2010 Wholesale Power Rate Case Initial Proposal

REBUTTAL TESTIMONY

REBUTTAL FOR EMBEDDED COST PRICING METHODOLOGY FOR WIND BALANCING RESERVE

April 2009

WP-10-E-BPA-43

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REBUTTAL TESTIMONY of

JANET ROSS KLIPPSTEIN, DANIEL H. FISHER,

GERARD C. BOLDEN, and KRISTINE L. BARTLETT

Witnesses for Bonneville Power Administration

SUBJECT: REBUTTAL FOR EMBEDDED COST PRICING METHODOLOGY FOR WIND BALANCING RESERVE

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SUBJECT: REBUTTAL FOR EMBEDDED COST PRICING METHODOLOGY FOR WIND BALANCING RESERVE

Section 1: Introduction and Purpose of Testimony

Q. Please state your names and qualifications.

A. My name is Janet Ross Klippstein, and my qualifications are contained in WP-10-Q-BPA-34.

A. My name is Daniel H. Fisher, and my qualifications are contained in WP-10-Q-BPA-18.

A. My name is Gerard C. Bolden, and my qualifications are contained in WP-10-Q-BPA-08.

A. My name is Kristine L. Bartlett, and my qualifications are contained in WP-10-Q-BPA-02.

Q. What is the purpose of your rebuttal testimony?

A. Our rebuttal testimony rebuts specific aspects of the parties' direct case regarding the embedded cost pricing methodology in the Initial Proposal.

Q. How is your testimony organized?

A. Section 1 is this introduction and section 2 is our rebuttal and clarification of certain issues.

Section 2: Rebuttal and Clarification of Issues

Q. Did you review the direct testimony of the M-S-R Public Power Agency (MSR), WP-10-E-MS-04?

A. Yes, we did.

Q. MSR characterizes the Initial Proposal use of 120-hour peaking capability in the Embedded Cost Pricing Methodology as quantifying "a shortage of fuel (water)" rather than "a shortage of capacity." Arthur, WP-10-E-MS-04(E1), at 6. Do you agree?

A. No. The 120-hour peaking capability is not a shortage calculation. Rather, it is an average of the highest 120 hours of generation and may in fact exceed load, that the system could meet based on assumed water conditions and assumed constraints. The monthly 120-hour peaking capability amounts are a measure of how well the Federal Columbia River Power System (FCRPS) can meet typical peaks day after day. The 120-hour peaking capability is influenced by both available energy and capacity. We recognize that there are several uses of the system, and some uses of the system require only capacity; others require capacity with flexibility, such as wind reserves and other generation inputs; and others require both capacity and energy, such as load service. The Embedded Cost Pricing Methodology was not intended to be a capacity or energy study. The Embedded Cost Pricing Methodology is an allocation of a defined set of costs and a defined set of uses of system capacity, which include load service and generation inputs for the Balancing Authority.

An example of how providing reserves requires both capacity and flexibility is found in BPA's Preliminary Needs Assessment Study, Baker, *et al.*, WP-10-E-JP6-01, Attachment 1, which states, "the more detailed Wind Reserve Impact Study (Approach C) corroborated and defined the need to acquire flexibility to meet required reserves for wind. This would indicate that acquired resources to meet the load should be through a contracted, dispatchable generator with dependable capacity and the ability to load factor to help address the reserve issue." *Id*. at 10. The preliminary needs assessment study also states, "the model results show that adding a flat energy resource does not significantly affect the amount of operating violations. To increase the system flexibility, the added resource would need to provide reserves in addition to energy; *e.g.*, a

dispatchable resource or ancillary product." *Id*. at 44. Therefore, we believe that the 120-hour measurement strikes a reasonable balance between energy, capacity, and flexibility for the allocation of embedded costs to a range of firm system uses.

Q. *Do you agree with MSR's assertion that BPA does not have a capacity constraint but may have an energy storage constraint? Arthur, WP-10-E-MS-04(E1), at 7.*

A. No. MSR's assertion is an over-simplification of a complex energy versus capacity issue.

Q. *Do you agree with MSR's conclusion that BPA has failed to make a distinction between instantaneous capacity, which remains available, and storage energy (180-hour capacity), which is increasingly scarce? Arthur, WP-10-E-MS-04(E1), at 11-12. MSR claims that the Wind Integration Charge (WIC) would charge wind projects for an energy product when they require only a capacity product. Arthur, WP-10-E-MS-04(E1), at 12.*

A. We did not intend to distinguish between instantaneous capacity, energy, and uses of the system that use a combination of capacity, energy and flexibility. The Embedded Cost Pricing Methodology was designed to identify all capacity uses of the system and allocate costs based on those uses of the system. We chose to base the Embedded Cost Pricing Methodology on the 120-hour peaking capability, which represents a measurement that is a blend of capacity and energy. *See* Generation Inputs Study (Study), WP-10-E-BPA-08, section 3; and Klippstein *et al.*, WP-10-E-BPA-24.

We also disagree with MSR's statement that wind projects will be charged for an energy product when in fact they require only a capacity product. Wind projects are not charged for an energy product in the proposed Embedded Cost Pricing Methodology. The embedded costs do not reflect the cost of energy to meet actual loads; instead, they reflect the cost of the system, which is allocated to multiple uses.

Q. *Did you read Northwest Wind Group's (NWG) direct testimony?*

A. Yes, we did.

Q. NWG states that if based on embedded costs, the rate for Wind Balancing Service should be approximately $l.00/kW-mo, based on 500,000 kW of reserves at $7.01/kW-mo unit cost spread over 3,500,000 kW of nameplate wind capacity. Dragoon, WP-10-E-NG-01, at 29. Do you agree with these assumptions and results?

A. No. We do not agree with the assumption of 500,000 kW of wind balancing reserve, nor the result of $1.00/kW/month for the Wind Balancing Service rate. We assumed a rate period average of 3,743,000 kW of installed capacity in the Initial Proposal. Our analysis resulted in the need for 1,045,000 kW of *inc* reserve for wind balancing. We agree that the rate for this embedded cost portion of the Initial Proposal was $7.01/kW/month of wind balancing reserve need, but there are many variables, such as a new forecast of installed capacity and new reserve forecast amounts, which could change this $7.01/kW/month unit cost in the final studies.

Q. Does the Initial Proposal Embedded Cost Pricing Methodology for Wind Balancing Reserves recover any cost associated with dec reserves?

A. No, in our Initial Proposal embedded costs were based on only *inc* reserves.

Q. NWG states that BPA has instantaneous hydro generation capability of more than 20,000 MW and actually generated 17,500 MW on December 15, 2008, yet for purposes of its peak capability analysis assumes less than 10,000 MW. Dragoon, WP-10-E-NG-01, at 31. Is it true that BPA generated 17,500 MW?

A. No. FCRPS hydro generation had a maximum hour of generation of 12,451 MW for the month of December, which occurred on December 20, 2008. *See* Exhibit 1 to this testimony, Actual Maximum Total Federal Hydro Generation by Month for FY 2007 and FY 2008 and October, November and December of 2008. As stated in the Study, WP-10-E-BPA-08, at 54, the Embedded Cost Pricing Methodology uses critical hydro conditions and an average of the 28-period data (14 periods for two years) for a subset of the FCRPS to determine the 120-hour peaking capability for the rate period. Therefore, it

makes sense that the embedded cost methodology yields a value that is less than the single-hour example cited in NWG's testimony.

Q. Has anything changed in the Embedded Cost Pricing Methodology since the Initial Proposal?

A. The Embedded Cost Pricing Methodology for Regulating Reserve and Wind Balancing Reserve is based on the net revenue requirement associated with the Big 10 projects. The four categories of costs are: 1) power-related costs of the relevant hydro projects; 2) allocation of fish mitigation on a project-specific basis; 3) allocation of administrative and general expense; and 4) three specific revenue credits. In the Initial Proposal, the fish mitigation and administrative and general costs included in the Big 10 revenue requirement were for all the hydro projects in the BPA BAA. Those system-wide costs should have been allocated to the Big 10 hydro projects revenue requirement using the 91 percent allocation factor, which represents the Big 10 projects' share of the system. Those two categories of costs will be multiplied by 91 percent in the final study. This correction results in a decrease of about $47 million from the Initial Proposal amount for the Big 10 net revenue requirement. In addition, the 4(h)(10)(C)(non-operation) revenue credit should be adjusted by the 91 percent allocation factor. A similar modification is required for the Operating Reserve embedded cost revenue requirement, because only 97 percent of the system is being allocated for the purpose of providing Operating Reserve.

Q. Does this conclude your testimony?

A. Yes.

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Exhibit 1

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Exhibit 1

Actual Maximum Total Federal Hydro Generation by Month
for FY 2007, FY 2008 and October, November and December 2008

	A	B	C	D	E
	Year	**Month**	**Title**	**Monthly Maximum (MW)**	
1	2006	Oct	TOTAL FEDERAL HYDRO GEN	11,759	
2	2006	Nov	TOTAL FEDERAL HYDRO GEN	13,308	
3	2006	Dec	TOTAL FEDERAL HYDRO GEN	13,640	
4	2007	Jan	TOTAL FEDERAL HYDRO GEN	15,604	
5	2007	Feb	TOTAL FEDERAL HYDRO GEN	13,205	
6	2007	Mar	TOTAL FEDERAL HYDRO GEN	15,821	
7	2007	Apr	TOTAL FEDERAL HYDRO GEN	15,053	
8	2007	May	TOTAL FEDERAL HYDRO GEN	14,141	
9	2007	Jun	TOTAL FEDERAL HYDRO GEN	13,529	
10	2007	Jul	TOTAL FEDERAL HYDRO GEN	12,732	
11	2007	Aug	TOTAL FEDERAL HYDRO GEN	12,037	
12	2007	Sep	TOTAL FEDERAL HYDRO GEN	9,246	
13			**Average**	**13,340**	
14	**Year**	**Month**	**Title**	**Monthly Maximum (MW)**	
15	2007	Oct	TOTAL FEDERAL HYDRO GEN	9,925	
16	2007	Nov	TOTAL FEDERAL HYDRO GEN	12,073	
17	2007	Dec	TOTAL FEDERAL HYDRO GEN	13,386	
18	2008	Jan	TOTAL FEDERAL HYDRO GEN	13,490	
19	2008	Feb	TOTAL FEDERAL HYDRO GEN	12,581	
20	2008	Mar	TOTAL FEDERAL HYDRO GEN	13,754	
21	2008	Apr	TOTAL FEDERAL HYDRO GEN	12,069	
22	2008	May	TOTAL FEDERAL HYDRO GEN	15,686	
23	2008	Jun	TOTAL FEDERAL HYDRO GEN	16,602	
24	2008	Jul	TOTAL FEDERAL HYDRO GEN	16,615	
25	2008	Aug	TOTAL FEDERAL HYDRO GEN	11,196	
26	2008	Sep	TOTAL FEDERAL HYDRO GEN	9,740	
27			**Average**	**13,093**	
28	**Year**	**Month**	**Title**	**Monthly Maximum (MW)**	
29	2008	Oct	TOTAL FEDERAL HYDRO GEN	9,670	
30	2008	Nov	TOTAL FEDERAL HYDRO GEN	10,763	
31	2008	Dec	TOTAL FEDERAL HYDRO GEN	12,451	

Total Federal Hydro Gen Resources are:

Albeni Falls	Green Peter
Big Cliff	Green Springs (1Dec02)
Bonneville	Hills Creek
Chandler	Hungry Horse
Chief Joseph	Ice Harbor
Cougar	John Day
Cowlitz Falls (501515)	Libby
Detroit	Little Goose
Dexter	LookOut Point
Dworshak	Lost Creek
Dworshak & Clearwater Hatchery	Lower Granite
Elwah	Lower Monumental
Foster	McNary
Glines Canyon	Roza
Grand Coulee + Pump Load/Gen	The Dalles