

**UNITED STATES OF AMERICA
U.S. DEPARTMENT OF ENERGY
BEFORE THE
BONNEVILLE POWER ADMINISTRATION**

**2012 WHOLESALE POWER AND
TRANSMISSION RATE ADJUSTMENT
PROCEEDING**

Docket No. BP-12

**SURREBUTTAL TESTIMONY OF
MARK J. SMITH AND STEPHEN LINCOLN
WITNESSES FOR CALPINE AND TRANSALTA ENERGY MARKETING**

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1 SURREBUTTAL TESTIMONY of
2 Mark J Smith and Stephen Lincoln
3 Witnesses for Calpine and TransAlta Energy Marketing

4 **PART 1: CRITIQUE OF BPA'S PROPOSED CHANGES TO THE**
5 **DISPATCHABLE ENERGY RESOURCE BALANCING SERVICE**
6 **(DERBS)**

7 **Section 1: Introduction and Purpose of Testimony**

8 **Q Please state your names and qualifications**

9 A My name is Mark J Smith and my qualifications are contained in BP-12-Q-CP-04.

10 My name is Stephen Lincoln and my qualifications are contained in BP-12-Q-CP-03.

11 **Q What is your interest in DERBS?**

12 A Calpine and TransAlta ("Companies") each own and operate thermal generators within
13 BPA's Balancing Area ("BA") that, when combined, total about 2,000 MW of installed
14 capacity. If implemented by BPA, each of the Companies would be subject to the
15 Dispatchable Energy Resource Balancing Service ("DERBS"), which BPA originally
16 proposed in the ACS-12 Ancillary and Control Area Services Rate Design section in the
17 Generation Inputs Study, BP-12-E-BPA-05 (Study), and proposed to be modified in
18 rebuttal testimony BP-12-E-BPA-47 ("Revised Proposal").

19 **Q What is the purpose of your testimony?**

20 A The purpose of this testimony is to review the Revised Proposal, identify where BPA's
21 modifications fall short of correcting problems with the original DERBS design, and
22 propose alternatives that would, if adopted, result in a just and reasonable rate.

1 **Q Please summarize your review and recommendations.**

2 A First, the Companies recognize that the Revised Proposal is a substantial improvement
3 over BPA's initial proposal. The Companies specifically support the following key
4 improvements proposed in the BPA Rebuttal Testimony:

- 5 1. Encouraging reduced use of balancing reserves through a per-megawatt charge
6 billing factor, and eliminating the pro rata allocation rate design along with its
7 perplexing penalties;
- 8 2. Harmonizing DERBS with other elements of rate design by suspending DERBS
9 charges during contingencies, Dispatch Orders, and curtailments; and
- 10 3. Partially incorporating more recent generator performance when establishing the
11 DERBS revenue requirement.

12 However, despite these improvements, the Companies believe that both the evaluation
13 process and DERBS' rate design remain significantly flawed, and that the rate should
14 therefore not be implemented in the 2012 Rate Period.

15 Nonetheless, if BPA presses on and implements DERBS in the 2012 Rate Period, the
16 Companies propose the following additional modifications to the Revised Proposal:

- 17 1. Cut the DERBS revenue requirement and rate by 50 percent;
- 18 2. Provide generation operators with BPA's Go-To dispatch point that will
19 subsequently be used for settlements;

3. Change the 2 MW tolerance to a proportional volume of nameplate capacity to ensure both fairness and equity;
4. If the DERBS rate design includes fixed charges, assess them only in months where the generator has used reserves; and
5. Include text in the DERBS rate schedule that explicitly describes circumstances when DERBS is suspended.

These details are explained in the following sections.

Section 2: Discussion of Further Revisions to the Revised Proposal

Q The Companies' state that the DERBS rate design is incomplete and should not be implemented in the 2012 rate period. Why would this be appropriate?

A The Companies have raised serious concerns over the accelerated and compressed period of review for the Revised Proposal. The Revised Proposal is a substantial departure from the initial proposal of BPA and implicates a very different exposure for individual generators. The Revised Proposal isn't even a final proposal, given that BPA has offered two alternative rate designs. With all of this change, BPA has given parties a total of 12 business days to evaluate the Revised Proposal, process discovery, form opinions and submit this Surrebuttal testimony. Indeed, BPA's discovery responses are due on the very same day that Surrebuttal testimony is to be filed¹.

¹ The Companies have received responses to its data requests, the latest of which was received 2 days before Surrebuttal is due.

1 Given this unjustly compressed schedule, the Companies believe that it is unreasonable
2 to ask the Companies to take a position on the merits of the total rate design, let alone
3 their preference for the alternatives presented by BPA.

4 In addition, the Companies identified significant flaws in the initial BPA proposal which
5 remain in the Revised Proposal. Specifically, in BP-12-E-CP-02 the Companies
6 described inter-related, but key flaws which remain and are left unaddressed in the
7 Revised Proposal.

8 BPA still intends to charge DERBS during starts, stops and ramps. As demonstrated in
9 the Companies' direct testimony, inadequacies in BPA's scheduling infrastructure and
10 dispatch mechanisms result in a significantly larger attribution of reserves to thermal
11 generation than necessary. With 15- or 30-minute scheduling, and if BPA measured
12 DERBS using generator-specific ramp-rates instead of ramp rates based on its
13 standardized, unrealistic 20-minute ramp, BPA's attribution of reserves would be a
14 small fraction of what it is without these improvements.

15 For these reasons, the Companies believe that the Revised Proposal should be
16 postponed to a subsequent rate proceeding to allow for a more reasoned evaluations
17 and considered again only after structural changes in dispatch and scheduling are
18 implemented.

19 **Q If despite your primary recommendation for deferral, BPA moves ahead with the**
20 **Revised Proposal for 2012, what is the Companies' rationale for cutting the**
21 **revenue requirement and rate in half?**

1 A The Companies believe that the reserves allocation contained in the initial and revised
2 proposals overstate the amount of reserves that will be needed to integrate
3 dispatchable resources in the future. BPA's own updated analysis indicates a reduction
4 of decremental (DEC) reserves in late 2010, when compared to the same period in
5 2011. The Companies believe that two additional factors will further reduce actual
6 reserves deployed, and will have a material impact on the appropriately allocated
7 revenue requirement.

8 First, the 19 percent reduction in DEC reserves reported by BPA² is likely traced to the
9 imposition of the infrequent, but very high cost of Failure to Comply ("FTC") penalties.
10 This conclusion is supported by the asymmetric improvement in reserves, as
11 overgeneration (which draws DEC reserves) is hugely discouraged by the FTC
12 \$1,000/Mwh exposure. Such a dramatic reduction in the demand of DEC reserves for
13 the relatively infrequent imposition of FTC penalties clearly indicates a demand-
14 response to price. The Companies believe implementing DERBS will have three
15 effects: (a) create a similar and additional demand response; (b) shift thermal
16 generation behavior away from the historic and endorsed practice of generating to meet
17 the integrating hour; and (c) drive the use of balancing capacity below levels BPA has
18 forecasted.

19 Second, BPA indicates in its rebuttal testimony that it intends on implementing 30-
20 minute scheduling for all resources during this rate period:

21 We also note that BPA does expect to have full 30-minute intra-hour scheduling
22 functionality during the FY 2012-2013 rate period, and use of intra-hour

² BP-12-E-BPA-47, Attachment 3

1 schedules should reduce the balancing reserve capacity requirements and
2 charges associated with schedule changes.³

3 The Companies agree that 30-minute scheduling will “reduce the balancing capacity
4 requirements” associated with integrating dispatchable resources. We further suggest
5 that the allocated revenue requirement should be reduced to reflect the expectation of
6 improvement.

7 In summary, the Companies believe that the demand for reserves is likely to drop
8 significantly in the future due to the imposition of DERBS and 30-minute scheduling. It
9 is therefore reasonable to predict this reduction in the rate-setting context. While our
10 estimate of a 50 percent reduction is necessarily subjective, such a reduction is
11 certainly realistic given the ubiquitous nature of DERBS exposure and the tighter
12 scheduling windows.

13 **Q You also suggest that BPA provide a “Go-To” point as part of DERBS. What does**
14 **this mean?**

15 **A** The Revised Proposal continues to assess DERBS, for example incremental capacity,
16 on the basis of a generator’s “maximum one-minute negative station control error
17 (under-generation), including ramp periods ”⁴. As an initial matter, this phrase is
18 undefined and needs clarification. For instance, how are losses included in this term?
19 How is the ramp rate calculated? The Companies believe that such clarification should
20 occur within the tariff itself and not in the Business Practices.

³ BP-12-E-BPA-47 at Page 23

⁴ BP-12-E-BPA-47, Attachment 1, Page 1-14

1 More importantly, however, if BPA will hold us to a very precise standard, they should
2 accept an obligation to tell us what that standard is, well in advance of performance. In
3 essence, BPA should provide a generation go-to point which serves not only as a
4 dispatch signal, but also as a reference to use in the settlement process. In general,
5 the generation subject to DERBS is connected to BPA via ICCP communications links.
6 These links have significant untapped functionality that could be used to send 5 minute
7 dispatch points.

8 **Q You also suggest changes in the “deadband”. Please explain your proposal and**
9 **rationale for a departure from BPA’s Revised Proposal.**

10 A The Revised Proposal sets a 2 MW deadband for both incremental (INC) and DEC
11 reserves before the DERBS charges begin to apply (a total 4 MW band). This
12 deadband is the same whether a generator has a nameplate capacity of 5 MW or 1,000
13 MW. The Companies believe that this aspect of the proposal is not reasonable and
14 suggest rather, that the size of the deadband be proportional to the nameplate of the
15 generator⁵. Specifically, the Companies believe that the deadband should be the
16 greater of 2 percent of the nameplate capacity of the generator, but not less than 2 MW
17 nor greater than 20 MW. The 2 percent deadband is more appropriate because the
18 drivers to dispatch precision are relative, and not absolute. That is, meter accuracy,
19 dispatch precision, and conformance with ramp rate trajectories are all measured by the
20 size of the generator, and not by a static MW figure. In addition, if BPA pursues its
21 preferred fixed/variable rate design, a proportional deadband more fairly accounts for
22 the value received for the fixed payment. For example, under the fixed/variable rate

⁵ Another reasonable approach would be to base the deadband on schedule, but this would create a dynamic deadband that would be substantially more difficult to monitor or settle.

1 design, a 5MW generator would pay \$111⁶ as a fixed cost while a 1,000 MW generator
2 would pay \$22,340⁷. In spite of the dramatically different fixed costs, each generator
3 would receive the same 2 MW deadband quantity. Alternatively, if a proportional
4 deadband were created, the cost per-MW of deadband quantity would be much more
5 equitable.

6 **Q The Companies have stated that their review of BPA's two rate design proposals**
7 **continues. Do the Companies have other initial reactions to the fixed/variable**
8 **rate design?**

9 A Yes. While our evaluation of rate design continues, our initial reaction is that the
10 fixed/variable rate design preferred by BPA is inconsistent with proper incentives. That
11 is, collecting the revenue requirement through a fixed payment – regardless of use –
12 does nothing to create incentives for dispatchable resources to reduce the use of
13 balancing reserves. While our evaluation continues, we believe that at a minimum, the
14 Revised Proposal should be modified to explicitly state that in months when the plant is
15 off-line for any reason, and consumes no reserves during that month, that it should not
16 be subjected to the fixed cost charge.

17 **Q You suggest that clarification is needed for those periods when DERBS will be**
18 **suspended. What is the basis of your concern and what are your proposed**
19 **remedies?**

20 A The Companies are concerned that in the rush to implement DERBS for the 2012 Rate
21 Period, important details that will govern how the rate is applied are being overlooked.

⁶ 5 MW times \$22.34

1 In fact, while certain exemptions from DERBS are discussed in the Revised Proposal⁸,
2 no exemptions are identified in the proposed tariff (included as Attachment 1 to BP-12-
3 E-BPA-47.)

4 The Companies are most concerned that the DERBS rate schedule accurately define
5 circumstances when DERBS charges do not apply and suggest the following text be
6 included.

7 BPA shall not charge the Hourly Variable Rate (for inc or dec reserve) to a generator
8 subject to DERBS during any hour:

- 9 1) during which BPA has issued a Dispatch Order (of any kind, including redispatch,
10 Environmental Redispatch, or transmission curtailment or outage-related order or
11 request) and generator is responding to such order or for hours during which
12 generator is coming back on line after responding to such order;
13 2) that the generator has a qualifying contingency event and has called on
14 contingency energy;
15 3) an e-tag has been curtailed;
16 4) the generator is requested to go offline by the local utility;
17 5) the generator is changing generation levels to avoid a Failure to Comply (FTC)
18 charge; or
19 6) that BPA waives the charge because the generator was responding to or
20 recovering from an emergency or reliability concern not described above.
21

22 **Q Does this conclude your testimony?**

23 **A** Yes.

⁷ 1000 MW times \$22.34

⁸ BP-12-E-BPA-47, page 4, lines 1-9