Program Review Committee

2025 Workplan Development

Change Request Form Compilation

January 2025

Table of Contents

Introduction

The Western Power Pool (WPP) Western Resource Adequacy Program (WRAP) Program Review Committee (PRC) is a multi-sector representative group charged with receiving, considering, and proposing design changes to the WRAP Tariff ("Tariff") and Business Practice Manuals (BPMs). The PRC is the clearing house for recommended design changes to the WRAP. These recommended changes could come from WRAP Participants, the Committee of State Representatives (COSR), the Board of Directors (BOD), other committees, stakeholders, or the public.

When a Concept (a suggested change to the Tariff and/or BPMs) is requested by a stakeholder, the processes and criteria for review by the PRC are utilized as established in *BPM 301 PRC Workplan Development and Approval* and *BPM 302 Proposal Development and Consideration*. Change Request Forms (CRFs) describing a Concept are submitted at any point during a year. The final day for stakeholders to submit complete CRFs for this cycle was December 31st, 2024. WPP as Program Administrator has compiled all completed CRFs submitted in 2024 in this document to facilitate the PRC's development of a Workplan (a plan of action that identifies Concepts for development into Proposals) for 2025. The PRC will prioritize Concepts by February 1st, 2025, using a PRC-determined method involving established criteria. The completed Workplan approved by the BOD in June will identify Concepts to be developed into full Proposals by Task Forces. These Proposals will then be distributed for comment.

Blue text in the CRF indicates language added by the Program Administrator to identify the Concept and facilitate the PRC's prioritization exercise. At the top of each CRF is its number and sponsoring organization followed by a keywords identifier. Below that is the WRAP Area the Concept would impact primarily (Forward Showing [FS] Capacity Requirement, Resource Accreditation, FS Transmission Requirement, FS Demonstration, or Operations Program), an indication of whether a Tariff change would likely be necessary, and a Time Score reflecting the Program Administrator's estimate of how long it would take a Task Force to develop the Concept into a Proposal ready for comment. The remainder of each table is the CRF as submitted by the Lead Sponsor, except for where relevant Tariff or BPM language has been added in blue.

2024-CRF-001 / NVE / SWEDE Transmission Limits

WRAP Area:	**Tarriff Change**:	**Time Score:**
Operations Program	Yes	Medium

Lead Sponsor: Lindsey Schlekeway lindsey.schlekeway@nvenergy.com	**Co-Sponsor:**

Summary: Change to the current SWEDE Transmission Requirement in Tariff Section 19.4

Description of the issue: The current transmission requirement in the tariff for the SWEDE region requires transmission to be demonstrated no less than the surplus or deficit calculation MW quantity. This requirement may harm Southwest participants and should not be necessary in order for WRAP to succeed.

Proposed solution to the issue described: Remove existing tariff language and add in additional language to be consistent with the current understanding of the transmission requirement for clarity.

Specific document and language you would like changed:
Current Tariff Language: 19.4 Each Participant in any Subregion identified in the Business Practice Manuals as not containing a central transmission hub permitting energy deliveries to that hub from any point within such Subregion, shall, in addition to providing the information required by Section 19.3, identify, on or before the deadline during the Preschedule Day specified in the Business Practice Manuals, for each Hour of the Operating Day each point to which it can deliver energy, each point at which it can take receipt of energy, the quantity it can deliver or receive at each such point, and a numeric factor intended to prioritize use of transmission made available by Participants with positive Sharing Calculations and needed by Participants with negative Sharing Calculations for each such hour. **A Participant with a positive Sharing Calculation for an hour must provide a total quantity for all identified points at which it can deliver that is no less than the amount of its positive Sharing Calculation for such hour (adjusted as necessary for any RA Transfer in accordance with Section 20.1.2). A Participant with a negative Sharing Calculation for an hour must provide a total quantity for all identified points at which it can take receipt that is no less than the amount of its negative Sharing Calculation for such hour (adjusted as necessary for any RA Transfer in accordance with Section 20.1.2).** Participants shall provide this same information for each Operating Day on an expected or preliminary basis on each day of the Multi-Day-Ahead Assessment following, and based on, the expected Holdback Requirement estimates provided on each such day for the Operating Day.

Suggestion for how language could be updated to address issue:
Proposed Change: 19.4 Each Participant in any Subregion identified in the Business Practice Manuals as not containing a central transmission hub permitting energy deliveries to that hub from any point within such Subregion, shall, in addition to providing the information required by Section 19.3, identify, on or before the deadline during the

Preschedule Day specified in the Business Practice Manuals, for each Hour of the Operating Day each point to which it can deliver energy, each point at which it can take receipt of energy, the quantity it can deliver or receive at each such point, and a numeric factor intended to prioritize use of transmission made available by Participants with positive Sharing Calculations and needed by Participants with negative Sharing Calculations for each such hour. **A Participant with a positive Sharing Calculation or a negative Sharing Calculation for an hour must provide a total quantity for all identified points that is either available per OASIS or reserved by the participant.** ~~**at which it can deliver that is no less than the amount of its positive Sharing Calculation for such hour (adjusted as necessary for any RA Transfer in accordance with Section 20.1.2). A Participant with a negative Sharing Calculation for an hour must provide a total quantity for all identified points. at which it can take receipt that is no less than the amount of its negative Sharing Calculation for such hour (adjusted as necessary for any RA Transfer in accordance with Section 20.1.2).**~~ Participants shall provide this same information for each Operating Day on an expected or preliminary basis on each day of the Multi-Day-Ahead Assessment following, and based on, the expected Holdback Requirement estimates provided on each such day for the Operating Day.
Describe the benefits that will be realized from this change: The current tariff requirement did not contemplate the potentially large sharing calculation results that could occur. This requirement could result in harm to a participant that is not necessary for a successful program.
Any data/information that would characterize the importance of the issue: -

2024-CRF-002 / NVE / Earlier Forward Showing Metrics

WRAP Area:	**Tarriff Change**:	**Time Score:**
FS Capacity Requirement	Yes	Medium

Lead Sponsor: Lindsey Schlekeway lindsey.schlekeway@nvenergy.com	**Co-Sponsor:**

Summary: PRM, QCC, and Load Forecast Timing

Description of the issue: The current timeline for receiving the PRM, resource QCC, and load forecast occur too late for a participant to plan to meet the requirement.

Proposed solution to the issue described:

a. PRM should be published no later than T-2 for the applicable binding season. (2 years ahead of the binding season)
b. PRM should be approved by the Board no later than 1 month following the published deadline.
c. The Resource QCC's should be provided to the participant no later than one or two months following the published PRM.
d. The load forecast should be provided to the participant no later than one or two months following the published PRM.

Specific document and language you would like changed:

Tariff section 14.3: The FSPRM values used in the Forward Showing Submittals for a Binding Season shall be those values approved by the Board of Directors as the culmination of an Advance Assessment process. No later than twelve months before the FS Deadline for each Binding Season, WPP will determine and post the recommended FSPRM for each Subregion for each Month of such Binding Season. Participants shall provide their load, resource and other information reasonably required to perform the analyses and calculations required for the Advance Assessment, in accordance with the Advance Assessment information submission details and schedule specified in the Business Practice Manuals. No later than nine months before the FS Deadline for such Binding Season, the Board of Directors shall take its final action regarding approval of the FSPRM values for each Month of such Binding Season.

Suggestion for how language could be updated to address issue:

The FSPRM values used in the Forward Showing Submittals for a Binding Season shall be those values approved by the Board of Directors as the culmination of an Advance Assessment process. No later than ~~twelve~~ twenty-four months before the ~~FS Deadline for each~~ Binding Season, WPP will determine and post the recommended FSPRM for each Subregion for each Month of such Binding Season. Participants shall provide their load, resource and other information reasonably required to perform the analyses and calculations required for the Advance Assessment, in accordance with the Advance Assessment information submission details and schedule specified in the Business Practice Manuals. No later than ~~nine~~ twenty-three months before the FS Deadline for such Binding Season, the Board of Directors shall take its final action regarding approval of the FSPRM values for each Month of such Binding Season. The Program Operator will

provide the resource QCC and load forecast to the participant no later than twenty-two months before the Binding Season.
Describe the benefits that will be realized from this change: The change will allow for additional time for a participant to respond to the binding season requirement which reduces the program uncertainty.
Any data/information that would characterize the importance of the issue: The current timeline does not allow sufficient time for a participant to act to meet the Forward Showing Requirement. Additionally, if any modeling changes occurred then the participant maybe planning to an estimated requirement that maybe completely different than the resulting requirement that ends up being approved by the Board. Furthermore, the QCC and load forecast should be provided to the participant in order for the participant to plan to meet the requirement. Currently, the load forecast in particular is provided too close to the Forward Showing deadline and does not allow sufficient time for a participant to act. This creates additional program uncertainty and risk to the participant. The proposed timeline is still not sufficient for a participant to plan to meet the requirement and longer time horizons should be pursued, however, it is a proposal for a bare minimum that the program should strive to meet to reduce the uncertainty.

2024-CRF-003 / APS / Demand Response QCC

WRAP Area: Resource Accreditation	**Tarriff Change**: Yes	**Time Score:** Long
Lead Sponsor: Brandon Holmes brandon.holmes@aps.com	**Co-Sponsor:**	
Summary: Incorporation of call limits in calculation of QCC for use-limited resources.		
Description of the issue: Tariff and Protocols cover use-limited resource duration for calculation of QCC, but not in number of seasonal events or calls.		
Proposed solution to the issue described: Calculation of QCC should be informed by modeling of call limits for use-limited resources.		

Specific document and language you would like changed:

BPM 105 Section 4.6 **Demand Response**

DR can be utilized as a Qualifying Resource if it is greater than 1 MW in aggregate (see Section 3.3) and can be demonstrated to be controllable and dispatchable by the Participant or host utility. DR programs that register as Qualifying Resources will be assigned a seasonal QCC value (one value for each Binding Season) and will need to meet testing criteria and demonstrate load reduction (see Section 3.4.2.3) for a period of up to five continuous hours. A DR program may be able to demonstrate load reduction for a period beyond five continuous hours, but cannot receive QCC above 100% of what is demonstrated for the five hour duration.11 Programs that are not able to provide five hours of load reduction will have their load reduction prorated over the course of five hours for the determination of QCC value. Participants registering a DR Qualifying Resource must either i) demonstrate that the DR program was not operated historically and has therefore not impacted the Historical Load Data provided by the Participant for determination of their P50 load value, or ii) provide historical information about the operations of the DR program such that the load reduction impacts of the DR program can be removed from the historical data prior to determination of the P50 load value.

The QCC value of the DR Qualified Resource is determined by multiplying the maximum load reduction (in MW) the resource is capable of sustaining by the number of hours the resource can demonstrate such sustained load reduction capability (up to five hours, maximum) divided by five.

A DR Qualifying Resource will be reflected in the FS Submittal as a capacity resource by submitting it as a 'Resource' in the FS Submittal. As with all resources, the QCC value of the DR Qualifying Resource will count toward a Participant meeting its FS Capacity Requirement.

If DR does not meet the criteria of a Qualifying Resource, its contribution to the load reduction may be captured in the historical data used to calculate the P50 load in the FS.

4.6.1 New, Expanded, or Late Registered DR Resources DR programs intended to be used as Qualifying Resources in the first Year of operation or expansion of an existing program or DR programs not registered at the time of the Advance Assessment will be reported at 50% of the expected capability, unless validated by testing the program to 100% of the claimed capability prior to the Binding Season. See the section related to DR testing requirements (within Section 3.4.2) for more information
Suggestion for how language could be updated to address issue: -
Describe the benefits that will be realized from this change: More accurate capacity accreditation for use-limited resources.
Any data/information that would characterize the importance of the issue: -

2024-CRF-004 / APS / Day Ahead Market Optimization

WRAP Area:	**Tarriff Change**:	**Time Score:**
Operations Program	No	Short

Lead Sponsor: Brandon Holmes brandon.holmes@aps.com	**Co-Sponsor:**

Summary: Day Ahead Market Optimization of the Operations Program Holdback

Description of the issue:
Enhancing the Ops Program to be compatible, both in rules and technology (i.e. APIs), with both EDAM and Markets+ as it was originally designed with bilateral day ahead markets in mind.

Proposed solution to the issue described:
Must-offer and holdback optimization in Markets+. Markets+ protocols are drafted in such a way that the Ops Program for Participants who are in Markets+ can be enhanced by coordinating holdback through the Must-Offer and DA Market solution.

In EDAM, create the ability for Participants to properly represent Holdback in the DA Resource Sufficiency Evaluation.

Specific document and language you would like changed:
-

Suggestion for how language could be updated to address issue:
-

Describe the benefits that will be realized from this change:
Optimization of WRAP transactions in both EDAM and Markets+.

Any data/information that would characterize the importance of the issue:
Please find the attached protocols for the Must-Offer from Markets+ Section 4.2.1.
See Appendix A

2024-CRF-005 / APS / Load Growth Factor

WRAP Area:	**Tarriff Change**:	**Time Score:**
FS Capacity Requirement	No	Long

Lead Sponsor: Brandon Holmes brandon.holmes@aps.com	**Co-Sponsor:** EWEB

Summary: Load Forecast

Description of the issue:
The WRAP-wide established growth rate of 1.1% for the P50 Peak Load Forecast could be enhanced to capture the differences in expected load growth between the various WRAP participants. An inaccurate load growth rate will misinform the actual resource adequacy needs of the region, thereby degrading the effectiveness of the WRAP.

Proposed solution to the issue described:
-

Specific document and language you would like changed:
-

Suggestion for how language could be updated to address issue:
-

Describe the benefits that will be realized from this change:
More accurate P50 load forecasting will better inform the regional and participant-specific resource adequacy needs into the future. Having an objective 3rd party to determine the forecast could alleviate concerns of participant bias while also working towards the most accurate forecast for each participant.

Any data/information that would characterize the importance of the issue:
Naturally any standard growth rate applied to the WRAP footprint or to a specific participant is just a forecast, but there could be hidden issues within sub-regions or individual states that could necessitate having more granular growth rates than footprint wide.

2024-CRF-008 / SRP / CAISO Firm Transmission

WRAP Area:	**Tarriff Change**:	**Time Score:**
FS Transmission Requirement	Yes	Short

Lead Sponsor: Jerret Fischer jerret.fischer@srpnet.com	**Co-Sponsor:** Arizona Public Service

Summary: CAISO High-Priority Wheeling Through in WRAP

Description of the issue: CAISO refers to its firm transmission product as "high-priority wheeling through." However, the current WRAP Tariff does not explicitly recognize this terminology or specify its equivalency to NERC priority 6 or 7. This creates ambiguity as to whether CAISO high-priority wheeling through qualifies as firm transmission under WRAP. This creates uncertainty for participants relying on CAISO high-priority wheeling through transmission to satisfy WRAP requirements. Without clear recognition, participants may experience compliance risks despite securing the highest available firm transmission from CAISO.

Proposed solution to the issue described:
Revise tariff sections 16.2.61, 16.2.6.2, and 20.6 to recognize CAISO high-priority wheeling through as equivalent to NERC Priority 6 or 7.

Specific document and language you would like changed:
WRAP Tariff Sections: 16.2.61, 16.2.6.2, and 20.6

- 16.2.6.1 – *affirmation of NERC priority 6 or 7 firm point-to-point transmission service rights or network integration transmission service rights from the identified resource to the point of delivery/load*.
- 16.2.6.2 – *there must be NERC priority 6 or 7 firm point-to-point transmission service rights or network integration transmission service rights from the identified resource to the point of delivery/load*.
- 20.6 – *Participant shall have in place, prior to the Operating Day, transmission service satisfying NERC priority 6 or 7 for each hour of such Operating Day for which a Sharing Event has been established*.

Suggestion for how language could be updated to address issue:
Introduce language that provides clarity on what qualifies as qualifying transmission to evaluate transmission products that do not explicitly use NERC Priority rating. A general definition of equivalent transmission and/or criteria for validating equivalence for non-NERC classified transmission products.

Describe the benefits that will be realized from this change:
This change resolves uncertainty around transmission compliance by providing clarity for what qualifies as firm transmission under WRAP. Participants will gain confidence that high-priority transmission products that do not use a NERC Priority rating will satisfy WRAP requirements, which will streamline compliance.

Any data/information that would characterize the importance of the issue:
-

2024-CRF-010 / SRP / Capability Testing Off-Season

WRAP Area:	**Tarriff Change**:	**Time Score:**
FS Demonstration	No	Medium

Lead Sponsor: Jerret Fischer jerret.fischer@srpnet.com	**Co-Sponsor:**

Summary: Capability Testing Requirements for Seasonal Compliance

Description of the issue:
The capacity testing requirements outlined in BPM 105 require that thermal resources perform summer capability tests during the summer season under specific temperature conditions. SRP typically conducts tests in off-seasons periods (spring or winter) to avoid operational disruptions during peak demand. This requirement risks penalties for off-season testing and reduces QCC values.

Proposed solution to the issue described:
Permit historical operational data to meet requirements when summer season testing is not feasible. In the event, historical operational data is unavailable, allow off-season test results if adjusted for summer conditions.

Specific document and language you would like changed:
BPM 105 Section 3.4.2.1 Capability Test Requirements for Thermal Resources:

- Summer Capability Tests are to be conducted during a time when the ambient dry-bulb temperature is no more than 10 degrees Fahrenheit below the station ASHRAE Rated Ambient Temperature.

Suggestion for how language could be updated to address issue:
Historical operational data may be submitted to meet summer testing requirements when summer season testing is not feasible. If historical data is unavailable, off-season Capability Tests may be used with adjustments for summer conditions. Penalties for deviations in dry-bulb temperature requirements will not apply if adjustments are applied to align off-season test results with expected summer conditions.

Describe the benefits that will be realized from this change:
Aligns testing requirement with practical operational practices, allowing compliance without disrupting critical summer operations. It also minimizes penalties while ensuring reliable QCC calculations are maintained.

Any data/information that would characterize the importance of the issue:
-

2024-CRF-011 / SRP / Load Growth Factor

WRAP Area:	**Tarriff Change**:	**Time Score:**
FS Capacity Requirement	No	Long

Lead Sponsor: Jerret Fischer jerret.fischer@srpnet.com	**Co-Sponsor:**

Summary: Update Process for Load Growth Factor in BPM 103

Description of the issue:
The current 1.1% Load Growth Rate specified in BPM 103 is not reflective of recent trends and does not account for localized and evolving growth trends such as industrial onshoring and data center expansions, which have led to significant increases in demand. Without a mechanism for regular updates, this growth rate may quickly become outdated, leading to inaccurate forward showing requirements and potential resource adequacy challenges.

Proposed solution to the issue described:
Implement a process for annual updates to the Load Growth Factor by incorporating updates based on the latest data and growth patterns.

Specific document and language you would like changed:
BPM 103 Section 5.1 – Established Growth Rate.
The language currently indicates that updates may occur but does not specify a frequency or mechanism for regular reviews.

Suggestion for how language could be updated to address issue:
The 1.1% Load Growth Factor will be reviewed annually to incorporate the latest available data, including regional and sub-regional growth forecasts. Updates will ensure the Load Growth Factor reflects evolving trends and support equitable and accurate resource adequacy calculations across WRAP participants.

Describe the benefits that will be realized from this change:
Regular updates to the Load Growth Factor will ensure that forward showing requirements reflect real-world conditions. Additionally, this process will reduce the risk of underestimating future resource needs, supporting the program's overarching goal of maintaining regional resource adequacy.

Any data/information that would characterize the importance of the issue:
The 2023 Western Assessment of Resource Adequacy report shows a 1.64% compound annual growth rate for peak demand and a 1.74% growth rate for energy from 2024-2033. Additionally, the 2024 Western Assessment of Resource Adequacy report prominently features load growth.

2024-CRF-012 / APS / Marginal QCC

WRAP Area:	**Tarriff Change**:	**Time Score:**
Resource Accreditation	Yes	Long

Lead Sponsor: Brandon Holmes brandon.holmes@aps.com	**Co-Sponsor:**

Summary: Grouping of resources by vintage in QCC accreditation.

Description of the issue:

All resources QCC are computed each season resulting in (1) existing resource QCC values being reduced by the addition of new resources and (2) new resources being credited higher QCCs than they incrementally provide to the system. This request is to consider groupings of existing resources by vintage (2 to 5 year windows) in QCC accreditation to better align new resources with their incremental QCC to the system and retain appropriate QCC for existing investments.

Proposed solution to the issue described:

While we remain open to alternate solutions, we understand the impact of the order in which resources are evaluated for QCC accreditation and believe separating vintage-based groupings to be a viable approach to establishing appropriate QCCs for existing resources apart from incremental resources.

Seasonal QCCs would continue to be studied as per the existing program however accreditation would be performed sequentially with older groupings of resources receiving their accreditation first resulting QCCs more consistent with the time of the investment for both older newer resources.

Noting vintage-based groupings should be based on inclusion in the WRAP program/studies and not the in-service date of the resources as resources may come in and out of the program.

Specific document and language you would like changed:

-

Suggestion for how language could be updated to address issue:

-

Describe the benefits that will be realized from this change:

More appropriate accreditation for both existing and new resources. Increased certainty in resource adequacy planning by preventing accreditation leakage from over-accrediting new resources. More accurate attainment of reliability goals of the program by reducing over-accreditation new resources. Better insulated parties from impacts of other WRAP participants deployment of the resources that would otherwise diminish the value of existing investments. Align incremental resources with their incremental reliability value.

Any data/information that would characterize the importance of the issue:

-

2024-CRF-013 / IDP / Capability Testing Off-Season

WRAP Area:	**Tarriff Change**:	**Time Score:**
FS Demonstration	No	Medium

Lead Sponsor: Nicole Blackwell nblackwell@idahopower.com	**Co-Sponsor:**

Summary: Capability Testing Requirements are Restrictive

Description of the issue:
Capability testing requirements are too restrictive and leads to existing, performing generation, to not receive adequate credit in the Forward Showing. Idaho Power does not typically perform capability tests in the summer due to potential operational issues during peak load conditions.

Proposed solution to the issue described:
BPM 105 should be revised to allow operational data in lieu of a capability test with allowance for unit ambient temperature capacity curves to be applied to data. This approach would still ensure accurate capacity values are reflected in the program, without having to perform capability testing during critical times.

Specific document and language you would like changed:
BPM 105, Section 3.4.2.1 **Capability Test Requirements for Thermal Resources**
Capability Tests conducted for Thermal Resources are used as the base accredited value to which Unforced Capacity (UCAP) calculations are applied (see Section 4.2) to determine final QCC values. A Thermal Resource that is not subject to generator testing requirements (i.e., are not subject to NERC MOD-025 requirements) may have its QCC values determined in accordance with Section 4.2, Option 1, in lieu of performing the Capability Test.

Capability Tests for Thermal Resources will be performed during the Summer Season and must meet the testing requirements specified in BPM 105. A resource may use its Summer Season Capability Test value for both the Summer Season and the Winter Season. If a unit has a greater Net Generating Capability for the Winter Season than for the Summer Season, a separate Capability Test will need to be performed during the Winter Season to claim the higher Net Generating Capability value.

The following requirements must be met for a Thermal Resource Capability Test, documentation of which will be provided to the Program Operator at the time of the FS Submittal Deadline:

1) Summer Capability Tests are to be conducted during a time when the ambient dry-bulb temperature is no more than 10 degrees Fahrenheit below the station ASHRAE Rated Ambient Temperature. At the time of testing, the most recent version of the ASHRAE Fundamentals Handbook shall be utilized. If the dry-bulb temperature exceeds 10 degrees below the ASHRAE Rated Ambient Temperature,

a penalty of 5% plus an additional 0.5% per degree for each additional degree below 10 degrees, up to 20 degrees, will be applied to the Capability Test result. A summer Capability Test shall not be performed in excess of 20 degrees below the ASHRAE Rated Ambient Temperature. There is no ambient temperature requirement for Winter Capability Tests.
2) The unit shall be brought to the desired test load and allowed to stabilize. Once the test period has begun, only minor changes in unit controls shall be made as required to maintain the unit in normal, steady-state operation.
3) The unit capability shall be determined separately for each generating unit in a power plant where the input to the prime mover of the unit is independent of the others. Units that are aggregated into a single Resource Registration and prefer testing aligned with their registered resource and/or are dependent upon common systems (i.e., fuel, steam supply, auxiliary equipment, transmission, etc.) which restrict total output shall be tested simultaneously. Each unit shall be assigned an individual capability by apportioning the combined capability among the units.
4) The fuel used during testing shall be the type expected to be used during peak load conditions.
5) The capability of a unit or plant obtained through non-typical operation (i.e., bypassing feedwater heaters, varying steam conditions, alternate control mode, etc.) is acceptable.

Suggestion for how language could be updated to address issue:
-

Describe the benefits that will be realized from this change:
-

Any data/information that would characterize the importance of the issue:
-

2024-CRF-014 / IDP / Joint-Owner Flexibility

WRAP Area:	**Tarriff Change**:	**Time Score:**
FS Demonstration	No	Short

Lead Sponsor: Nicole Blackwell nblackwell@idahopower.com	**Co-Sponsor:**

Summary: Flexibility for Jointly-owned Resources

Description of the issue:
For jointly-owned resources, if the majority owner/operator does not submit required data on behalf of the resource, there should be an alternative path (documented) for the other owner(s) to receive credit for their share of the resource.

Proposed solution to the issue described:
-

Specific document and language you would like changed:
-

Suggestion for how language could be updated to address issue:

Do not have specific solutions, but it seems that if a participant owner can provide all the same data for their share of the resource as a majority owner/operator can provide for the entire resource, that an exception process or alternative options should be made available in order for minority owners to receive adequate capacity credit. Minority owners should not be beholden to majority owners for compliance.

Describe the benefits that will be realized from this change:
-

Any data/information that would characterize the importance of the issue:
-

2024-CRF-015 / PNM / Planned Outage Clarification

WRAP Area:	**Tarriff Change**:	**Time Score:**
FS Demonstration	Yes	Short

Lead Sponsor: John Mayhew john.mayhew@pnm.com	**Co-Sponsor:** Arizona Public Service

Summary: Clarification Planned Outages Tariff Language/BPM 108

Description of the issue:

Fundamentally, we feel there are issues with the tariff language on Planned Outages. The tariff has a very narrowed scope defining specific Planned Outages, and what may qualify for an exemption. Exemptions appear defined as: out from FS to Binding Season, less than a static value of 500MW per participant, and limited to a single resource(s). Second, there appears to be contradictory, or at minimum, confusing language between the Tariff and the BPM defining Planned Outages in the Forward Showing concerning outage exemptions. Lastly, we have concerns around the compressed time frames, in between non-Binding Seasons, in which Participants could inadvertently create resource adequacy issues planning all regular maintenance outages.

Understanding the Focus of the Tariff:

16.2.8 *"Participants shall include in their Forward Showing Submittal for a Binding Season information on all Qualifying Resources that are currently out of service with a scheduled return date that falls during the Binding Season. Capacity associated with such resources must be deducted from Participants' Portfolio QCC as specified in the Business Practice Manuals to ensure no credit is granted for such resources during the planned outage. The aggregate of any additional outages that are planned to occur during the Binding Season but have not yet begun at the time of submission must be within the Participant's remaining surplus (or replaced with other supply). Participants may provide information on all Qualifying Resources that are planned to be out of service but if such data cannot be supplied with reasonable specificity, a Participant may provide Senior Official Attestation at the time of the submission of its FS Submittal this is expects the sum of planned outages to be equal to or less than the surplus stated in its FS Submittal throughout the Binding Season."*

16.2.8.1 "If a Qualifying Resource is planned to return to service within the first five days of a Binding Season, WPP may approve a qualified acceptance of the FS Submittal, provided the deficiency is less than 500 MW."

16.2.8.2 "A planned outage shall not justify a waiver of or exception to a Participant's holdback or energy delivery obligations under Part III or this Tariff. Participants will be expected to procure the necessary capacity or energy to meet the Operations Program requirements, regardless of planned outage schedules or FS Submittal acceptance."

The Tariff is very specific, and it appears the main concern is Planned Outages out at the time of FS Submittal which will remain out once Binding Season begins. Why is the tariff so narrowly focused?

- There is no mention of a planned outage beginning:
  - After the close of the FS Submittal period
  - During the FS Cure period
  - After the close of the FS Cure Period
- All these other options, are then assumed, to be included in the language, "*The aggregate of any additional outages that are planned to occur during the Binding Season but have not yet begun at the time of submission must be within the Participant's remaining surplus (or replaced with other supply).*"
- If the Tariff is specifying outages, out at the time of the FS Submittal, and still out once the Binding Season begins, then it is focused on planned outages that are 7+ months in duration. This equates to outages 215+ days in length. We would like to understand this thought process.

Exemptions

16.2.8.1 is very specific as what may qualify for an acceptance.

- Assumption: only applies to outages defined in 16.2.8, out from FS to Binding Season. Thus 7+months or 215+ days.
  - Also assumed it is limited per resource, out for 7+ months or 215+ days.
- Must return within the first 5 days of the Binding Season.
  - Therefore, Summer June 1-5 only?
  - And Winter November 1-5 only?
- Must not be above a static 500MW

Potential Contradiction Tariff/BPM and Need for Clarification

The Tariff does mention in 16.2.8.1 WPP **may** approve a qualified acceptance for the FS Submittal should the planned outage return to service within the first five days of the Binding Season.

However, per BPM 108:

3.1.5.1. *"Any Qualifying Resource that is out of service at the time of the FS Deadline and is planned to remain out of service for the first five or more days of a month in the Binding Season **cannot** have such Qualifying Resource's QCC counted toward meeting the Participant's FS Capacity Requirement for that month. To ensure QCC from resources is not utilized to meet a monthly FS Capacity Requirement during the planned outage, the Capacity associated with such resources shall be deducted by identifying the planned outages in the FS Demonstration."*

- The Tariff language states WPP may approve a qualified acceptance while the BPM specifies it cannot count.
- It's possible the intent was to quantify an outage lasting longer than the first five days of the binding season cannot count; however, the inclusion of "*…is planned to remain out of service for the first five or more days of a month…"* makes the intent confusing. Specifically, the inclusion of 'or'.

Logistical Issues with Planed Outages

- Participants are limited to a specific number of calendar days for maintenance, should they wish to ensure they get full credit for all available QCC values in FS Submittals.
- Between the end of Winter Binding Season and the beginning of the Summer Binding Season
  - March 16 – May 31st
  - 77 calendar days
- Between the end of Summer Binding Season and the beginning of the Winter Binding Season
  - September 16 – October 31st
  - 46 calendar day
- Total of 123 calendar days for maintenance, should a participant wish to avoid risking losing QCC availability.
  - During these 123 calendar days, 21 WRAP entities (excluding Shell) will be trying to schedule all maintenance
    - This potentially could limit the availability of contractor labor, should all entities be vying for the same 123 calendar days.

This potentially could inadvertently create a resource adequacy issue, outside of the binding season, as all participants could be taking a great deal of capacity out of service at the same time.

Proposed solution to the issue described:
More clearly defined language to the WRAP Tariff, specifically articles 16.2.8 and 16.2.8.1. Also, change to the language for BPM 108, specifically 3.1.5.1. Broaden the definition to planned outages, specify what qualifies for an exception. Provide more flexibilities for WRAP entities to better manage planned outages. Allow for some flexibility for participants to take into consideration of their portfolio size. Not limit to single outages, out for long durations, and limited to a static MW value.

Specific document and language you would like changed:
16.2.8 *"Participants shall include in their Forward Showing Submittal for a Binding Season information on all Qualifying Resources that are currently out of service with a scheduled return date that falls during the Binding Season. Capacity associated with such resources must be deducted from Participants' Portfolio QCC as specified in the Business Practice Manuals to ensure no credit is granted for such resources during the*

planned outage. The aggregate of any additional outages that are planned to occur during the Binding Season but have not yet begun at the time of submission must be within the Participant's remaining surplus (or replaced with other supply). Participants may provide information on all Qualifying Resources that are planned to be out of service but if such data cannot be supplied with reasonable specificity, a Participant may provide Senior Official Attestation at the time of the submission of its FS Submittal this is expects the sum of planned outages to be equal to or less than the surplus stated in its FS Submittal throughout the Binding Season."
16.2.8.1 "If a Qualifying Resource is planned to return to service within the first five days of a Binding Season, WPP may approve a qualified acceptance of the FS Submittal, provided the deficiency is less than 500 MW."

3.1.5.1 *"Any Qualifying Resource that is out of service at the time of the FS Deadline and is planned to remain out of service for the first five or more days of a month in the Binding Season cannot have such Qualifying Resource's QCC counted toward meeting the Participant's FS Capacity Requirement for that month.*

Suggestion for how language could be updated to address issue:
Potential Recommendations to Language Changes to the Tariff and/or BPM

- Adjust the start of the Winter Season from November 1st to December 1st (or a mid-November date)
    - PNM has an "unwritten rule", per the direction of our generation personnel, that it's acceptable to schedule planned maintenance up until Thanksgiving week, specifically for contract labor.
    - In the spring the "unwritten rule" is scheduling up until Memorial Day week.
    - Consideration for what may be "Winter" or "Summer" binding seasons for SWEDE may differ for MIDC, allow for some flexibility.
- Remove the language that specifies "*…all Qualifying Resources that are currently out of service (at FS) with a scheduled return date that falls during the Binding Season."*
    - Eliminate the specification of outages that are 215+ days in length.
    - Eliminate that it's limited to a single unit (or units).
- Change Tariff and BPM language that allows for entities to submit a Qualified Acceptance for outages, falling within the Binding Season, provided they are: (just examples, this could be added to)
    - Within the first or last XX days (number TBD) of the Binding Season.
        - Or eliminate this definition all together.
    - The outage is not planned for a duration longer than any 5 days total (or number TBD) within the Binding Season.
    - The outage(s) is(are) a portfolio wide threshold.
        - Eliminate the static value of 500MW for all participants regardless of size

▪ Perhaps make the value a percentage of a participant's P50 Load + PRM (TBD)
Describe the benefits that will be realized from this change: Clarifying the intent of the Tariff and BPM language would be beneficial. Allowing entities to better understand which outages may qualify for an acceptance. Also, these recommendations would provide some flexibility to entities, specifically potentially expanding the overall maintenance window by 60 calendar days. Lastly, it would also ensure all WECC entities can comfortably schedule required maintenance and not be competing with one another for limited resources, or inadvertently creating resource adequacy issues outside of Binding Seasons.
Any data/information that would characterize the importance of the issue: -

2024-CRF-017 / IDP / Monthly PRM Volatility

WRAP Area:	**Tarriff Change**:	**Time Score:**
FS Capacity Requirement	Yes	Long

Lead Sponsor: Nicole Blackwell nblackwell@idahopower.com	**Co-Sponsor:**

Summary: PRMs

Description of the issue:

Proposed solution to the issue described:

The calculation of monthly PRMs should be evaluated to determine whether they are achieving the intended goals and accurately modeling the mitigation of loss of load probability, while also achieving stability and mitigating volatility. Monthly PRMs provide beneficial granularity and flexibility but have exhibited some concerning volatility month-to-month. Idaho Power has seen some shoulder season months with load + PRM total obligation significantly exceeding Idaho Power's own extreme weather load forecasts as well as its own long-term planning load forecasts + Idaho Power's PRMs. Idaho Power is asking for a comprehensive effort to evaluate, review, and consider alternatives to the calculation of the monthly PRMs.

Idaho Power also supports the desire for stability that is reflected in change request 2024-CRF-002.

Specific document and language you would like changed:

-

Suggestion for how language could be updated to address issue:

-

Describe the benefits that will be realized from this change:

-

Any data/information that would characterize the importance of the issue:

-

2024-CRF-018 / BPA / PRM out of FS Transmission Requirement

WRAP Area:	**Tarriff Change**:	**Time Score:**
FS Transmission Requirement	Yes	Medium

Lead Sponsor: Steve Bellcoff srbellcoff@bpa.gov	**Co-Sponsor:**

Summary: Remove PRM from Forward Showing 75% Firm Transmission Requirement

Description of the issue:
WRAP Tariff (16.3) requires FS workbook demonstration of firm transmission from source to sink for 75% of the capacity used to serve P50 load +PRM. Demonstration of firm transmission for 25% of the capacity used to serve P50 loads + PRM is not required.

When PRMs approach or exceed 25% (March for example) it is possible to completely consume the 25% non-firm transmission buffer with PRM capacity.

Consuming the 25% buffer with PRM capacity leaves participants with a requirement to demonstrate that 100% of capacity shown to serve P50 load is accompanied by source to sink firm transmission 7 months in advance of flow. Intent of the 75% transmission requirement was to recognize that at the Forward Showing time frame a participant may not have acquired 100% of the firm transmission needed to serve P50 peak load.

Requiring firm transmission 7 months in advance for 100% of P50 peak load is problematic for many loads served by contracts (sourced from a system they qualify as WRAP capacity).

Proposed solution to the issue described:
Remove PRM from the Forward Showing Firm Transmission requirement calculation.

Specific document and language you would like changed:
Tariff section 16.3, FS Capacity Requirement: Exclude PRM from 75% firm source to sink requirement.

Suggestion for how language could be updated to address issue:
-

Describe the benefits that will be realized from this change:
This change would recognize that Firm Transmission is a finite resource and that requiring firm transmission for the PRM causes purchase and holding of that limited transmission capability that is not readily available. Filing for exclusions on transmission requires constant monitoring and submittal to the program which causes an administrative burden. Participants are still responsible for sharing in the Operations period, as a result the program already included the mechanism to incentives participants to be responsible in acquiring the required transmission to serve load and sharing ability.

Any data/information that would characterize the importance of the issue: -

2024-CRF-019 / IDP / Resource Aggregation

WRAP Area:	**Tarriff Change**:	**Time Score:**
FS Demonstration	No	Short

Lead Sponsor: Nicole Blackwell nblackwell@idahopower.com	**Co-Sponsor:**

Summary: Resource Aggregation

Description of the issue:
Resource aggregation is currently limited to qualifying resources that are less than 1 MW. The cap on the size of individual resources eligible for aggregation should be increased, if not removed, if the aggregation criteria listed in BPM 105 is met. Idaho Power understands some additional criteria may be needed, or perhaps aggregation would be subject to review and approval by SPP/WPP. However, Idaho Power desires more flexibility regarding aggregation**.**

Proposed solution to the issue described:
Remove or increase the limitation of 1 MW for resource aggregation.

Specific document and language you would like changed:
Section 3.3 of BPM 105 **Qualifying Resource Aggregation (Resources <1 MW)**
Qualifying Resources that are less than 1 MW in size may be aggregated to obtain the minimum 1 MW registration requirement.

Qualifying Resources that are aggregated will need to have a common injection point of capacity to the transmission system. Aggregations of generators at different distribution substations may be allowed provided the generators are in the same BAA, same zone (as applicable by resource type), and are the same resource type.

For Qualifying Resources that are requested to be aggregated, the following information should be provided to the Program Operator.

- For the aggregated facility:
  - o Quantity of generators being aggregated.
  - o Combined nameplate of generators being aggregated.
  - o One-line diagram of the transmission/distribution system at which the generators are located.
- For each generator being aggregated:
  - o Nameplate.
  - o Location of power injection to the transmission system (substation).
  - o Supporting information for QCC evaluation.

This information will be provided to the Program Operator in a form that will be provided with the Advance Assessment Data Request workbook on the WPP website.

Suggestion for how language could be updated to address issue:
Remove or increase the limitation of 1 MW for resource aggregation.

Describe the benefits that will be realized from this change: Creates ease and consistency in reporting. Idaho Power has a few sets of projects with common POIs and ownership that are aggregated under single CAISO resource IDs for EIM participation and the data for these sets of projects is available on a aggregated basis. It seems reasonable that this would be sufficient for WRAP, and would allow Idaho Power to leverage existing data and create consistency.
Any data/information that would characterize the importance of the issue: -

2024-CRF-020 / BPA / Forward Showing Waiver

WRAP Area:	**Tarriff Change**:	**Time Score:**
FS Demonstration	Yes	Long

Lead Sponsor: Steve Bellcoff srbellcoff@bpa.gov	**Co-Sponsor:**

Summary: Waiver for Forward Showing capacity lost/delay

Description of the issue:
Section 16.2.4 of the Tariff currently only allows participants to seek waivers of FS capacity requirements if capacity lost b/c of catastrophic failure due to Force Majeure. The inability to show sufficient specified source capacity at FS deadline could occur due to no fault of the participant and for credible reasons – aside from Force Majeure. Not having a waiver beyond Force Majeure is an issue other events such as but are not limited to: supply chain constraints, lawsuits, developer failure to perform, appearance of loads not previously forecasted, unable to obtain sellers signature on JCAF, are all true legitimate reasons additional space is needed for a waiver

Proposed solution to the issue described:
Provide opportunity to seek waivers from FS Capacity requirements for legitimate reasons beyond Force Majeure.

Specific document and language you would like changed:
Additional waiver language in 16.2.4.
A Participant may include in its Forward Showing Submittal a request for an exception from its FS Capacity Requirement for an insufficiency of its Portfolio QCC solely due to (i) a catastrophic failure of one or more Qualifying Resources due to an event of Force Majeure as defined by Section 8.1 of this Tariff that (ii) the Participant is unable to replace on commercially reasonable terms prior to the FS Deadline as a result of the timing and magnitude of such catastrophic failure and its consequences. As more fully set forth in the Business Practice Manuals, such exception request shall be supported by a Senior Official Attestation. The exception request must include complete information on the nature, causes and consequences of the catastrophic failure, and must describe the Participant's specific, concrete efforts prior to the FS Deadline to secure replacement Qualifying Resources for the applicable Binding Season. WPP will consider the exception criteria established by this section, the information provided in the exception request, the completeness of the exception request, and other relevant data and information, in determining whether to grant or deny an FS Capacity Requirement exception request. WPP shall provide such determination no later than sixty days after submission of such Participant's FS Submittal containing such FS Capacity Requirement exception request. A Participant granted an exception hereunder must complete a monthly exception check report demonstrating that either the circumstances necessitating the exception have not changed; or that Qualifying Resources have become available, and the Participant has acquired them and no longer requires the exception. Failure to timely submit a required monthly report will result in

assessment of a Deficiency Charge, unless the deficiency is cured within seven days of notice of non-compliance. A Participant denied an exception request hereunder may appeal such denial to the Board of Directors in accordance with the procedures and deadlines set forth in the Business Practice Manuals. In such event, the requested exception shall be denied or permitted as, when and to the extent permitted by the Board, in accordance with the procedures and timing set forth in the Business Practice Manuals. WPP shall give notice of any exception granted hereunder in the time and manner provided by the Business Practice Manuals.
Suggestion for how language could be updated to address issue: -
Describe the benefits that will be realized from this change: Reduces the risk of failure to meet Forward Showing Capacity requirements, due to causes outside the control of a participant. Removes a risk factor for participation in program by having waiver ability when unexpected events happen outside of Force Majeure.
Any data/information that would characterize the importance of the issue: -

2024-CRF-021 / BPA / Delivery Failure Charge Cap

WRAP Area:	**Tarriff Change**:	**Time Score:**
Operations Program	Yes	Long

Lead Sponsor: Steve Bellcoff srbellcoff@bpa.gov	**Co-Sponsor:**

Summary: Cap on Non-Delivery Failure change associated with curtailment of non-firm transmission

Description of the issue:

There are periods and paths where firm transmission is not available in any time period Forward Showing, preschedule or RealTime). It follows that there are occasions when scheduling the delivery of energy (from a holdback) on non-firm transmission is the only option. Curtailment of non-firm transmission and ensuing failure to deliver could result in a Failure to Deliver Charges. (Tariff section 20.6).

Section 20.7.3. of the Tariff provides a waiver process for participants who anticipate a failure to deliver. If approved, the participant is not required to deliver holdback. It is not clear if this waiver should apply or be approved for holdback scheduled on non-firm. Of course, there are appropriate situations for a waiver due to lack of firm transmission (de-rates, outages), but if all lines are in service and firm is not available (this scenario) and tags cut w/out advance notice without a waiver a participant is exposed to large penalties. Limiting holdback supply because of a lack of firm transmission may leave the program short capacity in the Operational window and is overly conservative since a large quantity of energy is delivered across non-firm transmission on a regular basis, and in fact WRAP energy delivered through non-firm schedules does not require a waiver.

Aside from the waiver, participants face Failure to Deliver penalties (Section 20.7.4) if non-firm schedules are reduced or cut entirely. The stiffness of the penalty depends on whether another participant can "fully" cover the undelivered energy. If fully covered the first failure is 5-times the higher of DA or RT index, if not covered, the first failure to deliver penalty is 25 times the higher of the DA or RT index. These penalties have a 5-year cumulation period; a single hourly curtailment in year one starts the 5-year clock triggering higher penalties for the duration of the 5-year period. A second curtailment *of a single hour* within the 5-year period could result in a penalty 50 times the higher of DA or RT index if another participant does not "fully" cover for curtailment. (20 times index if another participant fully covers.) Punitive. Especially if participants tried but could not obtain firm transmission to deliver energy assigned by the program from a holdback in the operational window.

Revenues from Failure to Deliver Penalties go to WRAP Schedule 1 costs if holdback fully covered by another participant. If holdback not fully covered by other participants,

revenues go to the entity who had the shortfall which was not covered. The Tariff is not clear what happens if the shortfall is partially covered by another participant.

Finally, there are systems/markets in place today which cover failure to deliver scenarios in WECC: On the physical replacement side we have Merchant Alerts, EIM, WPP reserve sharing group and EEA alerts. Financially we have WPP and EIM settlements, and WSPP LDs. In the absence of negligence or mal-intent, no need for a third WRAP penalty/settlement structure.

Proposed solution to the issue described:
If the participant with the holdback obligation attempted to purchase short term firm in both the preschedule and real time, but only non-firm transmission was available (and secured), or the participant redirected firm PTP on an hourly basis to provide holdback but the child/children were non-firm; then the Failure to Deliver Charges should be capped at higher of DA or RT index (no multiplier) and these events should be excluded from the Cumulative Delivery Failure Period tally.

Specific document and language you would like changed:
Either expressly add the afore-mentioned exemption language provided to Tariff Section 20.7.3 or to both Sections 20.7.4.1 and 20.7.4.2 of the Tariff.

Suggestion for how language could be updated to address issue:
-

Describe the benefits that will be realized from this change:
Participant(s) who are long and attempting to provide holdback on firm transmission should not be punished for trying to deliver on firm, but not able to secure. Conversely participants who are short should not be enriched by the revenue associated with penalties forced on participants who are not able to obtain firm transmission.

Any data/information that would characterize the importance of the issue:
Firm transmission is often not available and curtailments are possible. The WRAP program is voluntary; exposing participants to penalty risk (at multipliers of current market value) due to the lack of availability of firm transmission, creates risk situation that will cause participants (and/or potential participants) to have high dollar risk scenarios could/will drive those entities away from the program. Lacking ill intent or negligence, it is sustainable and logical for the WRAP to assign penalties in-line with actual costs when a participant has taken the measure possible to assure delivery even through non-firm transmission when firm simply is not available.

2024-CRF-024 / PAC / Flat Load and PRMs

WRAP Area:	**Tarriff Change**:	**Time Score:**
FS Capacity Requirement	Yes	Long

Lead Sponsor: Benjamin Faulkinberry Benjamin.faulkinberry@pacificorp.com	**Co-Sponsor:**

Summary: Program Consideration of Data Center Additions and Other Large Non-Conforming Loads

Description of the issue:
A significant amount of utilities' anticipated load growth is attributed to large, non-conforming loads with high load factors such as data centers. WRAP modeling practices and policy may need to adapt as loads of this nature comprise a growing percentage of load within the program footprint. The WRAP will want to ensure it has considered this industry dynamic when establishing individual Participants' Forward Showing capacity requirements. Furthermore, Participants and their regulators will be looking to WRAP to ensure Participants who bring these types of loads online earlier than other Participants, or Participants whose load profiles contain larger percentages of these types of loads are not shouldering an inequitable amount of capacity needed to support a 1-in-10 LOLE regional reliability metric.

Proposed solution to the issue described:
Possible program changes could include:

-Participants with demonstrable significant loads which fit defined parameters may be allowed by the program to bifurcate these loads in their respective FS submittals, and these loads may have a separate PRM or associated capacity requirement. This separate PRM value or capacity requirement would reflect the non-weather-sensitive and high load factor attributes of this load while still supporting a 1-in-10 LOLE regional reliability metric.

-If loads of this nature are kept in the pool of existing program load, the program may adjust an individual Participant's applicable PRM to reflect the proportion of these loads within a Participant's P50 load forecast.

-If customer loads of this nature have curtailment provisions in their respective agreements with their local load-serving entity, some or all of the load may instead be treated as a DR program.

-Customer loads of this nature with behind-the-meter generation which can be called upon by the local utility in a reliability emergency (but cannot be injected into the grid), or, have curtailment provisions in their respective interconnection agreements may be considered "non-firm load" and thus excluded from the WRAP FS P50 load forecast. This

would be similar to a Participant selling non-firm energy or capacity which can be recalled if needed to serve firm obligations. Discussion and studies may arrive at different solutions not included in this list of possibilities.
Specific document and language you would like changed: -
Suggestion for how language could be updated to address issue: -
Describe the benefits that will be realized from this change: The WRAP devoting time and resources to study the effects of load growth associated with this category of customer has multiple potential benefits to Participants as well as the credibility of the program. The WRAP may conclude it can afford a lower capacity requirement associated with these loads without sacrificing regional reliability if a Participant can demonstrate the individual loads meet program-defined parameters. Even if discussion and studies result in no change in program requirements to accommodate these types of loads, Participants will have public resources to reference in discussions with regulators as well as prospective customers who wish to connect this type of load.
Any data/information that would characterize the importance of the issue: The Western Electric Coordinating Council's 2024 Assessment of Resource Adequacy is one of a number of public documents and statements from industry groups and utilities which highlight the amount of load growth associated with this category of customer.

2024-CRF-025 / IPC / Qualifying Contract Options and Review

WRAP Area:	**Tarriff Change**:	**Time Score:**
Resource Accreditation	No	Long

Lead Sponsor: Nicole Blackwell nblackwell@idahopower.com	**Co-Sponsor:**

Summary: Qualifying Contracts

Description of the issue:

Idaho Power appreciates the transition plan that participants developed and the flexibility that it contains to allow participants to achieve compliance over a phased approach as resources are built and bilateral market products develop that support WRAP compliance. Idaho Power would like to explore concepts around WRAP-compliant market purchase products and options if such products are not available and there is insufficient time to pursue building a resource instead, even after the transition period is over and the program is in the fully-binding phase.

Idaho Power is also possibly interested in a renewed detailed review of the requirements for qualifying contracts, including in BPM 106, and to the extent necessary, BPM 105, to ensure WRAP participants have a common understanding of the requirements for qualifying contracts, and to consider whether changes to BPM 106 or the tariff could be appropriate to reflect participants' intent, provide additional clarity, or resolve outstanding questions or inconsistencies.

Proposed solution to the issue described:

-

Specific document and language you would like changed:

-

Suggestion for how language could be updated to address issue:

-

Describe the benefits that will be realized from this change:

-

Any data/information that would characterize the importance of the issue:

-

2024-CRF-026 / Form Energy / Indicative QCCs

WRAP Area:	**Tarriff Change**:	**Time Score:**
Resource Accreditation	Yes	Medium

Lead Sponsor: Mark Thompson mthompson@formenergy.com	**Co-Sponsor:**

Summary: Establish a process for providing indicative accreditations to new resource types.

Description of the issue:

As utilities determine optimal resources to add to their portfolio to ensure reliability, affordability, and to serve loads in accordance with state policies, it seems likely that emerging resource technologies will be considered. This could include geothermal, hydrogen, long-duration energy storage, multi-day energy storage, or a variety of other technologies. The ability of such resources to bolster resource adequacy, and to count toward compliance with required resource adequacy showings under the WRAP is a significant portion of the value of such resources to utilities.

Under the current WRAP practices, it appears that resource types will not be accredited (i.e. receive a QCC value) until a participant utility shows it owns or has contracted for the resource. (See BPM 105, Section 3.1). With respect to emerging resource technologies, this means that the QCC value of the resource, an important piece of the value of the resource to the utility, cannot be known until the resource has been acquired. And, because the resource is an emerging technology, there may be heightened uncertainty about how an accreditation for a QCC will play out. In short, the accreditation process for emerging resource technologies may lead to a "chicken and egg" scenario, where utilities are hesitant to acquire emerging resources before knowing their QCC, and yet they will not know their QCC until they have acquired the resources. Even though many emerging technologies are focused on trying to solve future challenges of the grid (including resource adequacy and reliability), this conundrum could lead to a situation where beneficial new technologies are not brought to the region's grid or, at the least, such progress may be unnecessarily slowed.

Proposed solution to the issue described:

The WRAP could include a process for emerging resources to be given an "indicative accreditation." Such an accreditation could be provided for emerging technologies where requested by a participant utility, or some number of participants or stakeholders. This indicative accreditation would give participant utilities guidance about the resource adequacy value that would be expected from a resource, which could assist them in evaluating the overall business case for emerging technologies. In order to receive an indicative value, a utility would not have to show ownership or rights to the resource.

Specific document and language you would like changed:

Section 3.1 of BPM 105 sets forth the process by which resource registration occurs, and describes how that leads to an accreditation under the WRAP. This language could be modified to describe that emerging technologies are able to receive an indicative accreditation. Or, it could refer to a new subsection that describes the process for an indicative accreditation.

Suggestion for how language could be updated to address issue:

Section 3.1 could be modified to say, after the first full paragraph, "A Participant may request that a resource receive an indicative accreditation in order to give more clarity to the expected accreditation, or a range of potential accreditations, that such a resource would receive under the program, upon a showing that the resource is an emerging technology, for which the QCC value may be unclear. An indicative accreditation will be provided in accordance with subsection XX.XX."

A new section could then describe the process and conditions for receiving an indicative accreditation. This description could include:

- Requiring a description of why an indicative accreditation is appropriate and beneficial;
- A requirement to provide available information about the resource to allow for a reasonable assessment, along the lines of the information provided for resources that are owned or contracted;
- The conditions under which an indicative accreditation will be granted; and
- An explanation that the accreditation is indicative only, and not binding or necessarily an accurate assessment of any future accreditation of QCC.

Describe the benefits that will be realized from this change:

1. An indicative accreditation will allow Participant utilities to better understand the value proposition associated with emerging technologies, and would make the process of deploying beneficial new technologies in the region more efficient. Given that many new emerging technologies are intended to benefit reliability and resource adequacy in new and important ways, this will benefit customers and provide utilities with more clarity around their choices as they evaluate what resource to acquire.
2. Providing an indicative accreditation for emerging technologies will also benefit the WRAP program by allowing a process whereby ambiguities or uncertainties can be worked through prior to the time an actual, final QCC must be determined for new resource types.

Any data/information that would characterize the importance of the issue:

-

2024-CRF-027 / BPA / Load Responsibility Transfer

WRAP Area: FS Demonstration & Operations Program	**Tariff Change**: Yes	**Time Score:** Long
Lead Sponsor: Steve Bellcoff srbellcoff@bpa.gov	**Co-Sponsor:**	

Summary: Loads Transfer between Forwards Showing and Operations

Description of the issue:

In real life, entities have made contractual agreements with other parties to serve load outside LRE's home BAA (and any changes to that load) in the operating day. That means that the Load Responsible Entity (LRE) has put in place a contract with another entity to serve the load, and any and all fluctuations in that load after an established scheduling deadline (typically preschedule). The LRE does all the planning for load service. Generally, the LRE, through an agreed upon schedule and forecast, arranges for a transfer schedule of energy to the second entity on the preschedule day, the second party takes that transfer schedule and then meets the end use load as it actually appears.

WRAP methodology and calculations hold the LRE responsible for this load from Forward Showing through the Operations program time frame until the hour of delivery, which is different than how these loads are served real life due to afore-mentioned agreements that have been put in place between parties.

WRAP needs a mechanism that allows the shifting of responsibility for loads (Transfer) between Forward Showing and the Operations program time periods, when and where contractual mechanisms are in place, outside of WRAP, for real time load serves by another party

Proposed solution to the issue described:

WRAP methodology that allows the LRE to hold responsibility in the Forward Showing, but shift the load to a second party during the Operations program. This 'Transfer' of load would align Load Service Responsibility with what has been contracted for in real operations.

Without this shift the LRE (FS planning participant) continues to see this load as part of it sharing calculation all the way through the Operations Program to the T-120 sharing calculations, while in fact that load shifted from one participant to another entity. Embedded in the sharing calculation is the uncertainty calculation, when that load is 'Transferred' from one entity to another, the uncertainty in the sharing calculation would also shift as well, aligning that uncertainty with the actual delivery.

When the LRE established a schedule at the defined contractual time (say preschedule), that is the delivery schedule – no uncertainty exists for the LRE related to that load, it is

now a fixed scheduled, however the second entity now has all the uncertainty related to that load from the scheduling time to deliver hour. Allowing a load Transfer between Forward Showing and Operations Program, would put all Forward Showing planning and load responsibility with the LRE, then through the 'transfer' realign that operational responsibility (and uncertainty) to the entity who is contractual serving the load on the Operating hour.

*Note – Transfer concept may require a link to NT transmission service.

Specific document and language you would like changed:

-

Suggestion for how language could be updated to address issue:

-

Describe the benefits that will be realized from this change:

More accurate reflection of how loads are served in reality. Allowing a Transfer of load, would align WRAP Operations Program calculations with real operations for participants who have these contracts in place (both party and counter party to these agreements). This would allow Operations Program uncertainty to align with the party serving the load on the operating hour, while still holding the LRE responsible in WRAP for all forward planning requirements that are their responsibility in the real world.

Any data/information that would characterize the importance of the issue:

-

2024-CRF-031 / EWEB / Bilateral Contracts

WRAP Area:	**Tarriff Change**:	**Time Score:**
Resource Accreditation	No	Medium

Lead Sponsor: Jonathan Hart Jonathan.hart@eweb.org	**Co-Sponsor:**

Summary: Bilateral Contract Support

Description of the issue:
EWEB is seeking support for development of a bilateral, WRAP compliant legal framework for capacity contracts where financial damages for non-performance under the program can be appropriately conveyed to an upstream party who failed to perform, thus shielding a WRAP participant from FS and Ops penalties for inadequacy and non-performance.

Proposed solution to the issue described:
No suggested solution other than to engage with legal staff to determine/standardize a set of edits that could be applied to an bilateral contract to make it WRAP compliant. This could include edits to a standard WSPP agreement, though the intent is not to work through the WSPP contract revision process.

Specific document and language you would like changed:
-

Suggestion for how language could be updated to address issue:
-

Describe the benefits that will be realized from this change:
The WRAP tariff defines penalties for inadequacy and non-performance which are assessed to participants. For the program to be successful, participants need to be able to efficiently develop commercial arrangements to support trade liquidity for capacity products. Standardization of commercial terms and trade liquidity supports the cost effectiveness of the program as it simplifies the ways in which participant and non-participants can work together to solve form program capacity needs. At times, this will mean that one party needs to be able to effectively take on the financial liability on non-performance from another party.

Any data/information that would characterize the importance of the issue:
-

Appendix A

Markets+ Must-Off Protocols

DATE: 08/06/2024
IMPACTED WG/TF: MRATF
SUBJECT AREA: DESIGN
MARKETS+ TARIFF

- **Attachment A:** 5.1.1 & 5.1.2

MARKETS+ PROTOCOLS

- 4.2.1

MARKETS+ TARIFF

5.1.1 Day-Ahead Market and Reliability Unit Commitment

Market Participants are required to offer a minimum amount of Resource capacity to the Day-Ahead Market. Market Participants must make available that same minimum amount of Resource capacity to the initial RUC process after the Day-Ahead Market closes. A Market Participant's Resource capacity is the sum of the offered capacities of Resources with a commitment status of Market, Self, or Reliability Must Run as described in Attachment A, Section 4.1. After satisfying the must offer obligation, a Market Participant may offer any remaining Energy or capacity to the market at its discretion. Market Participants satisfy this Day-Ahead must offer requirement by meeting the criteria set forth below (A) during non- binding seasons, and the lesser of (A) or (B) below in binding seasons, as defined in the Resource Adequacy Program. During the binding season, in the event that the calculation of (A) exceeds (B), the capacity amount determined under (B) will act as a ceiling on the Market Participant's must offer requirement, as (B) represents the maximum amount the Market Participant is required to offer to Markets+.

(A) Each Market Participant will satisfy the must offer obligation by offering resource capacity greater than or equal to the sum of that Market Participant's (1) load and (2) Flexibility Reserve Products obligations, adjusted by (3) obligations to supply to or rights to receive from the Resource Adequacy Program and adjusted by (4) net position for each Operating Hour based on the following criteria:

(1) A Market Participant's load for purposes of this section will be equal to the hourly load forecast for the Market Participant for use in the RUC processes and RTBM, as described in Attachment A, Section 7.5.

(2) A Market Participant's hourly Flexibility Reserve Products obligation will be equal to the sum of that Market Participant's Short-Term Flex Up and Mid-Term Flex Up obligations as estimated by the Market Operator in accordance with Attachment A, Section 7.4.

(3) A Market Participant's obligation to supply to or right to receive energy from the Resource Adequacy Program is described in the Markets+ Protocols.

(4) A Market Participant's net position is forward purchases minus forward sales impacting an LRE's load obligation, as described in the Markets+ Protocols.
(5) The Resource capacity for a Market Participant is reduced by the total Self-Charging MWs of all MSRs registered to that Market Participant for the Operating Hour.

(B) Each Market Participant will satisfy the maximum must offer obligation by offering Resource capacity greater than or equal to the Market Participant's (1) Resource Adequacy Program forward showing requirement during a binding season as defined by the Resource Adequacy Program, adjusted by (2) any obligations to further supply to or rights to receive energy from the Resource Adequacy Program, adjusted by (3) net position, and adjusted for (4) day-ahead forecasted fleet performance based on the following criteria:

(1) A Market Participant's forward showing requirement is the quantity of capacity required to demonstrate adequacy for the Resource Adequacy Program for each Operating Day during a binding season.
(2) A Market Participant's obligation to supply or rights to receive energy from the Resource Adequacy Program, is described in the Markets+ Protocols.
(3) A Market Participant's net position is forward purchases minus forward sales impacting an LRE's load obligation, as described in the Markets+ Protocols.
(4) A Market Participant's adjustment for forecasted day ahead fleet performance is the sum of any forced outages, unplanned unavailability and unplanned change of capacity of Resources registered to the Market Participant for the Operating Hour, and further described in the Markets+ Protocols.

(C) To the extent that a Market Participant does not meet the conditions described in Sections 5.1.1(A) or (B), the Market Participant will be deemed noncompliant with the must offer obligation for that hour. The Market Operator will assess a penalty amount equal to the product of the shortfall capacity and the associated Day-Ahead Market LMP as described below.
(1) A Market Participant's shortfall capacity for an Operating Hour is equal to the lesser of the difference between the resource capacity and Day-Ahead Market must offer obligation, as described above in Section 5.1.1(A) and (B).
(2) The Must Offer Penalty LMP is calculated as the average of the Day- Ahead LMP for the Market Participant's Resources in the Operating Hour with the shortfall. If a Market Participant has no registered Resources, then the Markets+ Marginal Energy Component will be used. In no case will the penalty be less than $0.00.
(3) The Market Operator will distribute any collected Day-Ahead must offer penalties for an Operating Hour as detailed in Attachment A, Section 9.2.17.

5.1.2 Real-Time Balancing Market

Market Participants are required to offer Resource capacity to the RTBM as described below. A Market Participant's Resource capacity is the sum of Resources offered with a commitment status of Market, Self, or Reliability Must Run as described in Attachment A, Section 4.1. After satisfying the must offer obligation, a Market Participant may offer any remaining Energy or capacity to the market at its discretion. Market Participants satisfy this requirement by meeting the lesser of the criteria set forth in (A) or (B) below:

(A) Each Market Participant will satisfy the must offer obligation in an Operating Hour by offering Resource capacity greater than or equal to the sum of (1) cleared Day-Ahead Market Energy, (2) cleared Flexibility Reserve Products, and (3) incremental Market Commitments from the RUC process, adjusted by (4) obligations to supply to or rights to receive from the Resource Adequacy Program and adjusted by (5) deviation in net position for each Operating Hour based on the following criteria:

(1) A Market Participant's cleared Day-Ahead Market Energy is the sum of Energy cleared in the Day-Ahead Market for all Resources registered to the Market Participant for the Operating Hour.

(2) A Market Participant's cleared Day-Ahead Market Flexibility Reserve Products is the sum of Short-Term Flex Up and Mid-Term Flex Up cleared in the Day-Ahead Market for all Resources registered to the Market Participant for the Operating Hour.

(3) A Market Participant's incremental commitments from the RUC process is the sum of energy dispatch associated with incremental commitments from the initial RUC process for all Resources registered to the Market Participant for the Operating Hour, further described in the Markets+ Protocols.

(4) A Market Participant's obligation to supply energy to or right to receive energy from the Resource Adequacy Program is described in the Markets+ Protocols.

(5) A Market Participant's deviation in net position is determined by comparing the final net position to the net position that cleared in the Day-Ahead Market for the Operating Hour and further described in the Markets+ Protocols.

(6) The resource capacity of a Market Participant is reduced by the total Self-Charging MWs of all MSRs registered to that Market Participant for the Operating Hour.

(B) During the binding season each Market Participant will satisfy the must offer obligation by offering Resources greater than or equal to the higher of the Day-Ahead compliance amount described in Section 5.1.1(B) and the Real-Time must offer amount described in Section 5.1.2(A) (1, 2 & 3), adjusted by (1) further obligation to supply energy to or receive energy from the Resource Adequacy Program not accounted for in the Day-

Ahead Market, adjusted by (2) net position not accounted for in the Day-Ahead Market and adjusted by (3) fleet performance changes not accounted for in the Day-Ahead Market.

During a non-binding season each Market Participant will satisfy the must offer obligation by offering Resources during the non-binding season greater than or equal to the Real-Time must offer amount described in Section 5.1.2(A) (1, 2 & 3), adjusted by
(2) net position not accounted for in the Day-Ahead Market and adjusted by three (3) fleet performance changes not accounted for in the Day-Ahead Market.

(1) A Market Participant's obligation to supply or rights to receive energy from the Resource Adequacy Program, is described in the Markets+ Protocols.

(2) A Market Participant's net position not accounted for in the Day-Ahead Market are further described in the Markets+ Protocols.

(3) A Market Participant's adjustment for fleet performance changes not accounted for in the Day-Ahead Market is the sum of unplanned unavailability or reduction of capacity of Resources registered to the Market Participant for the Operating Hour compared to the unplanned unavailability or reduction of capacity of the Market Participant for the Operating Hour offered into the Day-Ahead Market and further described in the Markets+ Protocols.

(C) A Market Participant not meeting the conditions described in Sections 5.1.2(A) or (B), the Market Participant will be deemed noncompliant with the must offer obligation for that Operating Hour. The Market Operator will assess a penalty amount equal to the product of the shortfall capacity and the associated RTBM LMP as described below.

(1) A Market Participant's shortfall capacity for the Operating Hour is equal to the lesser of the difference between the resource capacity and Real Time Balancing Market must offer obligation, as described above in Section 5.1.2 (A) and (B).

(2) The Must Offer Penalty LMP is calculated as the average of the RTBM LMP for the Market Participant's Resources in the Operating Hour with the shortfall. If a Market Participant has no registered Resources, then the Markets+ Marginal Energy Component will be used. In no case will the penalty be less than $0.00.

(3) The Market Operator will distribute any collected Real-Time must offer penalties for an Operating Hour as detailed in Attachment A, Section 9.3.26.

MARKETS+ PROTOCOLS

1. Must Offer Obligation

1.1 Definitions to be included in the Protocols Glossary

(NOTE: Certain defined terms below come from the M+ tariff and will NOT be reproduced within the Protocols so inconsistency can be best avoided).

Binding Seasons: Summer (June 1st through September 15th) and Winter (November 1st through March 15th). Note that WRAP Holdback Requirement as defined below is applicable only during these Binding Seasons.

Ceiling: The maximum quantity required for a Market Participant's Must Offer Obligation. The source of the Ceiling is the table in section 1.3 below and provided by the Market Participant.

CROW: Control Room Outage Window, the reporting tool used for outage coordination; required for Resources that are contributed to the market. See Section 4.1.6 Outage Scheduling and Reporting.

Forward Showing Submission: The Submission, in the form of a workbook or other systematic or electronic means, used by a WRAP participant to convey sufficiency and compliance with the capacity and transmission requirements in the Resource Adequacy Program Forward Showing Program.

WRAP Operations Program Hourly Holdback: A MW quantity, as determined on a Preschedule Day, that has been issued by the WRAP and is capable of converting into an Energy Deployment on a given hour of the succeeding Operating Day. A Market Participant with an obligation to provide a WRAP holdback will include the MW value as a positive value to represent an increase to a Market Participant's Must Offer Obligation. A Market Participant receiving a WRAP holdback will include the MW value as a negative value to represent a decrease to a Market Participant's Must Offer Obligation.

WRAP Operations Program Hourly Sharing Result: The result of WRAP sharing calculation in MW Qty, for an entity in a given hour of a succeeding Operating Day as determined on a Preschedule Day. If an entity's WRAP Operations Program Sharing Result is a positive quantity, this indicates a surplus and if an entity's WRAP Operations Program Sharing Result is negative, this indicates a deficit. If the Sharing Result is equal to zero (0) MW, this indicates a neutral position that is neither a surplus nor a deficit.

Net Position: Net position includes contracts for the sale or purchase of Energy or capacity outside of the day-ahead and or real time markets; on these transactions a sale is represented as a positive value and purchase as a negative. For transactions that import into or export from the Markets+ Footprint, net position only includes high priority imports and exports. If a Market Participant wishes to include a High Priority Transaction in its net position, that transaction must

meet the requirements of a qualifying e-tag, as detailed in Section [High Priority Transactions] of the Protocols.

Non-Binding Season: Any calendar date that is outside of the dates in the Binding Seasons.

Must Offer Obligation: The minimum amount of Resource capacity which a Market Participant is required to offer into the Day-Ahead Market, RUC, or RTBM.

1.2 Must-Offer Obligation

For each Operating Day, Market Participants are required to offer available Resources to the Day-Ahead Market, initial Reliability Unit Commitment process, and Real-Time Balancing Market as detailed in this section.

If a Market Participant is a Load Responsible Entity (LRE) or has a contractual obligation to supply a load that is within the Markets+ Footprint, that Market Participant will be subject to the Must Offer Obligation. If a Resource within the Markets+ Footprint has a high priority export to serve load outside the footprint, the Market Participant to whom that Resource is registered will have the Must Offer Obligation.

1.3 Data and Information

A Market Participant must provide to the Market Operator the relevant Resource and load data for loads in the Markets+ footprint for the next upcoming Binding Season that are summarized within its Forward Showing Submission, which is approved by the Program Operator of the Resource Adequacy Program.

Sample Format for Forward Showing Data that will be used for the Must Offer Ceiling Submission

Forward Showing (FS) Capacity Requirement for All Loads Registered in Markets +	**Month / Year**	**Month / Year**	**Month / Year**	**Month / Year**	**Month / Year**
LRE 1	X MW	X MW	X MW	X MW	X MW
LRE 2 (if more than one LRE is represented by a MP)	X MW	X MW	X MW	X MW	X MW

A Market Participant may, but is not required to, provide the Forward Showing Submission to the Market Operator. The inputs to the Day-Ahead Market and Real Time Balancing Market must be based on the factual and truthfully reported characteristics that are used to support the Submission.

1.4 Day Ahead and initial Reliability Unit Commitment Obligation

1.4.1 Must Offer Obligation

Market Participants must offer a minimum amount of Resource capacity for the Day-Ahead Market and the same minimum amount for the first RUC process to allow the market to evaluate all subsequent operating intervals within all hours for a given Operating Day. The Must Offer Obligation can be met by self-schedule energy only, a combination of self-schedule energy and economic offer range, or economic offer range only, by submitting Resource Offers with a Commitment Status of Market, Self, or Reliability Must Run in the Day-Ahead Market. The Maximum Economic Capacity Operating Limit of such Resources will be used by the Market Operator to assess compliance with the Must Offer Obligation. After satisfying the Day-Ahead and RUC Must Offer Obligation, a Market Participant may offer any remaining Energy or capacity to the market at its discretion for purposes of its Must Offer Obligation.

(A) For Each Operating Hour in the Day-Ahead Market, the amount of Resource capacity that a Market Participant must offer to Markets+ consists of the sum of sections 1 through 5 below:

(1) The Hourly Mid-Term Load Forecast represents the quantity, expressed on an hourly basis, that the Market Operator forecasts in accordance with Section 4.1.2 that is attributed to that Market Participant.

(2) The Flexibility Reserve Product Obligation represents the Short-Term Flex Up and Mid-Term Flex Up obligation amount, expressed on an hourly basis, that the Market Operator forecasts for each Asset Owner in accordance with Section 4.1.3(2). The Asset Owner obligations are then summed by Market Participant.

(3) WRAP Operations Program Hourly Holdback: the hourly quantity issued by the WRAP Operations program. A Market Participant providing a WRAP holdback will include the MW value as a positive value to represent an increase to a Market Participant's Must Offer Obligation. A Market Participant receiving a WRAP holdback will include the MW value as a negative value to represent a decrease to a Market Participant's Must Offer Obligation. For WRAP holdback transactions that both source and sink within the Markets+ footprint, this requirement may be deployed closer to the start of the Real Time Balancing Market but is issued prior to the Day Ahead Market. For WRAP holdback that has a source or a sink external to the

Markets+ footprint, the holdback quantity is equal to the amount of Energy deployed for the Operating Hour between the parties as represented by a confirmed etag; if the MW Qty on the e-tag is less than the confirmed MW Qty, the MW Qty on the e-tag will be used. This data will be provided by the Market Participant, including any WRAP Operations Program Hourly Holdback Requirement that is converted to an energy deployment on the Operating Day.

(4) Net Position. The sum of each Market Participant's power purchases and sales Contracts and Transfers as represented by qualifying e-tags or other established process of communication. This data will be provided by the Market Participant. The net position includes High Priority Transactions representing interchange import transactions and export transactions from the Markets + Footprint. If a Market Participant wishes to include a High Priority Transaction in its net position, that transaction must meet the requirements detailed in Section [High Priority Transactions]. For clarity, any energy deployed via the WRAP holdback will not count towards the Net Position. High Priority Transactions that are WRAP holdback, or energy deployed under the WRAP Operations program are not considered Net Position and instead are contemplated in (3) WRAP Operations Program Hourly Holdback above.

(5) MSRs self-charge schedule represented hourly in Resource Offer.

Day Ahead Must Offer Obligation as summarized in the Table below:

	Day-Ahead Must Offer Components	Hourly MW Amount
1	Hourly Mid-Term Load Forecast	
2	Hourly Flexibility Reserve Products obligations.	
3	Hourly WRAP Operations Holdback	
4	Hourly Net Position	
5	Hourly MSR Self Charge	
	Minimum Required Resource capacity (SUM of 1.4.1 A (1-5) =	

(B) Day Ahead Must Offer Ceiling, Binding Season: Each Market Participant is required to offer Resources no greater than the approved Forward Showing Capacity Requirement value as provided by the Market Participant, adjusted as described below. This value informs the ceiling for the Day Ahead Must Offer and is used to determine the ceiling

during the Binding Season as defined by the Resource Adequacy Program. During the Binding Season, in the event that the calculation of (A) exceeds (B), the capacity amount determined under (B) will act as a ceiling on the Market Participant's Must Offer Obligation, as (B) represents the maximum amount the Market Participant is required to offer to Markets+ during the Binding Season. The Day-Ahead Must Offer Ceiling is calculated as the sum of the following:

(1) A Market Participant's Forward Showing Capacity Requirement is the amount of capacity required for the Market Participant to demonstrate adequacy for the Resource Adequacy Program for each Month during a Binding Season. The Monthly value serves as the maximum quantity for the relevant Operating Day, within the corresponding Operating Month. If a Market Participant does not meet the Forward Showing Capacity Requirement the maximum quantity for the relevant Operating Day within the corresponding Operating Month is adjusted down by the deficit capacity amount.

(2) WRAP Operations Program Hourly Adjustment. For an entity with a negative WRAP Operations Program Hourly Sharing Result, the WRAP Operations Program Hourly Adjustment is equal to the absolute value of the negative Qty (MW) of the WRAP Operations Hourly Sharing Result minus the positive Qty (MW) of WRAP Operations Program Hourly Holdback. If the source of the WRAP Operations Program Hourly Holdback is external to the Markets+ footprint, the source and MW quantity must be represented by a confirmed e-tag between the parties. For an entity with a positive or zero value WRAP Operations Program Hourly Sharing Result, the value of the WRAP Operations Program Hourly Adjustment will be zero (0) MW.

(3) Net Position. The Net Position is the sum of each Market Participant's power purchase and sales Contracts and Transfers as represented by qualifying e-tags or other established process of communication. This data will be provided by the Market Participant. The Net Position includes High Priority Transactions representing interchange import transactions and export transactions to or from the Markets + Footprint. If a Market Participant wishes to include a High Priority Transaction in its net position, that transaction must meet the requirements of a qualifying e-tag, detailed in Section [High Priority Transactions]. For clarity, any energy deployed via the WRAP holdback will not count towards the Net Position for the purpose of calculation the DA Must Offer Ceiling. High Priority Transactions that are WRAP holdback, or energy deployed under the WRAP Operations program are not considered Net Position and instead are contemplated in (2) WRAP holdback above.

(4) Fleet Performance. A Market Participant's adjustment for forecasted day ahead fleet performance is, for all Resource other than VERs, the sum of any forced outages, unplanned availability, and unplanned change of capacity of Resources registered to the Market Participant for the Operating Hour as reflected in the CROW system compared against the forced outages, unplanned availability and unplanned change in capacity as represented in the Resource Adequacy program. For VERS the Market Operator's forecast output will be compared against the QCC Qualified Capacity Contribution of the VERs as calculated by the Resource Adequacy program and provided by the Market Participant. Any improvement in performance will increase the Market Participant's Must-Offer Obligation and any reduction in performance will reduce the Market Participant's Must-Offer Obligation For example, for non-VERs, if the total CROW unplanned outages for an hour is 300 MW and the WRAP unplanned outage assumption is 200 MW, then the Market Participant's Must-Offer Obligation is reduced by 100 MW. For VERs, if the total VER ELCC from WRAP is 400 MW and the VER forecast amount is 700 MW, then the Market Participant's Must-Offer Obligation is increased by 300 MW.

During the non-Binding Season, Section 1.4.1(A) provides the minimum required to satisfy the Day Ahead Must Offer obligation and does not have a Day Ahead Must Offer Ceiling as the non-Binding Season does not have data from the Resource Adequacy Program.

1.4.2 Must Offer Compliance

(A) During the Binding Season: Market Participants are required to offer Resources into the Day-Ahead Market greater or equal to the lesser of either the Day-Ahead Must Offer Obligation described under Section 1.4.1(A) or the Day Ahead Must Offer Ceiling as described under Section 1.4.1(B) for that Operating Hour.

(1) The shortfall will be calculated as positive value of the difference between the lesser of the Resource capacity required for each Hour detailed in 1.4.1(A) or 1.4.1(B), and the total offered Resource capacity for each Operating Hour. Any shortfall by a Market Participant will be assessed a penalty charge calculated as the MW shortfall times the penalty rate as further detailed in Section 4.5.7.17.

(B) During the Non-Binding Season: Market Participants are required to offer Resources into the Day-Ahead Market greater than or equal to the Day-Ahead Must Offer Obligation described under Section of 1.4.1(A).

(1) The shortfall will be calculated as positive value of the difference between the Resource capacity required for each Hour detailed in 1.4.1(A), and the total offered Resource capacity for each Operating Hour. Any shortfall by a Market Participant

will be assessed a penalty charge calculated as the MW shortfall times the penalty rate as further detailed in Section 4.5.7.17.

1.5 RTBM

1.5.1 Must Offer Obligation

For the Real Time Balancing Market, Market Participants must offer the same minimum amount of Resource capacity awarded for the Day-Ahead Market and for the first RUC process to allow the market to solve from a baseline point to evaluate all subsequent Dispatch Intervals within Operating Hours for that Operating Day. The Must-Offer Obligation can be met by self-schedule energy only, a combination of self-schedule energy and economic offer range, or economic offer range only, by offering Resources with a Commitment Status of Market, Self, or Reliability Must Run.

After satisfying the RTBM Must-Offer Obligation, a Market Participant may offer any remaining Energy or capacity to the market at its discretion for purposes of its Must Offer Obligation. A Market Participant's Must-Offer Obligation is the lesser of the amount described in 1.5.1(A) or the amount described in 1.5.1(B).

(A) **RTBM Must Offer Obligation:** The hourly obligation for each participant is met by offering sufficient resources, as follows.

(1) **Cleared Day-Ahead Market Resource Awards**. Hourly Resource awards will be posted for Resources that cleared in the Day-Ahead Market.; these results will be posted for consumption by the Market Operator to the Market Participants following the timeline in Section 4.3.1. The MW sum of these hourly Energy awards serve as the basis for Real-Time Must Offer Obligation compliance.

(2) **Day-Ahead Flexibility Reserve Product Award Obligations.** The Day-Ahead Market will produce hourly Flexibility Reserve Product awards, both Short-Term Flex Up and Mid-Term Flex Up, and will be posted by the Market Operator to the Market Participants. These hourly Flexibility Reserve awards serve as the basis for Real-Time Must Offer Obligation compliance. For Must Offer Obligation purposes, Asset Owners' Flexibility Reserve Product obligations will be summed and assessed at the Market Participant level. Flexibility Reserve Products will be calculated on a Markets+ Footprint basis and Reserve Zone basis.

(3) **Reliability Unit Commitment Awards**. Any incremental MW quantity associated with Energy or Flexibility Reserve Product commitments resulting from the first RUC process after the Day-Ahead Market closes will serve as the basis for the real-time Must-Offer Obligation compliance.

(4) **WRAP Operations Program Hourly Holdback Change.** For WRAP holdback transactions with a source or a sink external to the Markets+ footprint, the holdback change is equal to the quantity (MW) of deployed holdback energy not already accounted for in the Day-Ahead Market. For the RTBM, deployed holdback energy must be tagged and delivered in accordance with the requirements of the WRAP Operations Program. For WRAP holdback transactions that both source and sink within the Markets+ footprint this quantity is equal to Zero MW. This term is only applicable during the binding season.

(5) **Net Position Change.** The Net Position change is the sum of each Market Participant's purchases and sales Contracts and Transfers not accounted for in the Day-Ahead Market as represented by e-tags; this data will be provided by the Market Participant. The Net Position change includes High Priority Transactions representing interchange import transactions and export transactions to or from the Markets + Footprint not accounted for in the Day-Ahead Market. If a Market Participant wishes to include a High Priority Transaction in its net position, that transaction must meet the requirements of a qualifying e-tag, detailed in Section [High Priority Transactions]. For clarity, any energy deployed via the WRAP holdback will not count towards the Net Position Change for the purpose of calculating the RTBM Must Offer Obligation.

(6) **MSRs Self-Charge Schedule Change.** The Real-Time MSR self-schedule must be represented hourly in the Resource Offer. The MSR self-charge change is the difference between the Real-Time MSR self-charge amount and the Day-Ahead Market self-charge amount.

Hourly Real Time balancing Market Must Offer Obligations. For Each Operating Hour in the Real Time Balancing Market, the amount of Resource capacity that a Market Participant must offer to Markets+ consists of the sum of 1 through 6 below:

Real-Time Balancing Market Must Offer Components	Hourly MW Amount
(1) Hourly Cleared Day-Ahead Market Energy schedules.	
(2) Hourly Day-Ahead Flexibility Reserve Product award obligations	
(3) Hourly Reliability Unit Commitment awards	

(4) Hourly WRAP Operations Program Hourly Holdback number	
(5) Hourly Net Position Change	
(6) Hourly MSRs self-charge schedule must be represented hourly in Resource Offer	
Minimum Required Resource capacity (SUM of 1.5.1 A (1 – 6) =	

(B) RTBM Must Offer Ceiling: A Market Participant's must offer ceiling during the binding season is higher of the Day-Ahead compliance amount described in Section 1.4.1(B), as adjusted by (1)-(3) below, or the sum of 1.5.1(A)(1-3), as adjusted by (1)-(3) below. During the non-binding season a Market Participant's must offer ceiling is the sum of 1.5.1(A)(1-3), as adjusted by (2)-(3) below.

(1) **WRAP Operations Program Hourly Holdback Change**. For WRAP holdback transactions with source or a sink external to the Markets+ footprint, the holdback quantity is equal to the quantity (MW) of deployed energy not already accounted for in the Day-Ahead Market. For WRAP holdback transactions that both source and sink within the Markets+ footprint this quantity is equal to Zero MW. This adjustment always applies to 1.5.1(A)(1-3) and only to 1.4.1(B) when the source is external to the Markets+ footprint and the sink is internal to the Markets+ footprint.

(2) **Net Position Change**. The Net Position change is the sum of each Market Participant's purchases and sales Contracts and Transfers not accounted for in the Day-Ahead Market as represented by e-tags; this data will be provided by the Market Participant. The Net Position change includes High Priority Transactions representing interchange import transactions and export transactions to or from the Markets + Footprint not accounted for in the Day-Ahead Market. If a Market Participant wishes to include a High Priority Transaction in its net position, that transaction must meet the requirements of a qualifying e-tag, detailed in Section [High Priority Transactions]. For clarity, any energy deployed via the WRAP holdback will not count towards the Net Position Change for the purpose of calculating the RTBM Must Offer Ceiling. This adjustment applies to both 1.4.1(B) and 1.5.1 (A)(1-3).

(3) **Fleet Performance**. A Market Participant's Real-Time Fleet Adjustment is the difference in Real-Time fleet performance from forecasted Day-Ahead Fleet Performance. A Market Participant's adjustment for RTBM fleet performance is, for all Resource other than VERs,

the sum of any forced outages, unplanned availability, and unplanned change of capacity of Resources registered to the Market Participant for the upcoming RTBM Operating Hour as reflected in the CROW system compared against the sum of any forced outages, unplanned availability, and unplanned change of capacity of Resources registered to the Market Participant for the corresponding Day-Ahead Market Operating Hour as reflected in the CROW system and in each MP's Day-Ahead Market Offer. For VERS the Market Operator's forecast VER output for the RTBM will be compared against the Market Operator's VER forecast output for the Day-Ahead Market. Any improvement in performance as compared to the value calculated for the Day-Ahead Market will increase the Market Participant's Must-Offer Obligation and any reduction in performance as compared to the value calculated for the Day-Ahead Market will reduce the Market Participant's Must-Offer Obligation. This adjustment applies to both 1.4.1(B) and 1.5.1 (A)(1-3). For example, for non-VERs if the Day-Ahead Market CROW unplanned outages is 300 MW for an hour and the RTBM CROW unplanned outages for an hour is 200 MW, then the Market Participant's RTBM Must-Offer Obligation is reduced by 100 MW. For VERs, if the Day-Ahead Market VER forecast amount for an hour is 700 MW and the RTBM VER forecast amount for an hour is 750 MW, then the Market Participant's RTBM Must-Offer Obligation is increased by 50 MW.

1.5.2 Must Offer Compliance

(1) In real time, Market Participants are required to offer Resources greater or equal to the lesser of the RTBM Must Offer Ceiling described under Section 1.5.1(B) or the RTBM must offer requirement defined under Section 1.5.1(A).

(2) The shortfall will be calculated as positive value of the difference between the Resource capacity required for each Hour, and the total offered Resource capacity for each Operating Hour. Any shortfall by a Market Participant will be assessed a penalty charge calculated as the MW shortfall times the penalty rate as further detailed in Section 4.5.8.25.