

**ADMINISTRATOR'S
DRAFT EQUIVALENT BENEFITS
ANALYSIS DETERMINATION FOR
CONTRACT OFFER TO THE PORT
TOWNSEND PAPER CORPORATION**

February 3, 2011



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**ADMINISTRATOR'S DRAFT EQUIVALENT BENEFITS ANALYSIS
DETERMINATION FOR CONTRACT OFFER TO THE PORT TOWNSEND
CORPORATION**

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I. INTRODUCTION

On November 13, 2009, the Bonneville Power Administration (“BPA”) signed a block power sales contract (the “Block Contract”) with Port Townsend Paper Corporation (“Port Townsend”) and on the same date issued a Record of Decision on the Block Contract (“Port Townsend ROD”). On December 24, 2009, Port Townsend and BPA agreed to amend the Block Contract to change the date that the Block Contract terminates to May 31, 2011, consistent with BPA’s then updated determination of equivalent benefits.¹ Under the Block Contract, BPA is selling up to 20.5 aMW of firm power to Port Townsend at the Industrial Firm (IP) power rate over approximately 19 months. Power deliveries began on November 15, 2009, and are scheduled to end May 31, 2011. BPA is proposing to offer a follow-on power sales contract to Port Townsend that will continue sales for a two year, three month period commencing on June 1, 2011 (the “2011 Contract”).

Prior to making its final determination whether or not to offer the follow-on contract, BPA is providing an opportunity for public review and comment regarding the 2011 Contract and its draft evaluation of the equivalent benefits (“Equivalent Benefits Test” or “EBT”). The public review and comment period begins on the date this draft determination is made public and continues through February 23, 2011.

The scope of review is limited to this draft determination and does not include the EBT methodology. As established in the Record of Decision on the Alcoa Contract (“Alcoa ROD”), the Equivalent Benefits Test is intended to demonstrate that a decision by BPA to serve a DSI customer is, as has been described in recent decisions by the U.S. Court of Appeals for the Ninth Circuit, consistent with sound business principles when it can be shown that the benefits to BPA of serving the DSI load would equal or exceed BPA’s cost of serving the load during the period of service.² Issues or comments pertaining to BPA’s legal authority, BPA’s reading of *PNGC I* and *II*,³ or related threshold matters

¹ See generally, *Five-Month Extension of 20.5 aMW Power Sale Contract No. 09PB-12106 With Port Townsend Paper Company – Administrator’s Record of Decision*, December 24, 2009.

² See Alcoa ROD, December 22, 2009, at 8-9.

have been comprehensively addressed in the Port Townsend ROD and Alcoa ROD, and both are pending review in current litigation.⁴ Therefore, these issues will not be reconsidered and are not within the scope of this determination. BPA agrees that issues raised in the litigation, and arguments and responses thereto, apart from those involving whether BPA has properly conducted and applied its Equivalent Benefits Test, are not waived by virtue of their not being raised and addressed in this comment forum.

II. 2011 CONTRACT

a. Firm Power Amount

Pursuant to the 2011 Contract released in conjunction with this analysis, BPA proposes to make available to Port Townsend, and Port Townsend agrees to purchase from BPA up to 20.5 aMW on a take-or-pay basis for a period of two (2) years and three (3) months, at the IP rate.

b. Port Townsend's 2011 Contract

The term of the Port Townsend 2011 Contract is two (2) years and three (3) months, beginning June 1, 2011 and extending through August 31, 2013. Other terms and provisions in the contract are basically the same provisions as in the current Block Contract described in the Port Townsend ROD, released November 13, 2009.

III. THE EQUIVALENT BENEFITS DETERMINATION FOR THE PERIOD BEGINNING JUNE 1, 2011 THROUGH AUGUST 31, 2013

A key element of BPA's response to *PNGC II* was to implement the Equivalent Benefits Test to determine whether BPA could make a power sale to a DSI consistent with the Court's opinion. As established in the Port Townsend ROD and the Alcoa ROD, the Equivalent Benefits Test is intended to demonstrate that a decision to serve a DSI customer is consistent with sound business principles when it can be shown that the benefits to BPA of serving the DSI load would equal or exceed BPA's cost of serving the load during the period of service. In this evaluation of the 2011 Contract, BPA analysis indicates that it can supply firm power to Port Townsend and the need to acquire power to serve the load during the term of the 2011 Contract will be minimal because BPA

³ Pacific Northwest Generating Cooperative v. Department of Energy (*PNGC I*), 550 F.3d 846 (9th Cir. 2008), *amended on denial of reh'g*, 580 F.3d 792 (9th Cir. 2009); Pacific Northwest Generating Cooperative v. Bonneville Power Administration (*PNGC II*), 580 F.3d 828 (9th Cir. 2009), *amended on denial of reh'g*, 596 F.3d 1065 (9th Cir. 2010).

⁴ On February 10, 2010, Industrial Consumers of Northwest Utilities ("ICNU") filed suit in the the United States Court of Appeals for the Ninth Circuit contesting the Block Contract and the subsequent amendment extending the Block Contract. In addition, on January 22, 2010, Alcoa filed suit in the United States Court of Appeals for the Ninth Circuit contesting their own power sales agreement, which is the subject of the Alcoa ROD.

anticipates serving the Port Townsend load from inventory under most water conditions. BPA then followed the steps of the Equivalent Benefits Test to determine that it can provide service to Port Townsend for the term of the 2011 Contract, during which the forecasted benefits of the sale exceed forecasted costs by approximately \$54,000.⁵

a. BPA expects to be surplus during the 2011 Contract Period

BPA does not forecast the need to make purchases specifically to serve Port Townsend during the 2011 Contract under most water conditions, although, as explained below, BPA has forecast, and thus it expects, the need to make some power purchases, including some normal “balancing” purchases in some months, to meet its total load obligations during the remainder of FY 2011 through August 2013, particularly under critical (*i.e.*, very poor) water conditions.⁶

Pursuant to BPA’s most recent load and resources studies contained in the *2010 Pacific Northwest Loads & Resources Study* (the “2010 White Book”), which forecasts loads and resources for both the Federal system and the region as a whole for the 10-year period (Operating Years (OY) 2011-2020), BPA is forecast to have a surplus of approximately 1,160 aMW, 1,542 aMW, 1,557 aMW, and 1,602 aMW on an average annual basis under the middle 80 percent of historical water conditions for OY 2011, OY 2012, OY 2013, and OY 2014 respectively.⁷ The term of the Port Townsend 2011 Contract includes 2 months in OY 2011 (June 1 through July 31, 2011); 12 months in each of OY 2012 and OY 2013, and 1 month in OY 2014 (August 2013). *See* 2010 White Book, Table 8 at 39, and Exhibits 11-14 at 104-111. The 20 aMW of power to be sold to Port Townsend under the 2011 Contract represents approximately one (1) percent of the forecast surpluses. Moreover, the 2010 White Book reflects a deficit of 501 aMW in OY 2011 (with DSI load of 271 aMW based on signed contracts for 340 aMW of service to the DSIs through May 2011); a surplus of 113 aMW, 42 aMW, and 115 aMW on an average annual basis under 1937-Critical Water Conditions during OY 2012, OY 2013 and OY 2014 respectively, and does so assuming no augmentation and zero DSI load.⁸ As a result, BPA expects on an

⁵ BPA analysis indicates that the benefits of the sale to Port Townsend under the 2011 Contract from June 1, 2011, through August 31, 2013, will exceed the costs by at least \$54,000.

⁶ Balancing purchases are market purchases that BPA makes either before or within a particular month in order to balance its forecast load and resource position within that month. Whether BPA makes any balancing purchases, and in what amounts, is dependent, among other things, on updated water flow forecasts which inform the amount of hydroelectric generation that can be expected in the month, and on within-month weather conditions impacting BPA customer load levels.

⁷ Operating Year (OY) in the 2010 White Book is the 12-month period August 1 through July 31. For example, OY 2011 is August 1, 2010, through July 31, 2011. The value of 1,160 aMW of surplus for OY 2011 includes a DSI load of 271 aMW based on signed contracts for 340 aMW of service to the DSIs (320 aMW for Alcoa and 20 aMW for Port Townsend) through May 2011 and if the 271 aMW of DSI loads were removed from OY 2011 the surplus in OY 2011 would increase from 1,160 aMW to 1,431 aMW. The corresponding value for OY 2012 through OY 2014, years with 0 aMW of DSI load, would be 1,542 aMW, 1,557 aMW, and 1,602 aMW respectively.

⁸ 2010 White Book, page 40.

annual basis to be surplus under average water conditions, and as such does not anticipate the need to alter its purchasing strategy for the sales that would be made to Port Townsend during the 2011 Contract. This does not preclude the fact that BPA may have to make short term purchases during certain times of the year to balance BPA's total loads, including Port Townsend, and resources.

The Equivalent Benefits Test is not based on 1937-Critical Water Conditions, but largely on BPA's forecasts of average water in the 2010 White Book (Average Middle 80% Water Conditions), BPA's Initial Proposal in the BP-12 rate proceeding for FY 2012 through FY 2-017 and BPA's recent streamflow expectations for FY 2011 that contributed to forecasts of hydroelectric generation – recent outputs of HYDSIM from December 2010 – that better reflect recent precipitation, as well as the lingering effects of the past two relatively dry water years. While BPA has established one of its costs captured in its power rates for FY 2011 and FY 2012 based on 1937-Critical Water Conditions as evidenced by Table 4.1.1, BP-12-E-BPA-03A at 136-137, the Secondary Sales Revenues and Balancing Purchase costs, for FY 2012 and FY 2013 were set based on average water, as evidenced by Tables 19 and 20, BP-12-E-BPA-04A at 47-48. BPA continued this approach – using critical water for one component of its rate setting and average water for other portions of its rate setting – in its Initial Proposal for the BP-12 rate proceeding and expects to continue using this approach going forward.

b. Benefits to BPA will equal or exceed costs for the period of the 2011 Contract

BPA forecasts that the revenues it will accrue from the firm sale of approximately 20 aMW to Port Townsend at the IP rate, under the 2011 Contract, would exceed by approximately \$54,000 the forecast revenues BPA could otherwise obtain from selling that power into the market. See Tables 1-6 below. As a consequence, BPA's preliminary finding is that the sale of power to Port Townsend under the 2011 Contract satisfies the Equivalent Benefits Test.

In the same manner described in the Alcoa ROD, BPA's projected monthly revenues are determined by multiplying the heavy load hour (HLH) and light load hour (LLH) energy entitlements and demand entitlement by their respective IP rate components for each month. BPA has calculated revenues under the 2011 Contract based on a continuing sale of 20 aMW, as outlined in Table 1, of firm power each hour to Port Townsend under the IP rate schedule beginning June 1, 2011, and ending August 31, 2013. The energy and demand entitlements are the projected amounts to be sold by diurnal period each month in the 2011 Contract. Since under the 2011 Contract BPA expects to make approximately 20 aMW available each month (not 20.5 aMW because power is scheduled in whole megawatts), 20 MW is the monthly megawatt amount specified in Table 1. BPA's projected monthly revenues are then accumulated and the result is illustrated in Tables 1 and 2:

Port Townsend EBT Analysis
TABLE 1 - Usage and Rates

Month	Port Townsend Usage			Projected IP Rates		
	Demand (kW)	HLH (MWh)	LLH (MWh)	Demand (\$ / kW)	HLH (\$ / MWh)	LLH (\$ / MWh)
Jun-11	20,000	8,320	6,080	\$1.32	\$31.18	\$23.29
Jul-11	20,000	8,000	6,880	\$1.61	\$33.33	\$28.66
Aug-11	20,000	8,640	6,240	\$1.89	\$37.31	\$31.40
Sep-11	20,000	8,000	6,400	\$1.96	\$36.49	\$32.26
Oct-11	20,000	8,320	6,560	\$9.35	\$40.74	\$30.93
Nov-11	20,000	8,000	6,420	\$9.46	\$41.26	\$30.71
Dec-11	20,000	8,320	6,560	\$10.13	\$44.40	\$34.23
Jan-12	20,000	8,000	6,880	\$9.74	\$42.56	\$31.50
Feb-12	20,000	8,000	5,920	\$9.75	\$42.65	\$31.64
Mar-12	20,000	8,640	6,220	\$9.36	\$40.78	\$29.71
Apr-12	20,000	8,000	6,400	\$8.57	\$37.06	\$26.54
May-12	20,000	8,320	6,560	\$8.15	\$35.11	\$19.85
Jun-12	20,000	8,320	6,080	\$8.39	\$36.27	\$20.50
Jul-12	20,000	8,000	6,880	\$10.55	\$46.43	\$33.34
Aug-12	20,000	8,640	6,240	\$10.99	\$48.48	\$35.15
Sep-12	20,000	7,680	6,720	\$10.38	\$45.58	\$31.83
Oct-12	20,000	8,640	6,240	\$9.35	\$40.74	\$30.93
Nov-12	20,000	8,000	6,420	\$9.46	\$41.26	\$30.71
Dec-12	20,000	8,000	6,880	\$10.13	\$44.40	\$34.23
Jan-13	20,000	8,320	6,560	\$9.74	\$42.56	\$31.50
Feb-13	20,000	7,680	5,760	\$9.75	\$42.65	\$31.64
Mar-13	20,000	8,320	6,540	\$9.36	\$40.78	\$29.71
Apr-13	20,000	8,320	6,080	\$8.57	\$37.06	\$26.54
May-13	20,000	8,320	6,560	\$8.15	\$35.11	\$19.85
Jun-13	20,000	8,000	6,400	\$8.39	\$36.27	\$20.50
Jul-13	20,000	8,320	6,560	\$10.55	\$46.43	\$33.34
Aug-13	20,000	8,640	6,240	\$10.99	\$48.48	\$35.15

TABLE 2 - BPA's Projected Revenue

Month	Revenues by Rate Determinant			Projected IP Revenue	
	Demand (\$)	HLH (\$)	LLH (\$)	Month (\$)	Cumulative (\$)
Jun-11	\$26,400	\$259,418	\$141,603	\$427,421	\$427,421
Jul-11	\$32,200	\$266,640	\$197,181	\$496,021	\$923,442
Aug-11	\$37,800	\$322,358	\$195,936	\$556,094	\$1,479,536
Sep-11	\$39,200	\$291,920	\$206,464	\$537,584	\$2,017,120
Oct-11	\$0	\$338,957	\$202,901	\$541,858	\$2,558,978
Nov-11	\$0	\$330,080	\$197,158	\$527,238	\$3,086,216
Dec-11	\$0	\$369,408	\$224,549	\$593,957	\$3,680,173
Jan-12	\$0	\$340,480	\$216,720	\$557,200	\$4,237,373
Feb-12	\$0	\$341,200	\$187,309	\$528,509	\$4,765,881
Mar-12	\$0	\$352,339	\$184,796	\$537,135	\$5,303,017
Apr-12	\$0	\$296,480	\$169,856	\$466,336	\$5,769,353
May-12	\$0	\$292,115	\$130,216	\$422,331	\$6,191,684
Jun-12	\$0	\$301,766	\$124,640	\$426,406	\$6,618,090
Jul-12	\$0	\$371,440	\$229,379	\$600,819	\$7,218,910
Aug-12	\$0	\$418,867	\$219,336	\$638,203	\$7,857,113
Sep-12	\$0	\$350,054	\$213,898	\$563,952	\$8,421,065
Oct-12	\$0	\$351,994	\$193,003	\$544,997	\$8,966,062
Nov-12	\$0	\$330,080	\$197,158	\$527,238	\$9,493,300
Dec-12	\$0	\$355,200	\$235,502	\$590,702	\$10,084,002
Jan-13	\$0	\$354,099	\$206,640	\$560,739	\$10,644,741
Feb-13	\$0	\$327,552	\$182,246	\$509,798	\$11,154,540
Mar-13	\$0	\$339,290	\$194,303	\$533,593	\$11,688,133
Apr-13	\$0	\$308,339	\$161,363	\$469,702	\$12,157,835
May-13	\$0	\$292,115	\$130,216	\$422,331	\$12,580,166
Jun-13	\$0	\$290,160	\$131,200	\$421,360	\$13,001,526
Jul-13	\$0	\$386,298	\$218,710	\$605,008	\$13,606,534
Aug-13	\$0	\$418,867	\$219,336	\$638,203	\$14,244,738

In this evaluation of a firm power sale to Port Townsend for the term of the 2011 Contract beginning in October 2011, BPA has used the proposed IP-12 energy and demand rates released in the Initial Proposal for the BP-12 rate proceeding in Tables 1 & 2.

c. Forecast of revenues that would be obtained by selling an equivalent amount of surplus power.

BPA routinely shapes its inventory to meet the need of its portfolio of contracts and sells its surplus inventory in the Pacific Northwest power market as described in BPA's BP-12 rate proceeding.⁹ BPA routinely forecasts Mid-C electricity prices consistent with the

methodology described in the BP-12 rate proceeding to value these purchases and sales.¹⁰ In particular, BPA updated its natural gas price forecast – one of the inputs used to forecast electricity prices – for FY 2011 to reflect more contemporary natural gas fundamentals and BPA has utilized this update for the 4 months in FY 2011 that are part of this analysis.¹¹ The forecast of natural gas prices for FY 2012 and beyond was used in BPA’s Initial Proposal in the BP-12 rate proceeding released November 2010.¹²

In the absence of selling 20 MW of firm power to Port Townsend’s pulp and paper mill in every hour, BPA would have one less firm power requirement sale in its aggregated portfolio load shape. As such, BPA would have approximately 20 aMW of surplus energy to sell in the market on an average annual basis. As illustrated in Table 3, BPA has forecast the revenues it would otherwise obtain from the market by incorporating BPA’s updated inputs and assumptions in the development of the electricity price forecast used in this analysis of the 2011 Contract.¹³

⁹ Refer generally to the *Power Risk and Market Price Study* in the BP-12 rate proceeding; and specifically to section 2.5.2 for a more complete description of the operating risk factors BPA faces in the course of doing business and section 2.6.3 for surplus energy sales and revenue. (See BP-12-E-BPA-04, beginning on page 35 and 46.)

¹⁰ BPA employed its electricity price forecast for multiple purposes in the BP-12 rate proceeding as outlined in the *Power Risk and Market Price Study*. The study also details how BPA established its forecast of Mid-C electricity prices in the BP-12 rate proceeding. (See generally sections 2.3 & 2.4 BP-12-E-BPA-04, beginning on page 15.)

¹¹ See also discussion in section IV of this analysis and the *Short-Term Energy Outlook* from the EIA for January showing the EIA lowered its forecasted Henry Hub Spot Price average for 2011 to \$4.02 per MMBtu with the spot price increasing to an average of \$4.50 per MMBtu in 2012, *Short-term Energy Outlook*, DOE EIA, January 11, 2011, at 1.

¹² BPA’s natural gas forecast used in the BP-12 rate proceeding is outlined beginning with section 2.3.1 of the *Power Risk and Market Price Study*. BPA’s current understanding for FY2012 is that the economy will slowly recover while supply remains high. Even if production falls or demand increases, the ample amount of gas in storage should prevent prices from rising quickly. (See BP-12-E-BPA-04, beginning on page 15.)

¹³ DSI load is assumed to include the total market load used to forecast the revenues obtained from the market at this stage. Please refer to the section on Demand Shift for how a shift in demand can affect BPA’s surplus sales revenues.

TABLE 3 - BPA's Forecasted Revenues Obtained from the Market

Month	Forecasted Market Price		Forecasted Revenues Obtained from the Market			
	HLH Price (\$ / MWh)	LLH Price (\$ / MWh)	HLH (\$)	LLH (\$)	Month (\$) (HLH + LLH)	Cumulative (\$)
Jun-11	\$30.17	\$22.73	\$250,981	\$138,205	\$389,186	\$389,186
Jul-11	\$32.67	\$25.56	\$261,330	\$175,841	\$437,171	\$826,357
Aug-11	\$36.24	\$28.63	\$313,074	\$178,631	\$491,706	\$1,318,063
Sep-11	\$34.20	\$27.78	\$273,575	\$177,807	\$451,382	\$1,769,445
Oct-11	\$41.44	\$32.61	\$344,781	\$213,922	\$558,702	\$2,328,147
Nov-11	\$42.43	\$33.22	\$339,440	\$213,272	\$552,712	\$2,880,860
Dec-11	\$45.75	\$36.51	\$380,640	\$239,506	\$620,146	\$3,501,005
Jan-12	\$42.59	\$32.33	\$340,720	\$222,430	\$563,150	\$4,064,156
Feb-12	\$42.12	\$32.07	\$336,960	\$189,854	\$526,814	\$4,590,970
Mar-12	\$40.73	\$30.73	\$351,907	\$191,141	\$543,048	\$5,134,018
Apr-12	\$36.94	\$26.35	\$295,520	\$168,640	\$464,160	\$5,598,178
May-12	\$35.68	\$21.17	\$296,858	\$138,875	\$435,733	\$6,033,911
Jun-12	\$37.13	\$22.24	\$308,922	\$135,219	\$444,141	\$6,478,051
Jul-12	\$47.37	\$34.84	\$378,960	\$239,699	\$618,659	\$7,096,711
Aug-12	\$49.32	\$36.61	\$426,125	\$228,446	\$654,571	\$7,751,282
Sep-12	\$46.26	\$33.16	\$355,277	\$222,835	\$578,112	\$8,329,394
Oct-12	\$46.49	\$35.68	\$401,674	\$222,643	\$624,317	\$8,953,711
Nov-12	\$46.53	\$34.65	\$372,240	\$222,453	\$594,693	\$9,548,404
Dec-12	\$49.50	\$38.40	\$396,000	\$264,192	\$660,192	\$10,208,596
Jan-13	\$48.97	\$37.11	\$407,430	\$243,442	\$650,872	\$10,859,468
Feb-13	\$49.61	\$37.64	\$381,005	\$216,806	\$597,811	\$11,457,279
Mar-13	\$47.28	\$35.13	\$393,370	\$229,750	\$623,120	\$12,080,399
Apr-13	\$43.61	\$33.17	\$362,835	\$201,674	\$564,509	\$12,644,907
May-13	\$40.98	\$24.97	\$340,954	\$163,803	\$504,757	\$13,149,664
Jun-13	\$41.86	\$25.19	\$334,880	\$161,216	\$496,096	\$13,645,760
Jul-13	\$51.93	\$38.28	\$432,058	\$251,117	\$683,174	\$14,328,935
Aug-13	\$54.08	\$40.14	\$467,251	\$250,474	\$717,725	\$15,046,659

As detailed in the Gas Price Forecast sub-section below, BPA's forecasts of natural gas prices for the Henry Hub have been progressing steadily downward since the WP-10 forecast of natural gas prices. The natural gas price forecast used in the 2010 Resource Program was reduced further. This was followed by a further reduction in the natural gas price forecast used in the Initial Proposal for the BP-12 rate proceeding. It is not unreasonable to assume that BPA's forecast of natural gas prices could decline further given market developments since September, when the gas price forecast for the Initial Proposal was completed. This is a conservative assumption not only because BPA's resulting forecast of market prices for electricity could decrease further, but also because BPA's \$15 million of Forecasted Revenues Obtained from the Market in Table 3 represents the entire opportunity cost contributing to this draft determination of equivalent benefits by BPA. In other words, if the forecast revenues BPA could otherwise obtain from selling power into the market declines further while the revenues BPA will accrue from the firm sale of 20 aMW to Port Townsend at the IP rate remain the same, then BPA's forecast of equivalent benefits will improve by the same amount.

Figure 1 on page 18 illustrates this pattern of forecasts of natural gas prices progressing downward (since the Alcoa ROD).

Net Benefit (IP – Market)

BPA determined its net benefit of serving Port Townsend at the IP rate for each month by subtracting the opportunity cost forecast to be obtained in the market detailed in Table 3 from the projected IP revenues described in Table 2. BPA’s net benefit before adjustments is illustrated in Table 4:

TABLE 4 - BPA's Net Benefit before Adjustment

Month	Net Revenue or (Cost)	
	Month (\$)	Cumulative (\$)
Jun-11	\$38,235	\$38,235
Jul-11	\$58,850	\$97,085
Aug-11	\$64,389	\$161,473
Sep-11	\$86,202	\$247,675
Oct-11	(\$16,845)	\$230,830
Nov-11	(\$25,474)	\$205,356
Dec-11	(\$26,189)	\$179,167
Jan-12	(\$5,950)	\$173,217
Feb-12	\$1,694	\$174,911
Mar-12	(\$5,912)	\$168,999
Apr-12	\$2,176	\$171,175
May-12	(\$13,402)	\$157,773
Jun-12	(\$17,734)	\$140,039
Jul-12	(\$17,840)	\$122,199
Aug-12	(\$16,368)	\$105,831
Sep-12	(\$14,160)	\$91,671
Oct-12	(\$79,320)	\$12,351
Nov-12	(\$67,455)	(\$55,104)
Dec-12	(\$69,490)	(\$124,593)
Jan-13	(\$90,133)	(\$214,726)
Feb-13	(\$88,013)	(\$302,739)
Mar-13	(\$89,527)	(\$392,266)
Apr-13	(\$94,806)	(\$487,072)
May-13	(\$82,426)	(\$569,498)
Jun-13	(\$74,736)	(\$644,234)
Jul-13	(\$78,166)	(\$722,400)
Aug-13	(\$79,522)	(\$801,922)

d. Calculation of the net financial value of tangible benefits of selling power to Alcoa as opposed to selling an equivalent amount of power on the market.

Consistent with the methodology described in the Alcoa ROD, BPA has identified a number of tangible benefits to BPA that would not be achieved by a market sale of power as compared to selling to Port Townsend at the IP rate during the period of the 2011 Contract. BPA conducted an economic analysis to determine the net value of those benefits.

BPA believes its forecast of positive net revenues is probably conservative, inasmuch as the sales to DSIs encompass certain additional intangible and qualitative benefits to BPA's operations.¹⁴ However, adjustments for these benefits to BPA are not included or relied upon here because they are more qualitative than quantitative at this time and therefore do not presently affect BPA's decision to offer the 2011 Contract. Adjustments for these or other benefits may affect the tenor and/or megawatt amount of future sales.

Value of Reserves

The 2011 Contract requires that Port Townsend make contingency reserves available to BPA, reserves that would not be available from making a typical market sale. BPA takes into account the value of the reserves Port Townsend is required to make available to BPA during the period of the 2011 Contract. Sales at the IP rate reflect the value of BPA's right to obtain contingency reserves.¹⁵ Specifically, the energy rate tables in the IP-10 rate schedule and the proposed IP-12 rate schedule include an \$0.80 per MWh credit and a \$0.95 per MWh credit, respectively, for the value of these reserves. Therefore, BPA's net benefit above compares a surplus power sale to a sale of power at the IP rate with reserves. We have adjusted for this by adding back a value of reserves that provides an equal and opposite offset to the credit for the value of reserves in the applicable rate schedule.¹⁶ As illustrated by Table 5a, this is done for every megawatt hour not sold to Port Townsend:

¹⁴ See Alcoa ROD, pages 72-82.

¹⁵ Sales at the IP rate require the provision of the Minimum DSI Operating Reserve – Supplemental. The 2011 Contract is a sale at the IP rate and, accordingly, Port Townsend is required to make such contingency reserves available to BPA, as specified in section 5.2 and implemented by Exhibit H to the 2011 Contract.

¹⁶ In other words, BPA has increased the IP rate by the value of reserves credit for purposes of this analysis so that the comparison to a surplus sale into the market is on an "apples to apples" basis.

TABLE 5a - BPA's Net Benefit Adjustments

Month	Value of Reserves	
	Month (\$)	Cumulative (\$)
Jun-11	\$11,520	\$11,520
Jul-11	\$11,904	\$23,424
Aug-11	\$11,904	\$35,328
Sep-11	\$11,520	\$46,848
Oct-11	\$14,136	\$60,984
Nov-11	\$13,699	\$74,683
Dec-11	\$14,136	\$88,819
Jan-12	\$14,136	\$102,955
Feb-12	\$13,224	\$116,179
Mar-12	\$14,117	\$130,296
Apr-12	\$13,680	\$143,976
May-12	\$14,136	\$158,112
Jun-12	\$13,680	\$171,792
Jul-12	\$14,136	\$185,928
Aug-12	\$14,136	\$200,064
Sep-12	\$13,680	\$213,744
Oct-12	\$14,136	\$227,880
Nov-12	\$13,699	\$241,579
Dec-12	\$14,136	\$255,715
Jan-13	\$14,136	\$269,851
Feb-13	\$12,768	\$282,619
Mar-13	\$14,117	\$296,736
Apr-13	\$13,680	\$310,416
May-13	\$14,136	\$324,552
Jun-13	\$13,680	\$338,232
Jul-13	\$14,136	\$352,368
Aug-13	\$14,136	\$366,504

Avoided Transmission and Ancillary Services Expenses

When BPA makes a sale to a DSI, all DSI customers – including Port Townsend – cover the cost of transmission and ancillary services through their own transmission contracts. Market prices, on the other hand, assume power is delivered by the seller to the Mid-Columbia trading hub (Mid-C); thus the seller pays for the cost of transmission. Power Services (PS) is the organization within BPA that is responsible for the management and sale of Federal power. PS must pay the transmission and ancillary services costs to move surplus power to the Mid-C delivery point in order to realize the full market value for its surplus sales. PS maintains an inventory of transmission products and services to deliver the surplus power it intends to sell. However, this transmission product inventory is not sufficient to deliver all of the surplus power PS would sell under all load and resource conditions, especially under high stream flows. As a result, there is a subset of load and

resource conditions under which PS would incur incremental costs for transmission and ancillary services to deliver incremental surplus energy sales, if PS did not sign contracts to serve the DSI loads. The planned transmission and ancillary services expenses to address both the expected expenses and their uncertainty were addressed in the WP-10 rate proceeding, in BPA's Initial Proposal for the BP-12 rate proceeding and are expected to be addressed in each subsequent BPA rate proceeding.¹⁷ Since PS's overall marketing strategy is to serve all its loads out of inventory and to balance its supply to meet any within-year deficits with short-term purchases, the incremental transmission and ancillary services costs are avoided when BPA makes IP sales to the DSIs.

PS valued these avoided transmission and ancillary services costs for the period of the 2011 Contract using the same methodology used in the BP-10 rate proceeding to establish the total costs and risks associated with PS's inventory of transmission products and services. In these computations, both fixed, take-or-pay costs and variable incremental transmission and ancillary service costs were computed under 3,500 load and resource conditions for each month. Incremental transmission and ancillary services costs were computed by comparing the amount of surplus energy available to the monthly excess amount of firm transmission products in the PS inventory.

Tariff costs established by BPA's Transmission Services organization were applied to the amount of surplus energy in excess of the PS transmission products inventory. Total monthly transmission and ancillary services costs were computed assuming no service to the DSIs and DSI service of 340 aMW for the period beginning June 1, 2011, through December 31, 2012.¹⁸ The average total monthly expense values of the 3,500 games were computed with and without service to the DSIs and the differences were taken to determine the avoided PS transmission and ancillary services costs when PS makes these IP sale(s) to the DSIs. For purposes of this analysis, Port Townsend has been allotted 5.9% of this PS benefit in each month as illustrated in Table 5b below. This percent allotment is the result of the proportion of the megawatt amounts during the period of the 2011 Contracts, and as depicted in Table 1 above.

¹⁷ Refer to section 4 of the *Revenue Requirement Study*, WP-10-FS-BPA-02, section 2.4 of the *Risk Analysis and Mitigation Study* in the WP-10 rate proceeding, and the *Power Revenue Requirement Study*, BPA-12-E-BPA-02. BPA continues to use the same methodology for addressing planned transmission and ancillary service expenses in the BP-12 rate proceeding.

¹⁸This number is comprised of 320 aMW for Alcoa and 20 aMW for Port Townsend Paper Company as a current EBT analysis (see Attachment B) demonstrates that BPA would be justified in providing Alcoa service through December 2012. Based on the analysis in Attachment B, and for purposes of this analysis only, it is reasonable to assume that BPA would amend Alcoa's existing contract to provide for an extension of service or offer Alcoa a new contract upon the expiration of their existing contract in the event the EBT continues to apply as the appropriate test for service. Given that assumption, BPA credited Port Townsend its proportional share of these benefits for the period that the EBT analysis demonstrates Alcoa would be provided service (ie. through December 2012). If these two benefits were only credited to Port Townsend through May 26, 2012 (end of Extended Initial Period of the Alcoa Contract, See *ROD Granting Alcoa's Request to Extend the Initial Period of Alcoa's Power Sales Agreement*, released October 29, 2010, at 5) the EBT analysis demonstrates that service could still be provided to Port Townsend through May 31, 2013, with projected revenues exceeding costs by at least \$50,000 (See Attachment C).

TABLE 5b - BPA's Net Benefit Adjustments

Month	Avoided Tx and Ancillary Service Costs		
	Month (\$)	Proportional Month (\$)	Cumulative (\$)
Jun-11	\$277,342	\$16,314	\$16,314
Jul-11	\$85,751	\$5,044	\$21,358
Aug-11	\$0	\$0	\$21,358
Sep-11	\$0	\$0	\$21,358
Oct-11	\$8,526	\$502	\$21,860
Nov-11	\$22,634	\$1,331	\$23,191
Dec-11	\$70,298	\$4,135	\$27,327
Jan-12	\$275,908	\$16,230	\$43,556
Feb-12	\$229,707	\$13,512	\$57,069
Mar-12	\$238,162	\$14,010	\$71,078
Apr-12	\$406,871	\$23,934	\$95,012
May-12	\$631,194	\$37,129	\$132,141
Jun-12	\$524,069	\$30,828	\$162,968
Jul-12	\$246,818	\$14,519	\$177,487
Aug-12	\$43,497	\$2,559	\$180,046
Sep-12	\$20,371	\$1,198	\$181,244
Oct-12	\$12,378	\$728	\$181,972
Nov-12	\$32,792	\$1,929	\$183,901
Dec-12	\$77,506	\$4,559	\$188,460
Jan-13	\$0	\$0	\$188,460
Feb-13	\$0	\$0	\$188,460
Mar-13	\$0	\$0	\$188,460
Apr-13	\$0	\$0	\$188,460
May-13	\$0	\$0	\$188,460
Jun-13	\$0	\$0	\$188,460
Jul-13	\$0	\$0	\$188,460
Aug-13	\$0	\$0	\$188,460

BPA continues to value avoided transmission and ancillary services costs for the period of the 2011 Contract using the tariff costs adopted by Transmission Services in the TR-10 rate proceeding. The 2012-2013 transmission rate case parties reach a partial rate case settlement, agreeing that the transmission and ancillary service tariffs used in this analysis will remain unchanged. As a result, BPA has continued to use the tariff costs adopted in the TR-10 rate proceeding in this analysis.

Demand Shift

When BPA serves the DSI loads – including Port Townsend – and they operate – as opposed to not operating if BPA does not sell to them – all of BPA’s surplus sales realize increased revenues because the mean value of prices for electricity in Western power markets are higher than they would otherwise be had the DSI loads not consumed electricity from Western power markets. BPA has forecasted these increased revenues by reducing loads in the PNW by 340 aMW for each of the 3,500 games AURORA simulated for the forecast used in Table 3 above in each month through December 31, 2012.¹⁹ This lowered the mean price forecast by a 12-month average of \$0.42 per MWh, and by \$0.47 per MWh for fiscal years 2012, and 2013, respectively.²⁰

The monthly difference resulting from this lower mean price forecast was then multiplied by BPA’s monthly surplus energy from BPA’s recent forecasts of hydroelectric generation for the applicable portion of each fiscal year – outputs of HYDSIM from December 2010 – to determine the increased revenues available to BPA’s surplus sales when BPA makes an IP sale(s) to the DSIs – including firm power sale to Port Townsend during the period of the 2011 Contract. For the purposes of this analysis, Port Townsend has been allotted 5.9% of this benefit to BPA in each month as illustrated in Table 5c below. This percent allotment is the result of the proportion of the megawatt amounts in the period of the 2011 Contract, and as depicted in Table 1 above, as compared to the 340 aMW forecasted for all DSI customers.

¹⁹ This number is comprised of 320 aMW for Alcoa and 20 aMW for Port Townsend Paper Company as a current EBT analysis (see Attachment B) demonstrates that BPA would be justified in providing Alcoa service through December 2012. Based on the analysis in Attachment B, and for purposes of this analysis only, it is reasonable to assume that BPA would amend Alcoa’s existing contract to provide for an extension of service or offer Alcoa a new contract upon the expiration of their existing contract in the event the EBT continues to apply as the appropriate test for service. Given that assumption, BPA credited Port Townsend its proportional share of these benefits for the period that the EBT analysis demonstrates Alcoa would be provided service (ie. through December 2012). If these two benefits were only credited to Port Townsend through May 26, 2012 (end of Extended Initial Period of the Alcoa Contract, See *ROD Granting Alcoa’s Request to Extend the Initial Period of Alcoa’s Power Sales Agreement*, released October 29,2010, at 5) the EBT analysis demonstrates that service could still be provided to Port Townsend through May 31, 2013, with projected revenues exceeding costs by at least \$50,000 (See Attachment C).

²⁰ AURORA is an electric energy market model that is owned and licensed by EPIS, Incorporated. The model assumes a competitive market pricing structure as the fundamental mechanism underlying how it estimates the wholesale electric energy market prices during the term of an analysis. In a competitive market, at any given time, electric energy market prices should be based on the marginal cost of production, which is the variable cost of the last generating unit needed to meet energy demand.

TABLE 5c - BPA's Net Benefit Adjustments

Month	Demand Shift		Cumulative (\$)
	Month (\$)	Proportional Month (\$)	
Jun-11	\$231,819	\$13,636	\$13,636
Jul-11	\$59,053	\$3,474	\$17,110
Aug-11	(\$170,339)	(\$10,020)	\$7,090
Sep-11	(\$79,296)	(\$4,664)	\$2,426
Oct-11	(\$58,137)	(\$3,420)	(\$994)
Nov-11	\$32,607	\$1,918	\$924
Dec-11	\$32,513	\$1,913	\$2,836
Jan-12	\$389,460	\$22,909	\$25,746
Feb-12	\$340,733	\$20,043	\$45,789
Mar-12	\$481,712	\$28,336	\$74,125
Apr-12	\$571,432	\$33,614	\$107,739
May-12	\$1,244,548	\$73,209	\$180,947
Jun-12	\$1,174,751	\$69,103	\$250,050
Jul-12	\$533,197	\$31,365	\$281,415
Aug-12	\$103,935	\$6,114	\$287,529
Sep-12	\$61,947	\$3,644	\$291,173
Oct-12	(\$45,776)	(\$2,693)	\$288,480
Nov-12	\$103,379	\$6,081	\$294,561
Dec-12	\$110,588	\$6,505	\$301,066
Jan-13		\$0	\$301,066
Feb-13		\$0	\$301,066
Mar-13		\$0	\$301,066
Apr-13		\$0	\$301,066
May-13		\$0	\$301,066
Jun-13		\$0	\$301,066
Jul-13		\$0	\$301,066
Aug-13		\$0	\$301,066

Conclusion of Equivalent Benefits Test

The preceding analysis demonstrates how the projected revenues BPA recovers from an IP sale to Port Townsend during the period of the 2011 Contract (from June 1, 2011 through August 31, 2013) exceed by approximately \$54,000 the forecasted revenues that BPA would otherwise obtain from the market.²¹ See Table 6. BPA's methodology for making this draft determination is based, to the extent possible, on modeling tools used in BPA's rate cases. That process includes discovery, testimony, rebuttal testimony, and cross examination prior to a final determination by the Administrator. Further, the

²¹ The Avoided Transmission & Ancillary Costs and Demand Shift benefits used in this analysis have been calculated based on the combined load of Port Townsend and Alcoa.

analysis is marked by thorough and thoughtful consideration of market fundamentals and other factors that ensure the integrity of the results.

TABLE 6 - BPA's Net Benefit after Adjustments

Month	BPA's Adjusted Net Revenue or (Cost)					Cumulative (\$)
	Net Revenue or (Cost) (A) Month (\$)	Value of Reserves (B) Month (\$)	Avoided Tx Costs (C) Month (\$)	Demand Shift (D) Month (\$)	A + B + C + D Month (\$)	
Jun-11	\$38,235	\$11,520	\$16,314	\$13,636	\$79,705	\$79,705
Jul-11	\$58,850	\$11,904	\$5,044	\$3,474	\$79,272	\$158,977
Aug-11	\$64,389	\$11,904	\$0	(\$10,020)	\$66,273	\$225,250
Sep-11	\$86,202	\$11,520	\$0	(\$4,664)	\$93,057	\$318,307
Oct-11	(\$16,845)	\$14,136	\$502	(\$3,420)	(\$5,627)	\$312,680
Nov-11	(\$25,474)	\$13,699	\$1,331	\$1,918	(\$8,526)	\$304,154
Dec-11	(\$26,189)	\$14,136	\$4,135	\$1,913	(\$6,005)	\$298,149
Jan-12	(\$5,950)	\$14,136	\$16,230	\$22,909	\$47,325	\$345,474
Feb-12	\$1,694	\$13,224	\$13,512	\$20,043	\$48,474	\$393,948
Mar-12	(\$5,912)	\$14,117	\$14,010	\$28,336	\$50,550	\$444,498
Apr-12	\$2,176	\$13,680	\$23,934	\$33,614	\$73,403	\$517,901
May-12	(\$11,194)	\$11,856	\$37,129	\$73,209	\$111,000	\$628,902
Jun-12	(\$17,734)	\$13,680	\$30,828	\$69,103	\$95,876	\$724,778
Jul-12	(\$17,840)	\$14,136	\$14,519	\$31,365	\$42,179	\$766,957
Aug-12	(\$16,368)	\$14,136	\$2,559	\$6,114	\$6,440	\$773,397
Sep-12	(\$14,160)	\$13,680	\$1,198	\$3,644	\$4,362	\$777,760
Oct-12	(\$79,320)	\$14,136	\$728	(\$2,693)	(\$67,149)	\$710,611
Nov-12	(\$67,455)	\$13,699	\$1,929	\$6,081	(\$45,746)	\$664,865
Dec-12	(\$69,490)	\$14,136	\$4,559	\$6,505	(\$44,289)	\$620,576
Jan-13	(\$90,133)	\$14,136	\$0	\$0	(\$75,997)	\$544,579
Feb-13	(\$88,013)	\$12,768	\$0	\$0	(\$75,245)	\$469,334
Mar-13	(\$89,527)	\$14,117	\$0	\$0	(\$75,410)	\$393,925
Apr-13	(\$94,806)	\$13,680	\$0	\$0	(\$81,126)	\$312,798
May-13	(\$82,426)	\$14,136	\$0	\$0	(\$68,290)	\$244,509
Jun-13	(\$74,736)	\$13,680	\$0	\$0	(\$61,056)	\$183,453
Jul-13	(\$78,166)	\$14,136	\$0	\$0	(\$64,030)	\$119,422
Aug-13	(\$79,522)	\$14,136	\$0	\$0	(\$65,386)	\$54,037

IV. GAS PRICE FORECAST

One contentious issue raised in the past by parties relates to the gas price forecast. This section addresses BPA's gas price forecast approach.

As described below, BPA's forecast of natural gas prices is based on sound analytics and reflects a reasonable approach and methodology. The gas price forecast component of BPA's electricity price forecast is important because natural gas price movements contribute to price movements in electric power markets in the Pacific Northwest, as a preponderance of the generating resources establishing marginal prices for electric power are fueled by natural gas. For this analysis, BPA utilized its most recent gas price forecast for the months in FY 2011 together with the gas price forecast from the BP-12 rate proceeding for all subsequent months. This forecast is labeled "BPA (Nov/Sep-10)" in Figure 1.

Specifically, BPA's current natural gas price forecast for FY 2011 – 4-months of which are encompassed by the 2011 Contract – was updated in November 2010 to better reflect three main natural gas market fundamentals: a) continued strength of natural gas production, despite steep reductions in rig counts since late 2008, b) consistent but sluggish recovery of natural gas demand, partially due to the nature of the economic recovery, and c) near record amount of natural gas in storage which contributes to downward pressure on prices in the near term.²² In the current withdrawal season, while prices have risen naturally as a result of seasonal demand, there is nonetheless expected to be a high amount of gas remaining in storage at the end of winter, which is expected to weigh heavily on prices throughout the remainder of FY 2011.

BPA's natural gas price forecast used in the BP-12 rate proceeding was used to analyze the 2011 Contract during FY 2012 and all subsequent months. This natural gas price forecast was completed by BPA in September 2010, during BPA's fourth quarter of its fiscal year. The methodology for its development and its use as an input to BPA's electricity price forecasts, are outlined in section 2.3.1 of the *Power Risk and Market Price Study* (see BP-12-E-BPA-04, beginning on p. 15).

BPA has also recently compared its latest forecasts of spot market natural gas prices at the Henry Hub to the forecasts produced by other forecasters in the industry. The comparison, shown in Figure 1 below, includes both a history of the Henry Hub spot prices – as opposed to the more frequently referenced NYMEX (now CME Group) forward market for Henry Hub natural gas prices – and other forecasters' views of the future. The forecasters, in alphabetical order, typically included in our comparisons are: Bentek Energy LLC (Bentek), Cambridge Energy Research Associates (CERA), the

²² In addition, BPA has detailed, with contemporary information from the Energy Information Administration in Attachment A ("Natural Gas Statistics"), the continued strength of natural gas production despite steep declines in rigs, the sluggish recovery of natural gas demand (in that growth in natural gas demand is slower than growth in natural gas production), and the near record amount of natural gas in storage. See also Short-Term Energy Outlooks from the EIA for January showing the EIA lowered its forecasted Henry Hub Spot Price average for 2011 to \$4.02 per MMBtu, *Short-term Energy Outlook*, DOE EIA January 11, 2011, at 1.

United States Department of Energy’s Energy Information Administration (EIA), PIRA Energy Group, and Wood Mackenzie.²³ The historical observations reflect the monthly average of the daily spot market prices for natural gas at the Henry Hub quoted on the Intercontinental Exchange (ICE) for the months from June 2010 through December 2010.

Figure 1: Henry Hub Natural Gas Spot Price Forecast

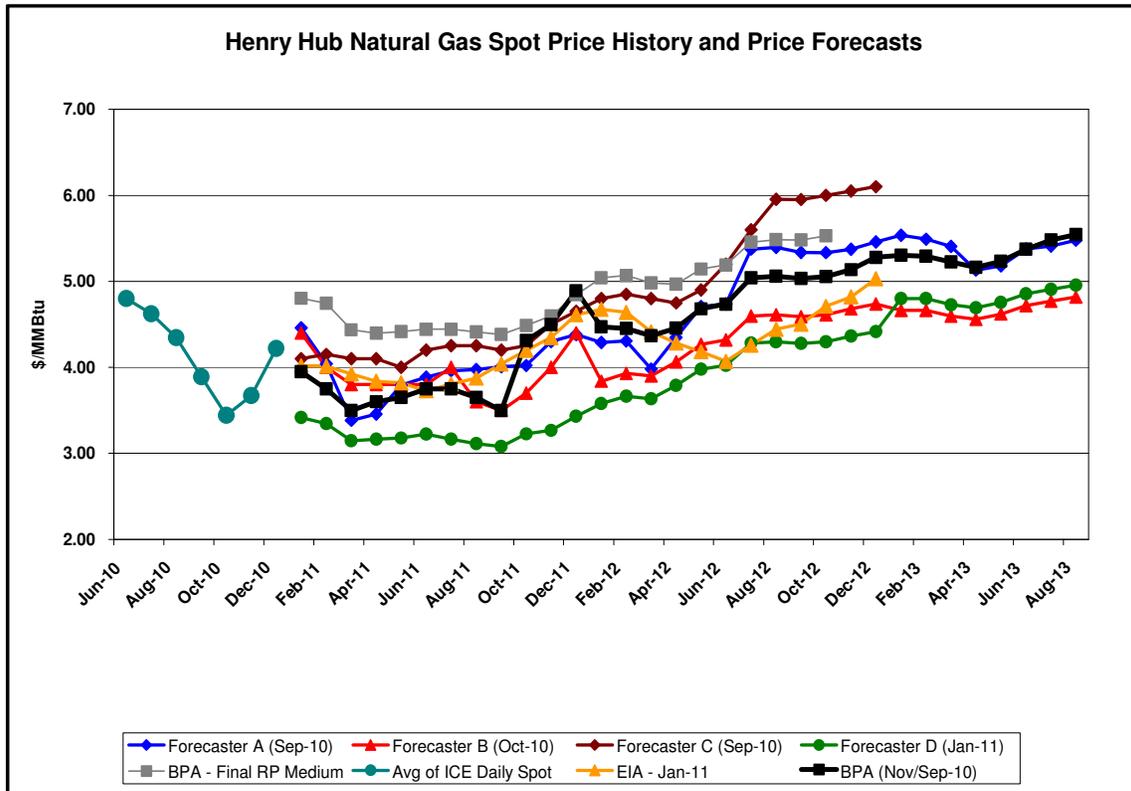


Figure 1 demonstrates that recent spot market prices for natural gas at the Henry Hub have been less than \$5 per MMBtu from June 2010 through December 2010. This illustration also demonstrates that the forecasts of five other industry experts are between \$3.22 per MMBtu and \$4.20 per MMBtu for June 2011 – the starting month of BPA’s evaluation of equivalent benefits for the 2011 Contract – and their forecasts remain lower than \$5 per MMBtu through May 2012 the month in which the EIA forecasts that Henry Hub spot prices for natural gas will average \$4.18 per MMBtu. BPA’s updated forecast of spot prices for natural gas at the Henry Hub is consistent with the views reflected by these five industry experts. As a result, BPA believes its natural gas price forecast from the Initial Proposal is reasonable compared to a recent history of monthly average Henry

²³ With the exception of the EIA, each of these forecasters considers their information to be proprietary. The vintage of these forecasts is fall 2010 to January 2011. EIA forecast is from their *Short-term Energy Outlook* released January 11, 2011. The EIA’s next *Short-term Energy Outlook* is scheduled to be released February 2011.

Hub spot prices for natural gas and compared to what other industry experts are expecting.

V. ENVIRONMENTAL EFFECTS

This agreement represents a continuation of service to Port Townsend at a rate consistent with the court's decisions in *PNGC I* and *PNGC II*, and the sale will not lead to any changes in environmental effects. Further, this type of agreement is consistent with BPA's Short-Term Marketing and Operating Arrangements ROD of January 22, 1996, a copy of which is attached hereto as Attachment D.

VI. DRAFT DETERMINATION

Based on the above application of the Equivalent Benefits Test, BPA's preliminary determination is that it can make available to Port Townsend up to 20.5 aMW of firm power sold at the IP rate for the term of the 2011 Contract. Public review and comment period begins on the date of the issuance of this draft determination and continues through February 23, 2011. BPA currently expects to issue its final determination approximately two weeks after the conclusion of public comment.