Committed Scheduling

BPA Transmission Business Practice

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This Business Practice describes Committed Scheduling and the options that are available for wind and solar generator election in accordance with the scheduling requirements for implementation of the BP-20 Generation Inputs Settlement and the BPA Ancillary and Control Area Services Rate Schedules.

Committed Scheduling for a Wind or Solar Generator is one of the following elections:

- Committed 30/60 Scheduling: Committed 30/60 must schedule in a way that meets or exceeds the accuracy of schedules that use the 30 minute BPA-provided schedule value for a 60 minute hourly schedule.
- Committed 30/15 Scheduling: Committed 30/15 must schedule in a way that meets or exceeds the accuracy of schedules that use the 30 minute BPA-provided schedule value for a 15 minute intra-hour schedule.

BPA will provide participants with the schedule value that meets the accuracy standard for each schedule interval. BPA strongly encourages participants to automate scheduling to the BPA-provided schedule value.

For more information, visit the BPA Transmission Business Practices webpage or submit questions to techforum@bpa.gov.

Table of Contents

A. Eligible Committed Scheduling Participants & Resources 2
B. Eligibility Information Required 2
C. Generation Imbalance & Energy Imbalance 3
D. Compliance & Dispatch Orders 3
E. BPA-Provided Schedule Value (Intentional Deviation Measurement Value) 3
F. Committed Scheduling for Curtailments, System of Record Failures & Operational Controls for Balancing Reserves 5
G. Application of Intentional Deviation Penalty Charge (ID) 5
H. Notification of Participation in Committed Scheduling 6
I. Notification of Performance Failure & Termination 6

A. Eligible Committed Scheduling Participants & Resources

1. Wind Generators
    a. Any Customer that operates a wind facility within BPA's Balancing Authority Area (BAA) and elects to participate in Committed Scheduling. For a wind facility being developed in phases, any phase of a wind facility may participate in Committed Scheduling so long as each phase is metered and scheduled independently and is not otherwise interdependent with any other phase.
    b. The Wind Generator must comply with BPA's Technical Requirements for Interconnection to the BPA Transmission Grid, specifically section 12.2.2 Data Requirements for Balancing Authority Area Services.
    c. Wind generators are (i) subject to the Variable Energy Resource Balancing S~~s~~ervice (VERBS) for wind rate applicable to their election; (ii) subject to Intentional Deviation Penalty Charge; and (iii) exempt from Persistent Deviation penalties for Generation Imbalance.
2. Solar Generators
    a. Any Customer that operates a solar facility within BPA's Balancing Authority Area (BAA) and elects to participate in Committed Scheduling. For a solar facility being developed in phases, any phase of a solar facility may participate in Committed Scheduling so long as each phase is metered and scheduled independently and is not otherwise interdependent with any other phase.
    b. The Solar Generator must comply with BPA's Technical Requirements for Interconnection to the BPA Transmission Grid, specifically section 12.2.2 Data Requirements for Balancing Authority Area Services.
    c. Solar generators are (i) subject to the Variable Energy Resource Balancing Service (VERBS) for s~~S~~olar rate applicable to their election, (ii) subject to the Intentional Deviation Penalty Charge, and (iii) exempt from Persistent Deviation penalties for Generation Imbalance.

B. Eligibility Information Required

1. Potential participants are required to:
    a. Elect participation in Committed scheduling in accordance with the Balancing Service Election for Dispatchable Energy Resource Balancing Service (DERBS) and Variable Energy Resource Balancing Service (VERBS) business practice.
    b. If the POD for a Committed 30/15 Scheduling Resource is to load inside BPA's Balancing Authority Area, the Potential participant must provide the following to their Transmission Account Executive:
        i. Written confirmation from the load that it has a Balancing Resource that it will schedule to load on each 15 minute interval in order to offset any changes in the wind or solar facility output to the load.
        ii. The balancing resource name and POR.
        iii. The information required in B.1.c.i and B.1.c.ii, for the portfolio of balancing resources, if applicable.

c. Provide any other pertinent information requested by BPA Transmission Services.

C. Generation Imbalance & Energy Imbalance

1. Energy Imbalance risk:
   a. For each Wind or Solar generator sinking to load within the BPA BAA using Committed 30/15 Scheduling, a Balancing Resource must be identified, as noted above in B.1.b and B.1.c. If the intra-hour schedule is adjusted for the Committed Scheduling generator without also adjusting the Balancing Resource schedule, such patterns of imbalance could result in Persistent Deviation penalties for Energy Imbalance
   b. For a Committed 30/15 Balancing Resource that is scheduling to loads within the BPA BAA, BPA will also verify that the Balancing Resource is adjusting in conjunction with the schedule changes of the Committed 30/15 Scheduling Resource. BPA will check the intra-hour change in the sum of schedules for the Balancing Resource against the intra-hour change to ensure that use of FCRPS balancing reserve capacity is reduced. Persistent Deviation penalty charges may apply to the Balancing Resource and the resource may no longer qualify as a balancing resource.
2. Generation Imbalance Risk:
   a. Generation Imbalance for Committed Scheduling Resources and Balancing Resources is calculated on the shortest schedule interval submitted within the hour. Each hour would be calculated on 15 minute, 30 minute, or 60 minute interval, but would not be calculated on a combination of time intervals. (See the Generation Imbalance Business Practice).
   b. Balancing Resources are subject to Persistent Deviation penalties for Generation Imbalance.
   c. Committed 30/15 resources are exempt from Generation Imbalance Deviation Band 2 per the Ancillary and Control Area Services Rate Schedule.

D. Compliance & Dispatch Orders

1. Committed Scheduling Participants are subject to Dispatch Orders, including Curtailments, generation limits and directives issued under the Operational Controls for Balancing Reserves.
2. A Committed Scheduling Participant that does not respond appropriately to a Dispatch Order is subject to a Failure to Comply Penalty (See Failure to Comply Business Practice).

E. BPA-Provided Schedule Value (Intentional Deviation Measurement Value)

1. Through a mutually agreed-to data link (signal), BPA will provide to the participant the scheduling value corresponding to the Committed Scheduling option elected by the

customer. The mutually agreed-to data link will be the System of Record for the application of the Intentional Deviation Penalty Charge.

2. The BPA-provided scheduling value is the Intentional Deviation Measurement Value in the Ancillary and Control Area Service (ACS) Rate Schedules.
3. For Committed Wind and Solar Generators, the BPA-provided scheduling value will be updated every 5 minutes to meet the requirements of the various committed scheduling elections. The BPA-provided scheduling value is either:
    a. Persistence value: The generator's schedule for the next schedule interval is the generator's 1-minute average of the actual generation, ~~or for an Operational Controls for Balancing Reserves limit event the~~;
    b. Or for an Operational Controls for Balancing Reserves limit event the ~~Generation~~ generation forecast value: The generator's schedule for the next schedule interval is;
        i. The Potential Generation value telemetered to BPA from the participant's plant, or, when not available, then;
        ii. The forecast value from the BPA Official Power Forecast.
4. For Committed Wind and Solar Generators, BPA will determine the BPA-provided scheduling value as follows:
    a. For periods where there is NO generation limit or NO schedule curtailment in effect a persistence value will be calculated and provided for the subsequent schedule period.
    b. For periods where there IS a generation limit or IS a schedule curtailment in effect that would affect the calculation of the persistence value then the Generation Forecast value defined in E.3.b will be provided as the scheduling value.
5. The following table identifies when to utilize the BPA-provided scheduling value for each type of Wind or Solar Generators election.
    a. The Posted Period for the applicable scheduling election is used to determine the applicable BPA-provided scheduling value when determining scheduling accuracy performance.

Period Start	xx:00			xx:15		
Scheduling Election	Calculation Period	Posted Period	Schedule Period	Calculation Period	Posted Period	Schedule Period
30/15	xx:29 - xx:30	xx:30 - xx:35	xx:01-x1:15	xx:44 - xx:45	xx:45 - xx:50	x1:15-x1:30
30/60	xx:29 - xx:30	xx:30 - xx:35	x1:00-x2:00	NA	NA	NA

Period Start	xx:30			xx:45		
Scheduling Election	Calculation Period	Posted Period	Schedule Period	Calculation Period	Posted Period	Schedule Period
30/15	xx:59 - xx:00	xx:00 - xx:05	x1:30-x1:45	xx:14 - xx:15	xx:15 - xx:20	x1:45-x2:00
30/60	NA	NA	NA	NA	NA	NA

6. For all Committed Scheduling Participants BPA will update the BPA-provided schedule value within 1 minute after the start of the Posting Period for each Committed Scheduling election. In the event BPA does not update the BPA-provided schedule value prior to the close of the posting period, BPA will deem this a BPA system failure in accordance with Section F.4 of this business practice.

F. Committed Scheduling for Curtailments, System of Record Failures & Operational Controls for Balancing Reserves

1. During an Operational Controls for Balancing Reserves limit generation event or transmission schedule curtailment the participant's performance will be measured on the BPA-provided schedule value as defined in Section E, above.
2. During an Operational Controls for Balancing Reserves schedule curtailment the Committed Scheduling Resource does not need to limit its generation in response to the Operational Controls for Balancing Reserves schedule curtailment if there are no other transmission curtailments affecting e-Tags sourced at the Committed Scheduling Resource.
3. During a transmission schedule curtailment, participants are expected to comply and limit generation to not exceed the sum of remaining approved e-Tags during the curtailment.
4. During a System of Record failure the scheduling value that BPA provides to the participant may not be sent.
    a. The participant should schedule the subsequent scheduling interval as accurately as possible by using iCRS to obtain the BPA-provided schedule value.
    b. In recognition that inaccuracy could result from unavailability of the scheduling value, BPA will exclude the subsequent schedule interval from scheduling accuracy performance requirements.
    c. The participant should notify their BPA Transmission AE as soon as possible.

G. Application of Intentional Deviation Penalty Charge (ID)

1. Committed Scheduling Participants are subject to the Intentional Deviation ~~(ID)~~ P~~p~~enalty C~~c~~harge (ID) as defined in BPA's ACS Rate Schedule.
    a. The Committed Scheduling Participant is expected to schedule to the BPA-provided schedule value from the System of Record established for the participant's resource.
    b. The ACS Rate Schedule provides the performance measures that determine when an Intentional Deviation P~~p~~enalty C~~c~~harge will be applied.
    c. A Committed Scheduling Participant scheduling to the BPA-provided schedule value for their elected scheduling paradigm will satisfy the schedule accuracy performance requirement to avoid the Intentional Deviation Penalty Charge.
2. For schedule Intervals with no curtailments or with curtailments issued prior to the close of the scheduling window:

a. ID applies, in accordance with the ACS Rate Schedule, when the resource schedules to a value other the BPA-provided schedule value (Intentional Deviation Measurement Value), except;

b. When the resource schedules to another value and the imbalance from a different schedule value meets or beats the imbalance that would have otherwise occurred had the resource scheduled to the BPA-provided schedule value, as defined in Section E above.

3. For schedule periods with curtailments issued after the close of the scheduling window for each scheduling period, ID will not apply ~~in accordance with Sections G.1 and G.2, above~~.

~~4. For scheduling periods with curtailments issued prior to the close of the scheduling window, ID will be measured on the approved sum of schedules at the close of the scheduling window for that scheduling period as follows:~~

~~a. When the sum of schedules is equal to the BPA-provided schedule value then ID does not apply in accordance with G.1 and G.2.a, above.~~

~~b. When the sum of schedules is less than the BPA-provided schedule value then ID will apply in accordance with G.1 and G.2.b, above.~~

~~c. When the sum of schedules is greater than the BPA-provided schedule value then ID will apply in accordance with G.1 and G.2.b, above.~~

H. Notification of Participation in Committed Scheduling

1. When resources submit their scheduling election in accordance with the rate schedule applicable at the time, their BPA Transmission AE will confirm the election with the resource in accordance with the Balancing Service Election for Dispatchable Energy Resources Balancing Service and Variable Energy Resources Balancing Service business practice.
2. BPA encourages Wind and Solar Generators to automate their scheduling at the time they elect Committed Scheduling.
3. In planning the time necessary for testing, participants are encouraged to build in time for edits and revisions to systems and processes.

I. Notification of Performance Failure & Termination

1. BPA may initiate billing a Committed Scheduling Participant at its elected VERBS base rate plus any applicable Direct Assignment Charges as described in Section III.E. of BPA's ACS Rate Schedule, within 30 calendar days, starting the first day of the next billing cycle if:

a. the participant fails to convert to automated scheduling using the BPA-provided schedule value within two calendar weeks of receiving the new signal from BPA; or

b. the participant chooses to routinely schedule to a longer scheduling period than elected for; or

c. the participant routinely fails to perform at its elected scheduling paradigm.

2. When a Committed 30/15 Scheduling Resource is sinking to load within the BPA BAA and the Balancing Resource is not changing schedules in response to the intra-hour adjustments, BPA will issue a notice to the Committed Scheduling Participant and the Balancing Resource.

    a. BPA may disqualify the poorly performing Balancing Resource upon 14 calendar days' notice if, over a rolling 30 calendar day period, the Balancing Resource routinely fails to change schedules as required in Section E~~G~~.3 and E~~G~~.4, above.

        i. Failure of a Committed Scheduling Participant to qualify a new Balancing Resource within the 14 calendar days' notice period mentioned in a. above will result in termination from participation in Committed Scheduling and the application of Direct Assignment Charges as described in Section III.E. of BPA's ACS Rate Schedule.

        ii. During this period the Balancing Resource is expected to exercise due diligence to continue to achieve the expected response.

    b. BPA may disqualify a non-performing Balancing Resource upon seven calendar day's written notice.

        i. If the Committed Scheduling Participant does not have another qualified Balancing Resource the Committed Scheduling Resource will be billed at its elected VERBS base rate plus any applicable Direct Assignment Charges as described in Section III.E. of BPA's ACS Rate Schedule starting on the first day of the next billing cycle.

        ii. During this period the Balancing Resource is expected to exercise due diligence to continue to achieve the expected response.

    c. A resource may re-qualify as a Balancing Resource after 30 days and at the start of the next billing cycle by providing documentation to BPA Transmission Technical Operations and receiving approval from BPA, that it has corrected the causes for its disqualification. BPA will work with the Committed Scheduling Resource and the Balancing Resource to develop solutions.