winter % Deficit is greater than 1% but less than or equal to 2%, the Winter Season Annual CONE Factor = 150%



- 3) If the Winter % Deficit is greater than 2% but less than or equal to 3%, the Winter Season Annual CONE Factor = 175%
- 4) If the Winter % Deficit is greater than 3%, the Winter Season Annual CONE Factor = 200%

If there is no deficiency in the Summer or Winter Binding Season, there is no Summer % Deficit or Winter % Deficit.

If a Participant incurred any FS Deficiency Charges in a Forward Showing Year, then for the immediately following Forward Showing Year, both the Summer Season Annual CONE Factor and the Winter Season Annual CONE Factor shall be 200% for such Participant.

A detailed example is provided in the FS Deficiency Charge Examples document, which is posted on the WPP website.

4. Dispute Resolution Process

Nothing in this BPM limits the ability of a Participant that believes it has been assessed a Deficiency Charge in error from raising such concerns with the Program Administrator staff or invoking the [Tariff](#) dispute resolution process.

5. Timing of Deficiency Charge Revenue Collection

Any Deficiency Charges will be calculated and invoiced to deficient Participants within 45 Days following the end of the Cure Period for each season, or seven Days following a Participant's failure to timely submit a required Catastrophic Failure Monthly Report or Monthly Transmission Exception Check-In (see [BPM 108 Forward Showing Submittal Process](#)).

6. Allocation of Revenues from Deficiency Charges

To the extent WPP collects payment of Deficiency Charges for a Binding Season, revenues from those collected Deficiency Charges will be allocated among those Participants with no Deficiency Charges for that Binding Season, pro rata based on each non-deficient Participant's share of all such Participants' Median Monthly P50 Peak Loads consistent with Schedule 1 of the [Tariff](#). WPP will distribute this revenue only after the deadline for Internal Dispute Resolution request for a Deficiency Charge has passed and no Internal Dispute Resolution request has been requested; or, alternatively, after a timely request for dispute resolution has been made and all proceedings related to that dispute resolution have been exhausted. Participants have



no entitlement to receive revenues from Deficiency Charges except to the extent such charges are assessed, invoiced, and collected by WPP.

The Transition Period rules, as discussed in [BPM 109 Transition Period](#) may, depending on a Participant’s circumstances, change, or adjust the allocation of Deficiency Charge revenues during the Transition Period.

7. Critical Mass and Non-Binding Participation

After the Transition Period as described in [BPM 109 Transition Period](#), in the scenario that a Subregion fails to meet a sufficient amount of load or number of Participants for a Participant’s selected Transition Binding Season or any future Binding Seasons, Participants within the affected Subregion may elect to be Non-Binding for the season where Critical Mass is not achieved. Table 5 below shows the minimum values for the amount of load and number of Participants needed to meet Critical Mass by Subregion.

Table 1. Threshold load and number of Participants for Critical Mass

Threshold Values	Northwest Subregion	Southwest and East Subregion
Load Volume	20 GW	15 GW
Participant Count	3	3

The Program Administrator will contact the Participant by emailing its Resource Adequacy Participant Committee (RAPC) representative alerting the Participant if Critical Mass in one or more of the Subregions that Participant operates in is not reached. Once the Program Administrator has notified a Subregion that Critical Mass has not been achieved, Participants within that Subregion have 30 days to provide notice from the Participant RAPC representative to WPP by email at wrap@westernpowerpool.org indicating whether they intend to participate as Non-Binding Participants in the Subregion(s) for that Binding Season.

A Participant electing to participate in a Non-Binding manner for a Binding Season outside of the Transition Period will operate under the guidelines described here:

1. The Participant will not be subject to Deficiency Charges under the FS Program, or to mandatory Holdback Requirements as a result of a positive Sharing Calculation Result, mandatory Energy Deployments, or Delivery Failure Charges under the Operations Program.
2. The Participant will be subject to all other FS Program requirements, including the requirement to timely provide data in connection with the Advance Assessment, the requirement to timely provide FS Submittals, and Operations

Program requirements as appropriate and detailed in [*BPM 210 Binding and Non-Binding Participation in Operations Program*](#).

3. The Participant may participate in the Operations Program as outlined in [*BPM 210 Binding and Non-Binding Participation in Operations Program*](#).

