

Variable Energy Resource Balancing Service (VERBS)

BPA Transmission Business Practice

Version 2

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This business practice describes the Variable Energy Resource Balancing Service (VERBS) and clarifies its application. Included in this business practice is a description of how BPA will provide each Variable Energy Resource (VER) in the BPA Balancing Authority Area with the schedule value that meets the accuracy standard for each hour. BPA strongly encourages VER participants to automate scheduling to the BPA-provided schedule value to assist in avoiding the Intentional Deviation Penalty Charge.

BPA Policy Reference

- [Transmission Rate Schedules/Provisions](#): Transmission Ancillary and Control Area Service Rates; Variable Energy Resource Balancing Service

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

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A. VERBS Description

1. VERBS is a Control Area Service comprised of two components: regulating reserves and non-regulating reserves. This service is required to help maintain the power system frequency at 60 Hertz in conformance with North American Electric Reliability Corporation (NERC) reliability standards.
2. A VER in the BPA Balancing Authority Area is required to either purchase this balancing service (VERBS) from BPA or make alternative comparable arrangements to satisfy the within-hour balancing service obligation.
 - a. BPA will determine if a Customer's proposed alternative arrangement satisfies the within-hour balancing service obligation.

B. Eligibility Information Required

1. A VER in the BPA Balancing Authority Area may elect to take VERBS from BPA in accordance with the Balancing Service Election for Dispatchable Energy Resource Balancing Service (DERBS) and Variable Energy Resource Balancing Service (VERBS) Business Practice.
2. Each phase of a VER facility being developed may separately receive VERBS so long as each phase is metered and scheduled independently and is not otherwise interdependent with any other phase.
3. The VER 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.
4. VERs taking VERBS from BPA are required to provide any other pertinent information requested by BPA.

C. Compliance with Dispatch Orders

1. VERs are subject to Dispatch Orders, including Curtailments, generation limits and any directives issued under Operational Controls for Balancing Reserves, BPA's reliability tool.
2. A VER that does not respond appropriately to a Dispatch Order is subject to a Failure to Comply Penalty Charge (see the Failure to Comply Penalty Charge Business Practice).

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

1. BPA will supply each VER in the BPA Balancing Authority Area with its hourly scheduling value.
2. Through a mutually agreed-to data link (signal), BPA will provide to the VER the scheduling value for the VER to use in its hourly schedule. The mutually agreed-to data link will be the system of record for the application of the Intentional Deviation Penalty Charge.

3. The BPA-provided scheduling value is the Intentional Deviation Measurement Value in the Transmission, Ancillary, and Control Area Service (ACS) Rate Schedules.
4. For VER, the BPA-provided hourly scheduling value will be updated every five (5) minutes.
 - a. The following table identifies the timeframes to utilize the BPA-provided scheduling value.

VER Financial Binding Scheduling Time Lines				
First Scheduling Day	VER Forecast Produced @			
	DA - 9:35AM	T-85	T-70	T-45
Start of BP-22 10/1/2021	N/A	Draft @ T-77	Draft @ T-57	Final @ T-20*
7 Days prior to Parallel Ops 11/24/2021	Draft @ 10 AM	Draft @ T-77	Draft @ T-57* Final @ T-20	N/A
7 Days prior to Go-Live 4/26/2022	Draft @ 10 AM	Draft @ T-77**	Final @ T-57*	N/A
	Requested	Required		
*Intentional Deviation Measurement Value shifts to T-70 Forecast on 11/24/21 ** e-Tags required for scheduling resources at the T-77 submittal on 4/26/22				

- b. For those periods that Generator Imbalance Service is provided pursuant to Schedule 9 of the BPA OATT:
 - i. The following table identifies when to utilize the BPA-provided scheduling value.

Period Start	T=xx:00		
	Posted	E-tag	Scheduling Period
VER (Intentional Deviation Measurement Value)	xx:15-xx:20	xx:40	xx+1:00 - xx+2:00

- c. For those periods that Generator Imbalance Service is provided pursuant to Schedule 9E of the BPA OATT:
 - i. The following table identifies when to utilize the BPA-provided scheduling value.

Submittal Deadline								
10AM PPT on Day Before Operating Day			T-77 minutes			T-57 minutes		
Forecast Vintage	Posted Period	Schedule Period	Forecast Vintage	Posted Period	Schedule Period	Forecast Vintage	Posted Period	Schedule Period
9:35 PPT	9:35 to 9:40 PPT	+1 Day HE1-HE24	T-85	T-85 to T-80	T+0 to T+60	T-70	T-70 to T-65	T+0 to T+60
			XX:35	XX:35 to XX:40	HE XX+2	XX:50	XX:50 to XX:55	HE XX+2

- ii. See the Energy Imbalance Market (EIM) Business Practice for more detail.
- d. BPA will update the BPA-provided scheduling value within one (1) minute after the start of the posting period for the applicable scheduling period.
 - i. In the event BPA does not update the BPA-provided scheduling value prior to the close of the Base Schedule posting period, BPA will deem this a BPA system failure in accordance with Section E.4 of this business practice.

E. 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 VER participant’s performance will be measured on the BPA-provided schedule value as defined in Section F.
2. During an Operational Controls for Balancing Reserves schedule Curtailment the VER participant 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 VER.
3. During a transmission schedule Curtailment, VER participants are expected to comply and limit generation to not exceed the sum of remaining approved e-Tags during the entirety of the Curtailment period.
4. During a system of record failure, the scheduling value that BPA provides to the VER participant may not be sent.
 - a. The VER 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 VER participant should notify their assigned Transmission Account Executive as soon as possible of the unavailability of the scheduling value.

F. Application of Intentional Deviation Penalty Charge

1. VERs are subject to the Intentional Deviation Penalty Charge as defined in the BPA ACS Rate Schedules.
2. A VER that elects to self-supply their Balancing Reserve Capacity must comply with the requirements in the self-supply of Balancing Services Business Practice.
3. For schedule Intervals with no Curtailments or with Curtailments issued prior to the close of the Western Electricity Coordinating Council (WECC) scheduling window at T-20:
 - a. Intentional Deviation applies, in accordance with the ACS Rate Schedules, when the resource schedules to a value other than the BPA-provided schedule value (Intentional Deviation Measurement Value), except:
 - i. 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 D.
4. For schedule periods with Curtailments issued after the close of the WECC scheduling window at T-20, for each scheduling period Intentional Deviation will not apply.