

Dispatchable Energy Resource Balancing Service (DERBS)

BPA Transmission Business Practice

Version 4

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This business practice describes the Dispatchable Energy Resource Balancing Service (DERBS) and clarifies its application.

BPA Policy Reference

- [Transmission Rate Schedules/Provisions](#): Transmission Ancillary and Control Area Service Rates; Dispatchable 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. DERBS Description

1. DERBS is a Control Area Service that provides the generation capability to follow within-hour variations caused by Dispatchable Energy Resources in the BPA Balancing Authority Area. This service helps to maintain the power system frequency at 60 Hertz in conformance with North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) reliability standards and provides the regulating reserves and non-regulating reserves needed to support unexpected variations in output of Dispatchable Energy Resources.
2. Dispatchable Energy Resources in the BPA Balancing Authority Area are required to either purchase this service from BPA or make alternative comparable arrangements to satisfy their within-hour balancing service obligation. BPA will determine if a Customer’s proposed alternative arrangement satisfies its within-hour balancing service obligation.

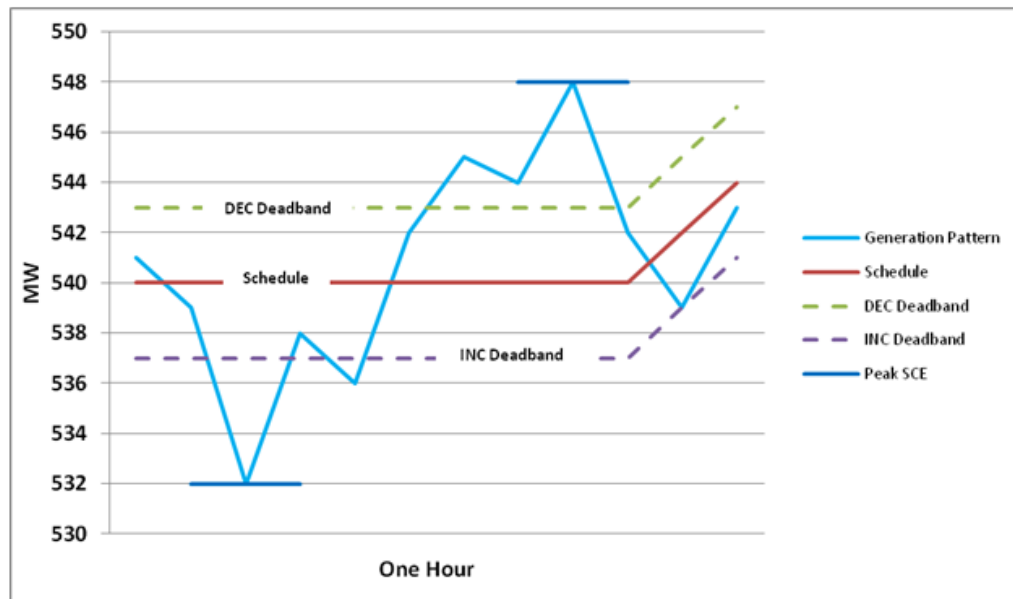
B. DERBS Application

1. BPA will determine the DERBS Billing Factor using the five (5) minute Station Control Error (SCE) for each resource. The SCE is the difference between the five (5) minute integrated metered output of the resource and the net resource schedule. The hourly billing factor is based on the positive and/or negative SCE in excess of the dead band.

2. For the calculation of SCE, the resource schedule will be adjusted for standard ramps including intra-hour schedules and dispatch orders. For generation behind the meter, the resource schedule is the Generation Estimate. Additional details can be found in the current rate schedule.
 - a. Schedules are adjusted for ramps by applying the WECC guidelines for default ramp rates:
 - i. Hourly e-Tags have a linear ramp of 20 minutes across the top of the hour; and
 - ii. Intra-hour e-Tags have a linear ramp of 10 minutes straddling the inter-hour interval divisions of XX:15, XX:30 and/or XX:45.
 - b. The adjusted net plant resource schedule, also known as Basepoint, is provided to resources, which have the GenICCP link. If the resource does not have a GenICCP link installed, they can use their submitted schedule (obtained from their marketing entity) or Generation Estimate adjusted for ramps.
3. The metered output source will be BPA's designated real-time meter of the generator's output used in BPA's AGC system.

C. Examples of DERBS Application

1. Example 1 – Billing Factor:
 - a. INC DERBS Billing Factor = peak five (5) minute SCE (532) less schedule (540) equals absolute value of 8 MW less 3 MW dead band is 5 MW Billing Factor.
 - b. DEC DERBS Billing Factor = peak five (5) minute SCE (548) less schedule (540) equals absolute value of 8 MW less 3 MW dead band is 5 MW Billing Factor.



2. Example 2 – Dead Band Performance:

- a. INC DERBS Billing Factor = peak five (5) minute SCE (537) less schedule (540) equals absolute value of 3 MW less 3 MW dead band is zero (0) MW Billing Factor.
- b. DEC DERBS Billing Factor = peak five (5) minute SCE (543) less schedule (540) equals absolute value of 3 MW less 3 MW dead band is zero (0) MW Billing Factor.

