ADMINISTRATOR'S DRAFT EQUIVALENT BENEFITS ANALYSIS DETERMINATION FOR CONTRACT OFFER TO THE COLUMBIA FALLS ALUMINUM COMPANY

August 1, 2011

BONNEVILLE
POWER ADMINISTRATION

TABLE OF CONTENTS

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I. INTRODUCTION

Bonneville Power Administration (BPA) and Columbia Falls Aluminum Company (CFAC) are currently discussing a potential power sales agreement. The proposed power sales agreement would provide 140 aMW of electricity, sufficient to operate two of five potlines, at the aluminum smelter located in Columbia Falls, Montana, commencing on April 1, 2012 and could allow for a four year, six month period (the "2012 Contract") dependent on BPA's analysis of a number of factors outlined herein. The 2012 Contract would be a new contract and would replace the existing monetized power sales agreement that terminates September 30, 2011. The CFAC smelter is currently in an economic shutdown and is not purchasing power from BPA.

Prior to making its final determination whether or not to offer the 2012 Contract, BPA is providing an opportunity for public review and comment regarding the 2012 Contract and BPA's draft evaluation of the equivalency of the benefits and costs of serving CFAC ("Equivalent Benefits Test" or "EBT"). BPA is also considering other factors, in addition to the EBT, such as those outlined in the 2012 Contract section below, that also might influence the term of the 2012 Contract. The public review and comment period begins on the date this draft determination is made public and continues through August 31, 2011.

The scope of review is limited to the proposed 2012 Contract, any associated environmental effects, and this draft EBT determination, but does not include the associated EBT methodology. As established in the Record of Decisions on the Alcoa Contract ("Alcoa ROD") and on the Port Townsend Contract ("Port Townsend ROD")[1], the Equivalent Benefits Test is the method BPA will use to determine whether a power sale to serve a Direct Service Industry (DSI) customer is consistent with sound business principles, absent a change in the holdings of the U.S. Court of Appeals for the Ninth Circuit in *PNGC I* or *PNGC II*, or BPA's interpretation of these holdings.[2] The

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[1] Power Sale to Alcoa Inc. Commencing December 22, 2009 Adminisrator Record of Decision, released December 21, 2009. 20.5 aMW Power Sale to Port Townsend Paper Company for the Period November 15, 2009 through December 31, 2009 Administrator's record of Decision, released November 13, 2009.

[2] 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

Administrator may offer a power sale only 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.[3] Issues or comments pertaining to BPA's legal authority, BPA's interpretation of *PNGC I* and *II*, or related threshold matters have been comprehensively addressed in the Port Townsend ROD and the Alcoa ROD.[4] The Alcoa ROD is pending review in current litigation. Therefore, BPA's legal authority, BPA's interpretation of *PNGC I* and *II*, or related threshold matters 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. 2012 Contract

a. Firm Power Amount

Pursuant to the 2012 Contract released in conjunction with this analysis, BPA proposes to make available to CFAC, and CFAC agrees to purchase from BPA 140 aMW of firm power on a take-or-pay basis at the Industrial Firm Power Rate for the term of the contract. BPA's provision of 140 aMW could allow for powering two of the five potlines at the CFAC's smelter.

b. Duration of Firm Power Sale

The proposed term of the CFAC 2012 Contract is four (4) years and six (6) months, beginning April 1, 2012 and extending through September 30, 2016. Other terms and provisions in the 2012 Contract are similar to the provisions in BPA's current block contracts with the other DSIs – Alcoa Inc. and the Port Townsend Paper Corporation.

c. Rate

CFAC's purchase of Firm Power for the duration of the 2012 Contract is subject to the Industrial Firm Power Rate Schedule, IP-12 as adopted in the BP-12 rate proceeding, or its successor ("IP rate"). The average annual IP rate adopted in the BP-12 rate proceeding is $36.32 per MWh for the Fiscal Years of 2012 and 2013.

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).

[3] See Alcoa ROD, December 22, 2009, at 8-9.

[4] On January 22, 2010, Alcoa filed suit in the United States Court of Appeals for the Ninth Circuit contesting the Block Contract.

d. Must Run Period

The 2012 Contract commits CFAC to purchase and use 140aMW at the CFAC smelter for the period of April 1, 2012 through December 31, 2012. BPA has the right to terminate the 2012 Contract in the event CFAC does not satisfy this must run obligation.

e. Curtailment

After satisfying the must run obligation in the 2012 Contract, CFAC may curtail its load. However, any non-BPA power supply shall be reduced or withdrawn prior to any reduction in the amount of Firm Power purchased under the 2012 Contract. If, after all other power supply has been reduced or withdrawn, CFAC curtails additional load served by Firm Power under the 2012 Contract, then CFAC may request take-or-pay mitigation.

f. Take-or-Pay Mitigation

CFAC shall pay BPA damages for any deficiency in its 140 aMW Firm Power purchase equal to the amount by which the market value of the deficient amount is less than the then prevailing Industrial Firm Power rate.

g. Performance Assurance

CFAC shall provide BPA with a corporate guarantee issued by Glencore, Inc., the ultimate corporate parent of CFAC, on behalf of CFAC. In addition, if BPA determines that there are grounds for insecurity with respect to the ability or willingness of Glencore, Inc. to meet its guarantee obligations, BPA can demand that CFAC provide a letter of credit in the amount up to $13,000,000.

h. Power Reserves

CFAC shall provide supplemental operating reserves in a manner consistent with the Minimum DSI Operating Reserve - Supplemental as specified in Exhibit C of the 2012 Contract. In addition, CFAC may provide BPA with additional reserves or alternative restriction rights for purposes of providing reserves for BPA firm power loads within the region.

III. THE EQUIVALENT BENEFITS DETERMINATION FOR THE PERIOD BEGINNING APRIL 1, 2012 THROUGH SEPTEMBER 30, 2016

A key element of BPA's response to *PNGC II* was to implement an Equivalent Benefits Test to determine whether BPA could make a power sale to a DSI consistent with its understanding of the Court's opinion. As established in 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 2012 Contract, BPA analysis indicates that it can supply firm power to CFAC and the likelihood that we will need to acquire power to serve the load during the 2012 Contract will be minimal because BPA anticipates serving the CFAC load from inventory under most water conditions. BPA then followed the steps (described in subsections a through d of this section) of the EBT to determine that it can provide service to CFAC for the term of the 2012 Contract, during which the forecasted benefits of the sale equal or exceed forecasted costs.[5]

a. BPA expects to be surplus during the 2012 Contract Period

BPA does not forecast the need to make purchases specifically to serve CFAC during the 2012 Contract under most water conditions. BPA has forecast a 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 2012 through September 30, 2016, particularly under critical (*i.e.*, very poor) water conditions.[6]

BPA's most recent load and resources studies are 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, 1,542 aMW, 1,557 aMW, 1,602 aMW, 1,482 aMW, 1,516 aMW, and 1,356 aMW on an average annual basis under the middle 80 percent of historical water conditions with 0 aMW of DSI load for OY 2012, OY 2013, OY 2014, OY 2015, OY 2016 and OY 2017 respectively.[7] *See* 2010 White Book, Table 8 at 39, and Exhibits 11-12 at 104-111. The term of the 2012 Contract includes: 8 months in OY 2012; 12 months in OY 2013, OY 2014, OY 2015, and OY 2016; and, 2 months in OY 2017. The 140 aMW of power to be sold to CFAC under the 2012 Contract represents approximately nine (9) percent of the forecast surpluses. Moreover, the 2010 White Book reflects a surplus of 113 aMW, 42 aMW, 115 aMW, -85 aMW, -17 aMW and -224 aMW on an average annual basis under 1937-Critical Water Conditions during OY 2012 through OY 2017 respectively, and does so assuming no augmentation and zero DSI load.[8]

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[5] BPA analysis indicates that thus far the benefits of the sale to CFAC under the 2012 Contract from April 1, 2012, though September 30, 2016, will exceed the costs by at least $1,093,000.

[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 2012 is August 1, 2011, through July 31, 2012. As indicated in the 2010 White Book at 9, "BPA is currently evaluating options for PNW aluminum smelter DSI power service post September 30, 2011, however, this study assumes no DSI customer power service obligations under a PSC during this time period."

[8] 2010 White Book, page 39.

While BPA has established one of its costs captured in its power rates for FY 2012 based on 1937-Critical Water Conditions as evidenced by Table 4.1.1, BP-12-FS-BPA-03A at 138-139, 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-FS-BPA-04A at 45-46. BPA continued this approach from prior rate periods – using critical water for one component of its rate setting and average water for other portions of its rate setting – in the BP-12 rate proceeding and expects to continue using this approach going forward. As a result, BPA expects on an 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 CFAC during the 2012 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 CFAC, and resources.

This analysis of the Equivalent Benefits Test is based on BPA's forgoing forecasts of average water for FY 2012 through FY 2017 in the 2010 White Book (Average Middle 80% Water Conditions) and BPA's Final Proposal in the BP-12 rate proceeding.

b. Benefits to BPA will equal or exceed costs for the period of the 2012 Contract

BPA forecasts that the revenues it will accrue from the firm sale of 140 aMW to CFAC at the IP rate, under the 2012 Contract, would exceed by approximately $1,093,000 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 CFAC under the 2012 Contract satisfies the Equivalent Benefits Test.

Consistent with BPA's EBT methodology established in the Alcoa ROD and the Port Townsend 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 using the IP-12 energy and demand rates adopted in the BP-12 rate proceeding. BPA has calculated revenues under the 2012 Contract based on a continuing sale of 140 aMW, as outlined in Table 1, of firm power each hour to CFAC under the IP rate schedule beginning April 1, 2012, and ending September 30, 2016. The energy and demand entitlements are the projected amounts to be sold by diurnal period each month in the 2012 Contract. Since under the 2012 Contract BPA expects to make 140 aMW available each month, 140 megawatts (MW) is the monthly demand amount specified in Table 1. BPA's projected monthly revenues are calculated using the IP rate components specified in Table 1, and then accumulated as illustrated in Table 2:

TABLE 1 - Usage and Rates

Month	CFAC Usage			Projected IP Rates		
	Demand (kW)	HLH (MWh)	LLH (MWh)	Demand ($ / kW)	HLH ($ / MWh)	LLH ($ / MWh)
Apr-12	140,000	56,000	44,800	$9.10	$38.18	$31.06
May-12	140,000	58,240	45,920	$8.50	$35.71	$25.05
Jun-12	140,000	58,240	42,560	$8.72	$36.62	$23.67
Jul-12	140,000	56,000	48,160	$10.20	$42.72	$30.56
Aug-12	140,000	60,480	43,680	$10.75	$45.00	$32.80
Sep-12	140,000	53,760	47,040	$10.53	$44.10	$34.24
Oct-12	140,000	60,480	43,680	$9.18	$38.51	$31.85
Nov-12	140,000	56,000	44,940	$9.31	$39.02	$32.05
Dec-12	140,000	56,000	48,160	$9.97	$41.75	$34.04
Jan-13	140,000	58,240	45,920	$9.70	$40.68	$32.35
Feb-13	140,000	53,760	40,320	$9.92	$41.58	$33.82
Mar-13	140,000	58,240	45,780	$9.60	$40.22	$32.98
Apr-13	140,000	58,240	42,560	$9.10	$38.18	$31.06
May-13	140,000	58,240	45,920	$8.50	$35.71	$25.05
Jun-13	140,000	56,000	44,800	$8.72	$36.62	$23.67
Jul-13	140,000	58,240	45,920	$10.20	$42.72	$30.56
Aug-13	140,000	60,480	43,680	$10.75	$45.00	$32.80
Sep-13	140,000	53,760	47,040	$10.53	$44.10	$34.24
Oct-13	140,000	60,480	43,680	$9.18	$38.51	$31.85
Nov-13	140,000	56,000	44,940	$9.31	$39.02	$32.05
Dec-13	140,000	56,000	48,160	$9.97	$41.75	$34.04
Jan-14	140,000	58,240	45,920	$9.70	$40.68	$32.35
Feb-14	140,000	53,760	40,320	$9.92	$41.58	$33.82
Mar-14	140,000	58,240	45,780	$9.60	$40.22	$32.98
Apr-14	140,000	58,240	42,560	$9.10	$38.18	$31.06
May-14	140,000	58,240	45,920	$8.50	$35.71	$25.05
Jun-14	140,000	56,000	44,800	$8.72	$36.62	$23.67
Jul-14	140,000	58,240	45,920	$10.20	$42.72	$30.56
Aug-14	140,000	58,240	45,920	$10.75	$45.00	$32.80
Sep-14	140,000	56,000	44,800	$10.53	$44.10	$34.24
Oct-14	140,000	60,480	43,680	$9.18	$38.51	$31.85
Nov-14	140,000	53,760	47,180	$9.31	$39.02	$32.05
Dec-14	140,000	58,240	45,920	$9.97	$41.75	$34.04
Jan-15	140,000	58,240	45,920	$9.70	$40.68	$32.35
Feb-15	140,000	53,760	40,320	$9.92	$41.58	$33.82
Mar-15	140,000	58,240	45,780	$9.60	$40.22	$32.98
Apr-15	140,000	58,240	42,560	$9.10	$38.18	$31.06
May-15	140,000	56,000	48,160	$8.50	$35.71	$25.05
Jun-15	140,000	58,240	42,560	$8.72	$36.62	$23.67
Jul-15	140,000	58,240	45,920	$10.20	$42.72	$30.56
Aug-15	140,000	58,240	45,920	$10.75	$45.00	$32.80
Sep-15	140,000	56,000	44,800	$10.53	$44.10	$34.24
Oct-15	140,000	60,480	43,680	$9.18	$38.51	$31.85
Nov-15	140,000	53,760	47,180	$9.31	$39.02	$32.05
Dec-15	140,000	58,240	45,920	$9.97	$41.75	$34.04
Jan-16	140,000	56,000	48,160	$9.70	$40.68	$32.35
Feb-16	140,000	56,000	41,440	$9.92	$41.58	$33.82
Mar-16	140,000	60,480	43,540	$9.60	$40.22	$32.98
Apr-16	140,000	58,240	42,560	$9.10	$38.18	$31.06
May-16	140,000	56,000	48,160	$8.50	$35.71	$25.05
Jun-16	140,000	58,240	42,560	$8.72	$36.62	$23.67
Jul-16	140,000	56,000	48,160	$10.20	$42.72	$30.56
Aug-16	140,000	60,480	43,680	$10.75	$45.00	$32.80
Sep-16	140,000	56,000	44,800	$10.53	$44.10	$34.24

TABLE 2 - BPA's Projected Revenue

Month	Revenues by Rate Determinant			Projected IP Revenue	
	Demand ($)	HLH ($)	LLH ($)	Month ($)	Cumulative Total Contract-to-Date ($)
Apr-12	$0	$2,138,080	$1,391,488	$3,529,568	$3,529,568
May-12	$0	$2,079,750	$1,150,296	$3,230,046	$6,759,614
Jun-12	$0	$2,132,749	$1,007,395	$3,140,144	$9,899,758
Jul-12	$0	$2,392,320	$1,471,770	$3,864,090	$13,763,848
Aug-12	$0	$2,721,600	$1,432,704	$4,154,304	$17,918,152
Sep-12	$0	$2,370,816	$1,610,650	$3,981,466	$21,899,618
Oct-12	$0	$2,329,085	$1,391,208	$3,720,293	$25,619,910
Nov-12	$0	$2,185,120	$1,440,327	$3,625,447	$29,245,357
Dec-12	$0	$2,338,000	$1,639,366	$3,977,366	$33,222,724
Jan-13	$0	$2,369,203	$1,485,512	$3,854,715	$37,077,439
Feb-13	$0	$2,235,341	$1,363,622	$3,598,963	$40,676,402
Mar-13	$0	$2,342,413	$1,509,824	$3,852,237	$44,528,639
Apr-13	$0	$2,223,603	$1,321,914	$3,545,517	$48,074,156
May-13	$0	$2,079,750	$1,150,296	$3,230,046	$51,304,203
Jun-13	$0	$2,050,720	$1,060,416	$3,111,136	$54,415,339
Jul-13	$0	$2,488,013	$1,403,315	$3,891,328	$58,306,667
Aug-13	$0	$2,721,600	$1,432,704	$4,154,304	$62,460,971
Sep-13	$0	$2,370,816	$1,610,650	$3,981,466	$66,442,436
Oct-13	$0	$2,329,085	$1,391,208	$3,720,293	$70,162,729
Nov-13	$0	$2,185,120	$1,440,327	$3,625,447	$73,788,176
Dec-13	$0	$2,338,000	$1,639,366	$3,977,366	$77,765,542
Jan-14	$0	$2,369,203	$1,485,512	$3,854,715	$81,620,258
Feb-14	$0	$2,235,341	$1,363,622	$3,598,963	$85,219,221
Mar-14	$0	$2,342,413	$1,509,824	$3,852,237	$89,071,458
Apr-14	$0	$2,223,603	$1,321,914	$3,545,517	$92,616,975
May-14	$0	$2,079,750	$1,150,296	$3,230,046	$95,847,021
Jun-14	$0	$2,050,720	$1,060,416	$3,111,136	$98,958,157
Jul-14	$0	$2,488,013	$1,403,315	$3,891,328	$102,849,485
Aug-14	$0	$2,620,800	$1,506,176	$4,126,976	$106,976,461
Sep-14	$0	$2,469,600	$1,533,952	$4,003,552	$110,980,013
Oct-14	$0	$2,329,085	$1,391,208	$3,720,293	$114,700,306
Nov-14	$0	$2,097,715	$1,512,119	$3,609,834	$118,310,140
Dec-14	$0	$2,431,520	$1,563,117	$3,994,637	$122,304,777
Jan-15	$0	$2,369,203	$1,485,512	$3,854,715	$126,159,492
Feb-15	$0	$2,235,341	$1,363,622	$3,598,963	$129,758,455
Mar-15	$0	$2,342,413	$1,509,824	$3,852,237	$133,610,693
Apr-15	$0	$2,223,603	$1,321,914	$3,545,517	$137,156,209
May-15	$0	$1,999,760	$1,206,408	$3,206,168	$140,362,377
Jun-15	$0	$2,132,749	$1,007,395	$3,140,144	$143,502,521
Jul-15	$0	$2,488,013	$1,403,315	$3,891,328	$147,393,849
Aug-15	$0	$2,620,800	$1,506,176	$4,126,976	$151,520,825
Sep-15	$0	$2,469,600	$1,533,952	$4,003,552	$155,524,377
Oct-15	$0	$2,329,085	$1,391,208	$3,720,293	$159,244,670
Nov-15	$0	$2,097,715	$1,512,119	$3,609,834	$162,854,504
Dec-15	$0	$2,431,520	$1,563,117	$3,994,637	$166,849,141
Jan-16	$0	$2,278,080	$1,557,976	$3,836,056	$170,685,197
Feb-16	$0	$2,328,480	$1,401,501	$3,729,981	$174,415,178
Mar-16	$0	$2,432,506	$1,435,949	$3,868,455	$178,283,633
Apr-16	$0	$2,223,603	$1,321,914	$3,545,517	$181,829,150
May-16	$0	$1,999,760	$1,206,408	$3,206,168	$185,035,318
Jun-16	$0	$2,132,749	$1,007,395	$3,140,144	$188,175,462
Jul-16	$0	$2,392,320	$1,471,770	$3,864,090	$192,039,551
Aug-16	$0	$2,721,600	$1,432,704	$4,154,304	$196,193,855
Sep-16	$0	$2,469,600	$1,533,952	$4,003,552	$200,197,407

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-Columbia trading hub (Mid-C) electricity prices consistent with the methodology described in the BP-12 rate proceeding to value these purchases and sales.[10]

In the absence of selling 140 MW of firm power to the CFAC smelter in every hour, BPA would have one less firm power requirement sale in its aggregated portfolio load shape. Therefore, BPA assumes, for purposes of the EBT analysis, that it would have 140 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 for the term of the 2012 Contract using its forecast for the market price of electricity from the BP-12 rate proceeding released July 26, 2011.[11]

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[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-FS-BPA-04, beginning on page 37 and 47.)

[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-FS-BPA-04, beginning on page 15 and 35.)

[11] 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		Forecasted Revenues Obtained from the Market			
	HLH Price ($ / MWh)	LLH Price ($ / MWh)	HLH ($)	LLH ($)	Month ($) (HLH + LLH)	Cumulative Total Contract-to-Date ($)
Apr-12	$35.09	$28.10	$1,965,212	$1,258,933	$3,224,146	$3,224,146
May-12	$33.04	$22.44	$1,924,470	$1,030,478	$2,954,948	$6,179,094
Jun-12	$34.13	$21.95	$1,987,749	$934,335	$2,922,083	$9,101,177
Jul-12	$40.58	$29.00	$2,272,323	$1,396,450	$3,668,773	$12,769,951
Aug-12	$42.21	$30.67	$2,552,845	$1,339,704	$3,892,549	$16,662,500
Sep-12	$40.78	$31.55	$2,192,364	$1,484,142	$3,676,506	$20,339,006
Oct-12	$40.93	$34.00	$2,475,502	$1,485,310	$3,960,812	$24,299,817
Nov-12	$40.31	$32.94	$2,257,522	$1,480,284	$3,737,806	$28,037,623
Dec-12	$43.17	$35.00	$2,417,666	$1,685,682	$4,103,348	$32,140,971
Jan-13	$42.87	$33.89	$2,497,005	$1,556,225	$4,053,229	$36,194,200
Feb-13	$44.24	$35.70	$2,378,176	$1,439,561	$3,817,736	$40,011,937
Mar-13	$42.85	$34.98	$2,495,755	$1,601,504	$4,097,259	$44,109,196
Apr-13	$39.96	$32.71	$2,327,377	$1,392,139	$3,719,516	$47,828,712
May-13	$37.08	$26.36	$2,159,317	$1,210,615	$3,369,932	$51,198,644
Jun-13	$37.81	$24.08	$2,117,332	$1,078,703	$3,196,035	$54,394,679
Jul-13	$43.57	$30.83	$2,537,530	$1,415,683	$3,953,213	$58,347,893
Aug-13	$46.49	$33.62	$2,811,846	$1,468,505	$4,280,351	$62,628,244
Sep-13	$46.13	$35.64	$2,479,749	$1,676,471	$4,156,220	$66,784,464
Oct-13	$45.04	$37.16	$2,724,193	$1,623,353	$4,347,546	$71,132,010
Nov-13	$43.40	$35.33	$2,430,402	$1,587,630	$4,018,032	$75,150,042
Dec-13	$46.58	$37.40	$2,608,314	$1,801,133	$4,409,447	$79,559,488
Jan-14	$46.53	$36.73	$2,709,933	$1,686,833	$4,396,765	$83,956,254
Feb-14	$48.36	$38.94	$2,599,633	$1,569,925	$4,169,558	$88,125,811
Mar-14	$45.16	$36.82	$2,630,081	$1,685,635	$4,315,716	$92,441,527
Apr-14	$40.84	$32.09	$2,378,473	$1,365,887	$3,744,360	$96,185,887
May-14	$37.77	$24.23	$2,199,472	$1,112,522	$3,311,994	$99,497,881
Jun-14	$37.52	$22.19	$2,100,912	$994,210	$3,095,122	$102,593,003
Jul-14	$44.94	$31.10	$2,617,479	$1,427,948	$4,045,427	$106,638,430
Aug-14	$49.74	$35.35	$2,897,137	$1,623,496	$4,520,633	$111,159,063
Sep-14	$48.66	$37.72	$2,724,885	$1,689,849	$4,414,734	$115,573,797
Oct-14	$49.79	$41.03	$3,011,384	$1,792,205	$4,803,589	$120,377,386
Nov-14	$48.29	$39.67	$2,595,960	$1,871,492	$4,467,452	$124,844,838
Dec-14	$50.74	$40.74	$2,955,372	$1,870,949	$4,826,321	$129,671,159
Jan-15	$49.21	$38.40	$2,866,203	$1,763,267	$4,629,471	$134,300,630
Feb-15	$49.93	$39.90	$2,684,408	$1,608,922	$4,293,330	$138,593,960
Mar-15	$47.51	$38.51	$2,766,889	$1,762,776	$4,529,665	$143,123,625
Apr-15	$42.53	$33.00	$2,477,236	$1,404,350	$3,881,586	$147,005,211
May-15	$39.52	$24.86	$2,213,149	$1,197,368	$3,410,518	$150,415,728
Jun-15	$40.07	$23.94	$2,333,652	$1,018,863	$3,352,515	$153,768,243
Jul-15	$48.00	$32.25	$2,795,804	$1,481,007	$4,276,811	$158,045,054
Aug-15	$52.29	$36.26	$3,045,224	$1,664,996	$4,710,220	$162,755,274
Sep-15	$50.74	$38.55	$2,841,639	$1,727,249	$4,568,888	$167,324,162
Oct-15	$51.13	$41.76	$3,092,065	$1,824,230	$4,916,295	$172,240,456
Nov-15	$49.66	$40.32	$2,669,870	$1,902,449	$4,572,319	$176,812,775
Dec-15	$51.32	$41.33	$2,988,713	$1,897,644	$4,886,357	$181,699,132
Jan-16	$50.85	$39.42	$2,847,863	$1,898,565	$4,746,428	$186,445,560
Feb-16	$52.48	$42.14	$2,938,710	$1,746,478	$4,685,188	$191,130,748
Mar-16	$49.11	$39.53	$2,970,127	$1,721,313	$4,691,440	$195,822,188
Apr-16	$44.28	$35.00	$2,578,993	$1,489,403	$4,068,397	$199,890,585
May-16	$40.49	$26.68	$2,267,263	$1,284,679	$3,551,942	$203,442,527
Jun-16	$38.94	$22.56	$2,268,003	$960,069	$3,228,072	$206,670,599
Jul-16	$47.98	$32.11	$2,686,725	$1,546,466	$4,233,192	$210,903,791
Aug-16	$51.78	$35.80	$3,131,905	$1,563,658	$4,695,562	$215,599,353
Sep-16	$51.40	$38.53	$2,878,215	$1,726,197	$4,604,412	$220,203,765

Figure 1 on page 22 illustrates this pattern of forecasts of natural gas prices progressing downward (since the Alcoa ROD) with the expectation of prices leveling off followed by a slow increase with the passage of time.

Net Benefit (IP – Market)

BPA determined its net benefit of serving CFAC at the IP rate for each month by subtracting the opportunity cost forecast 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 ($)	Net Revenue or (Cost) Cumulative Total Contract-to-Date ($)
Apr-12	$305,422	$305,422
May-12	$275,098	$580,521
Jun-12	$218,061	$798,581
Jul-12	$195,316	$993,897
Aug-12	$261,755	$1,255,652
Sep-12	$304,959	$1,560,612
Oct-12	($240,519)	$1,320,093
Nov-12	($112,359)	$1,207,734
Dec-12	($125,982)	$1,081,753
Jan-13	($198,514)	$883,239
Feb-13	($218,773)	$664,466
Mar-13	($245,022)	$419,444
Apr-13	($174,000)	$245,444
May-13	($139,886)	$105,558
Jun-13	($84,899)	$20,659
Jul-13	($61,885)	($41,226)
Aug-13	($126,047)	($167,273)
Sep-13	($174,754)	($342,028)
Oct-13	($627,253)	($969,281)
Nov-13	($392,585)	($1,361,866)
Dec-13	($432,080)	($1,793,946)
Jan-14	($542,050)	($2,335,996)
Feb-14	($570,594)	($2,906,591)
Mar-14	($463,478)	($3,370,069)
Apr-14	($198,843)	($3,568,912)
May-14	($81,948)	($3,650,860)
Jun-14	$16,014	($3,634,846)
Jul-14	($154,099)	($3,788,945)
Aug-14	($393,657)	($4,182,602)
Sep-14	($411,182)	($4,593,784)
Oct-14	($1,083,296)	($5,677,080)
Nov-14	($857,618)	($6,534,698)
Dec-14	($831,684)	($7,366,382)
Jan-15	($774,756)	($8,141,138)
Feb-15	($694,367)	($8,835,505)
Mar-15	($677,428)	($9,512,932)
Apr-15	($336,069)	($9,849,001)
May-15	($204,350)	($10,053,351)
Jun-15	($212,371)	($10,265,722)
Jul-15	($385,483)	($10,651,205)
Aug-15	($583,244)	($11,234,449)
Sep-15	($565,336)	($11,799,784)
Oct-15	($1,196,002)	($12,995,786)
Nov-15	($962,485)	($13,958,271)
Dec-15	($891,721)	($14,849,991)
Jan-16	($910,372)	($15,760,363)
Feb-16	($955,207)	($16,715,570)
Mar-16	($822,986)	($17,538,556)
Apr-16	($522,880)	($18,061,435)
May-16	($345,774)	($18,407,209)
Jun-16	($87,928)	($18,495,138)
Jul-16	($369,102)	($18,864,240)
Aug-16	($541,258)	($19,405,498)
Sep-16	($600,860)	($20,006,358)

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

Consistent with the methodology described in the Alcoa ROD and the Port Townsend ROD, BPA has identified a number of tangible benefits to BPA that would not be achieved by a market sale of power compared to selling the same power to CFAC at the IP rate during the period of the 2012 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. However, adjustments for these benefits to BPA are not included or relied upon here because they are more qualitiative then quantitative at this time and therefore do not presently affect BPA's decision to offer the 2012 Contract. Adjustments for these or other benefits may affect the tenor and/or megawatt amount of future sales.[12]

Value of Reserves

The 2012 Contract requires that CFAC 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 CFAC is required to make available to BPA during the period of the 2012 Contract. Sales at the IP rate reflect the value of BPA's right to obtain contingency reserves.[13] Specifically, the energy rate tables in the IP-12 rate schedule adopted in the BP-12 rate proceeding include a $0.94 per MWh credit 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 in the months of FY 2012, and beyond, by adding back a value of reserves that provides an equal and opposite offset to the $0.94 per MWh credit for the value of reserves in the IP-12 rate schedule. 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. As illustrated by Table 5a, this is done for every megawatt hour not sold to CFAC:

[12] See Alcoa ROD, pages 72-82.

[13] Sales at the IP rate require the provision of the DSI Minimum Operating Reserve – Supplemental. The 2012 Contract is a sale at the IP rate and, accordingly, CFAC is required to make such contingency reserves available to BPA, as specified in section 6.1 and implemented by Exhibit C to the 2012 Contract.

TABLE 5a - BPA's Net Benefit Adjustments

Value of Reserves

Month	Month ($)	Cumulative Total Contract-to-Date ($)
Apr-12	$94,752	$94,752
May-12	$97,910	$192,662
Jun-12	$94,752	$287,414
Jul-12	$97,910	$385,325
Aug-12	$97,910	$483,235
Sep-12	$94,752	$577,987
Oct-12	$97,910	$675,898
Nov-12	$94,884	$770,781
Dec-12	$97,910	$868,692
Jan-13	$97,910	$966,602
Feb-13	$88,435	$1,055,037
Mar-13	$97,779	$1,152,816
Apr-13	$94,752	$1,247,568
May-13	$97,910	$1,345,478
Jun-13	$94,752	$1,440,230
Jul-13	$97,910	$1,538,141
Aug-13	$97,910	$1,636,051
Sep-13	$94,752	$1,730,803
Oct-13	$97,910	$1,828,714
Nov-13	$94,884	$1,923,597
Dec-13	$97,910	$2,021,508
Jan-14	$97,910	$2,119,418
Feb-14	$88,435	$2,207,853
Mar-14	$97,779	$2,305,632
Apr-14	$94,752	$2,400,384
May-14	$97,910	$2,498,294
Jun-14	$94,752	$2,593,046
Jul-14	$97,910	$2,690,957
Aug-14	$97,910	$2,788,867
Sep-14	$94,752	$2,883,619
Oct-14	$97,910	$2,981,530
Nov-14	$94,884	$3,076,413
Dec-14	$97,910	$3,174,324
Jan-15	$97,910	$3,272,234
Feb-15	$88,435	$3,360,669
Mar-15	$97,779	$3,458,448
Apr-15	$94,752	$3,553,200
May-15	$97,910	$3,651,110
Jun-15	$94,752	$3,745,862
Jul-15	$97,910	$3,843,773
Aug-15	$97,910	$3,941,683
Sep-15	$94,752	$4,036,435
Oct-15	$97,910	$4,134,346
Nov-15	$94,884	$4,229,229
Dec-15	$97,910	$4,327,140
Jan-16	$97,910	$4,425,050
Feb-16	$91,594	$4,516,644
Mar-16	$97,779	$4,614,422
Apr-16	$94,752	$4,709,174
May-16	$97,910	$4,807,085
Jun-16	$94,752	$4,901,837
Jul-16	$97,910	$4,999,747
Aug-16	$97,910	$5,097,658
Sep-16	$94,752	$5,192,410

Avoided Transmission and Ancillary Services Expenses

When BPA makes a sale to a DSI, all DSI customers – including CFAC – 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 to that delivery point.

Power Services (PS) is the organization within BPA that is responsible for the marketing 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 incremental transmission and ancillary services costs are avoided when BPA makes IP sales to the DSIs because DSIs contract for their own transmission and ancillary services. The planned transmission and ancillary services expenses to address both the expected expenses and their uncertainty were addressed in the BP-12 rate proceeding and are expected to be addressed in each subsequent BPA rate proceeding.[14]

PS valued these avoided transmission and ancillary services costs for the period of the 2012 Contract using the same methodology employed in the BP-12 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.

For the purposes of this analysis, BPA continues to value avoided transmission and ancillary services costs for the entire period of the 2012 Contract using the tariff costs adopted by BPA's Transmission Services organization in the TR-12 rate proceeding. These tariff costs 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 480 aMW for the

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[14] Refer to section 4 of the *Revenue Requirement Study*, WP-10-FS-BPA-02, section 2.4.9 of the *Risk Analysis and Mitigation Study* WP-10-FS-BPA-04/04A in the WP-10 rate proceeding. Refer to Table 3A, line 121 of the Power Revenue Requirement Study Documentation, BPA-12-FS-BPA-02A and section 2.5.2.5 of the *Power Risk and Market Price Study*, BP-12-FS-BPA-04 in the BP-12 rate proceeding. BPA continued the methodology for addressing planned transmission and ancillary service expenses in the BP-12 rate proceeding.

period beginning April 1, 2012 through May 26, 2012 and 160 aMW continuing from May 27, 2012 through September 30, 2016.[15] 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, CFAC has been allotted 29.2% of this PS benefit in April and May of 2012 and 87.5% in each month thereafter through September 2016 as illustrated in Table 5b below. This percent allotment is the result of the proportion of the megawatt amounts during the period of the 2012 Contracts, and as depicted in Table 1 above.

[15] DSI service of 480 aMW is comprised of 320 aMW for Alcoa, 20 aMW for Port Townsend Paper Company, and 140 aMW for Columbia Falls Aluminum Company. Alcoa's prevailing power sales agreement expires May 26, 2012. PTPC's prevailing power sales agreement expires August 31, 2013, but it includes a right to request an EBT determination that could effectuate an additional term of service.

TABLE 5b - BPA's Net Benefit Adjustments

Avoided Tx and Ancillary Service Costs

Month	Month ($)	Proportional Month ($)	Cumulative Total Contract-to-Date ($)
Apr-12	$626,911	$182,849	$182,849
May-12	$966,822	$281,990	$464,839
Jun-12	$291,453	$255,021	$719,860
Jul-12	$158,336	$138,544	$858,404
Aug-12	$40,608	$35,532	$893,936
Sep-12	$12,210	$10,683	$904,620
Oct-12	$10,150	$8,882	$913,501
Nov-12	$18,500	$16,187	$929,688
Dec-12	$40,891	$35,780	$965,468
Jan-13	$127,224	$111,321	$1,076,789
Feb-13	$110,473	$96,664	$1,173,453
Mar-13	$112,775	$98,678	$1,272,131
Apr-13	$217,093	$189,957	$1,462,087
May-13	$312,491	$273,429	$1,735,517
Jun-13	$248,997	$217,873	$1,953,389
Jul-13	$151,138	$132,246	$2,085,635
Aug-13	$43,467	$38,033	$2,123,669
Sep-13	$12,205	$10,679	$2,134,348
Oct-13	$9,991	$8,743	$2,143,091
Nov-13	$18,304	$16,016	$2,159,107
Dec-13	$40,279	$35,244	$2,194,350
Jan-14	$124,914	$109,300	$2,303,650
Feb-14	$108,105	$94,592	$2,398,242
Mar-14	$111,912	$97,923	$2,496,166
Apr-14	$217,128	$189,987	$2,686,153
May-14	$324,807	$284,206	$2,970,359
Jun-14	$290,290	$254,004	$3,224,363
Jul-14	$141,588	$123,890	$3,348,252
Aug-14	$35,827	$31,348	$3,379,601
Sep-14	$11,464	$10,031	$3,389,632
Oct-14	$9,020	$7,892	$3,397,524
Nov-14	$11,917	$10,427	$3,407,952
Dec-14	$35,762	$31,292	$3,439,243
Jan-15	$117,805	$103,080	$3,542,323
Feb-15	$98,019	$85,767	$3,628,090
Mar-15	$102,397	$89,598	$3,717,687
Apr-15	$218,437	$191,133	$3,908,820
May-15	$329,327	$288,161	$4,196,981
Jun-15	$266,552	$233,233	$4,430,214
Jul-15	$182,511	$159,697	$4,589,911
Aug-15	$78,745	$68,902	$4,658,813
Sep-15	$15,343	$13,425	$4,672,238
Oct-15	$15,167	$13,271	$4,685,509
Nov-15	$29,945	$26,202	$4,711,711
Dec-15	$47,578	$41,630	$4,753,342
Jan-16	$141,052	$123,420	$4,876,762
Feb-16	$147,286	$128,875	$5,005,637
Mar-16	$133,047	$116,416	$5,122,053
Apr-16	$162,642	$142,311	$5,264,364
May-16	$333,840	$292,110	$5,556,474
Jun-16	$305,115	$266,975	$5,823,449
Jul-16	$194,203	$169,928	$5,993,377
Aug-16	$77,351	$67,682	$6,061,059
Sep-16	$15,203	$13,303	$6,074,362

Demand Shift

When BPA serves the DSI loads and they operate – as opposed to not operating if BPA does not sell to them – the mean value of prices for electricity in Western power markets are higher than they would otherwise be had the DSI loads, including CFAC, not consumed electricity from Western power markets. However, given that BPA forecasts annual energy surpluses ranging from 1,300 aMW to 1,600 aMW under average water conditions, the increase in surplus energy revenues is expected to be greater than the increase in balancing power purchase costs, resulting in higher net revenues. BPA estimated the lower price impact of serving no DSI load by reducing loads in the Pacific Northwest (PNW) by 480 aMW for the period beginning April 1, 2012 through May 26, 2012 and 160 aMW in each month from May 27, 2012 through September 30, 2016 for each of the 3,500 games in AURORA.[16] Results of this analysis indicate that the mean annual price forecast is lower by $0.25 per MWh, $0.19 per MWh, $0.21 per MWh, $0.23 per MWh and $0.23 per MWh for the months in fiscal years 2012 through 2016 included in this analysis, respectively, relative to the simulated monthly electricity market price forecast, reported in Table 3.

Specifically, the monthly demand shift values in the Month ($) column of Table 5c are the difference between the averages of two distributions of BPA's net revenues. The first distribution of BPA's net revenues is the result of multiplying the forecast distribution of monthly market prices that *included the DSI load reduction to PNW loads* by the forecast distribution of BPA's inventories. The second distribution of BPA's net revenues is the result of multiplying the forecast distribution of monthly market prices that *included no change to PNW loads* (i.e., the DSI load is included in the PNW loads) by the same forecast distribution of BPA's inventories. For the purposes of this EBT analysis, CFAC has been allotted 29.2% of this benefit to BPA in April and May of 2012 and 87.5% in each month thereafter through September 2016 as illustrated in the Proportional Month ($) column of Table 5c below. This percent allotment is the result of the proportion of the megawatt amounts in the period of the 2012 Contract, and as depicted in Table 1 above, as compared to the 480 aMW forecasted for all DSI customers in April and May of 2012 and 160 aMW in each month thereafter through September 2016.

[16] 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

Demand Shift

Month	Month ($)	Proportional Adjusted Month ($)	Cumulative Total Contract-to-Date ($)
Apr-12	$584,977	$170,618	$170,618
May-12	$1,264,010	$368,669	$539,288
Jun-12	$456,818	$399,716	$939,004
Jul-12	$224,503	$196,440	$1,135,444
Aug-12	$61,697	$53,985	$1,189,429
Sep-12	$26,952	$23,583	$1,213,012
Oct-12	($6,665)	($5,832)	$1,207,180
Nov-12	$32,841	$28,736	$1,235,915
Dec-12	$43,112	$37,723	$1,273,638
Jan-13	$210,753	$184,409	$1,458,047
Feb-13	$201,205	$176,054	$1,634,102
Mar-13	$244,438	$213,883	$1,847,984
Apr-13	$290,656	$254,324	$2,102,309
May-13	$448,846	$392,740	$2,495,049
Jun-13	$387,102	$338,714	$2,833,763
Jul-13	$211,697	$185,235	$3,018,998
Aug-13	$86,138	$75,371	$3,094,369
Sep-13	$41,264	$36,106	$3,130,475
Oct-13	$12,950	$11,331	$3,141,806
Nov-13	$45,168	$39,522	$3,181,328
Dec-13	$66,378	$58,081	$3,239,408
Jan-14	$192,763	$168,667	$3,408,076
Feb-14	$186,347	$163,053	$3,571,129
Mar-14	$249,353	$218,184	$3,789,313
Apr-14	$336,224	$294,196	$4,083,509
May-14	$627,189	$548,790	$4,632,299
Jun-14	$590,725	$516,884	$5,149,184
Jul-14	$233,803	$204,577	$5,353,761
Aug-14	$90,547	$79,228	$5,432,989
Sep-14	$35,465	$31,032	$5,464,021
Oct-14	$12,535	$10,968	$5,474,989
Nov-14	$25,124	$21,983	$5,496,972
Dec-14	$34,240	$29,960	$5,526,932
Jan-15	$193,928	$169,687	$5,696,619
Feb-15	$175,400	$153,475	$5,850,094
Mar-15	$249,187	$218,039	$6,068,133
Apr-15	$376,162	$329,142	$6,397,275
May-15	$615,037	$538,157	$6,935,432
Jun-15	$392,332	$343,291	$7,278,723
Jul-15	$235,298	$205,886	$7,484,609
Aug-15	$78,015	$68,263	$7,552,872
Sep-15	$22,826	$19,973	$7,572,844
Oct-15	($6,474)	($5,665)	$7,567,179
Nov-15	$11,192	$9,793	$7,576,972
Dec-15	$6,580	$5,758	$7,582,730
Jan-16	$188,863	$165,255	$7,747,985
Feb-16	$200,269	$175,235	$7,923,220
Mar-16	$251,862	$220,379	$8,143,600
Apr-16	$362,226	$316,948	$8,460,548
May-16	$692,064	$605,556	$9,066,104
Jun-16	$530,463	$464,155	$9,530,259
Jul-16	$257,057	$224,925	$9,755,183
Aug-16	$77,605	$67,905	$9,823,088
Sep-16	$10,976	$9,604	$9,832,692

Conclusion of Equivalent Benefits Test

Table 6 below illustrates that the financial benefits BPA expects to receive from making an IP sale to CFAC during the period of the 2012 Contract (from April 1, 2012 through September 30, 2016) exceed by approximately $1,093,000 the forecasted revenues that BPA would otherwise obtain from selling this power on the wholesale electricity market. BPA's methodology for making this 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 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

BPA's Adjusted Net Revenue or (Cost)

Month	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 ($)	Cumulative Total Contract-to-Date ($)
Apr-12	$305,422	$94,752	$182,849	$170,618	$753,641	$753,641
May-12	$275,098	$97,910	$281,990	$368,669	$1,023,668	$1,777,310
Jun-12	$218,061	$94,752	$255,021	$399,716	$967,550	$2,744,859
Jul-12	$195,316	$97,910	$138,544	$196,440	$628,211	$3,373,070
Aug-12	$261,755	$97,910	$35,532	$53,985	$449,182	$3,822,253
Sep-12	$304,959	$94,752	$10,683	$23,583	$433,978	$4,256,230
Oct-12	($240,519)	$97,910	$8,882	($5,832)	($139,559)	$4,116,672
Nov-12	($112,359)	$94,884	$16,187	$28,736	$27,448	$4,144,119
Dec-12	($125,982)	$97,910	$35,780	$37,723	$45,431	$4,189,550
Jan-13	($198,514)	$97,910	$111,321	$184,409	$195,126	$4,384,677
Feb-13	($218,773)	$88,435	$96,664	$176,054	$142,380	$4,527,057
Mar-13	($245,022)	$97,779	$98,678	$213,883	$165,318	$4,692,375
Apr-13	($174,000)	$94,752	$189,957	$254,324	$365,033	$5,057,408
May-13	($139,886)	$97,910	$273,429	$392,740	$624,194	$5,681,602
Jun-13	($84,899)	$94,752	$217,873	$338,714	$566,440	$6,248,042
Jul-13	($61,885)	$97,910	$132,246	$185,235	$353,506	$6,601,548
Aug-13	($126,047)	$97,910	$38,033	$75,371	$85,268	$6,686,815
Sep-13	($174,754)	$94,752	$10,679	$36,106	($33,217)	$6,653,598
Oct-13	($627,253)	$97,910	$8,743	$11,331	($509,269)	$6,144,330
Nov-13	($392,585)	$94,884	$16,016	$39,522	($242,164)	$5,902,166
Dec-13	($432,080)	$97,910	$35,244	$58,081	($240,845)	$5,661,321
Jan-14	($542,050)	$97,910	$109,300	$168,667	($166,173)	$5,495,148
Feb-14	($570,594)	$88,435	$94,592	$163,053	($224,514)	$5,270,634
Mar-14	($463,478)	$97,779	$97,923	$218,184	($49,592)	$5,221,042
Apr-14	($198,843)	$94,752	$189,987	$294,196	$380,092	$5,601,133
May-14	($81,948)	$97,910	$284,206	$548,790	$848,959	$6,450,092
Jun-14	$16,014	$94,752	$254,004	$516,884	$881,654	$7,331,747
Jul-14	($154,099)	$97,910	$123,890	$204,577	$272,278	$7,604,025
Aug-14	($393,657)	$97,910	$31,348	$79,228	($185,170)	$7,418,855
Sep-14	($411,182)	$94,752	$10,031	$31,032	($275,367)	$7,143,488
Oct-14	($1,083,296)	$97,910	$7,892	$10,968	($966,525)	$6,176,963
Nov-14	($857,618)	$94,884	$10,427	$21,983	($730,324)	$5,446,639
Dec-14	($831,684)	$97,910	$31,292	$29,960	($672,523)	$4,774,117
Jan-15	($774,756)	$97,910	$103,080	$169,687	($404,078)	$4,370,038
Feb-15	($694,367)	$88,435	$85,767	$153,475	($366,690)	$4,003,348
Mar-15	($677,428)	$97,779	$89,598	$218,039	($272,013)	$3,731,336
Apr-15	($336,069)	$94,752	$191,133	$329,142	$278,958	$4,010,294
May-15	($204,350)	$97,910	$288,161	$538,157	$719,880	$4,730,173
Jun-15	($212,371)	$94,752	$233,233	$343,291	$458,904	$5,189,077
Jul-15	($385,483)	$97,910	$159,697	$205,886	$78,010	$5,267,088
Aug-15	($583,244)	$97,910	$68,902	$68,263	($348,169)	$4,918,919
Sep-15	($565,336)	$94,752	$13,425	$19,973	($437,186)	$4,481,733
Oct-15	($1,196,002)	$97,910	$13,271	($5,665)	($1,090,485)	$3,391,248
Nov-15	($962,485)	$94,884	$26,202	$9,793	($831,606)	$2,559,642
Dec-15	($891,721)	$97,910	$41,630	$5,758	($746,422)	$1,813,220
Jan-16	($910,372)	$97,910	$123,420	$165,255	($523,786)	$1,289,434
Feb-16	($955,207)	$91,594	$128,875	$175,235	($559,503)	$729,931
Mar-16	($822,986)	$97,779	$116,416	$220,379	($388,412)	$341,519
Apr-16	($522,880)	$94,752	$142,311	$316,948	$31,132	$372,651
May-16	($345,774)	$97,910	$292,110	$605,556	$649,802	$1,022,453
Jun-16	($87,928)	$94,752	$266,975	$464,155	$737,954	$1,760,407
Jul-16	($369,102)	$97,910	$169,928	$224,925	$123,661	$1,884,068
Aug-16	($541,258)	$97,910	$67,682	$67,905	($307,761)	$1,576,307
Sep-16	($600,860)	$94,752	$13,303	$9,604	($483,201)	$1,093,106
Oct-16	($1,256,235)	$97,910	$12,993	($11,625)	($1,156,956)	($63,850)

IV. GAS PRICE FORECAST

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. BPA's natural gas price forecast used in the BP-12 rate proceeding, 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-FS-BPA-04, beginning on page 15). This natural gas price forecast was released July 26, 2011. BPA used this forecast to analyze the 2012 Contract in FY 2012 and all subsequent periods.

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 United States Department of Energy's Energy Information Administration (EIA), PIRA Energy Group, and Wood Mackenzie.[17] 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 October 2008 through July 2011.

[17] With the exception of the EIA, each of these forecasters considers their information to be proprietary. The vintage of these forecasts is spring 2011. EIA forecast is from their *Short-term Energy Outlook* released July 12, 2011. The EIA's next *Short-term Energy Outlook* is scheduled to be released on August 9, 2011.

Figure 1: Henry Hub Natural Gas Spot Price Forecast

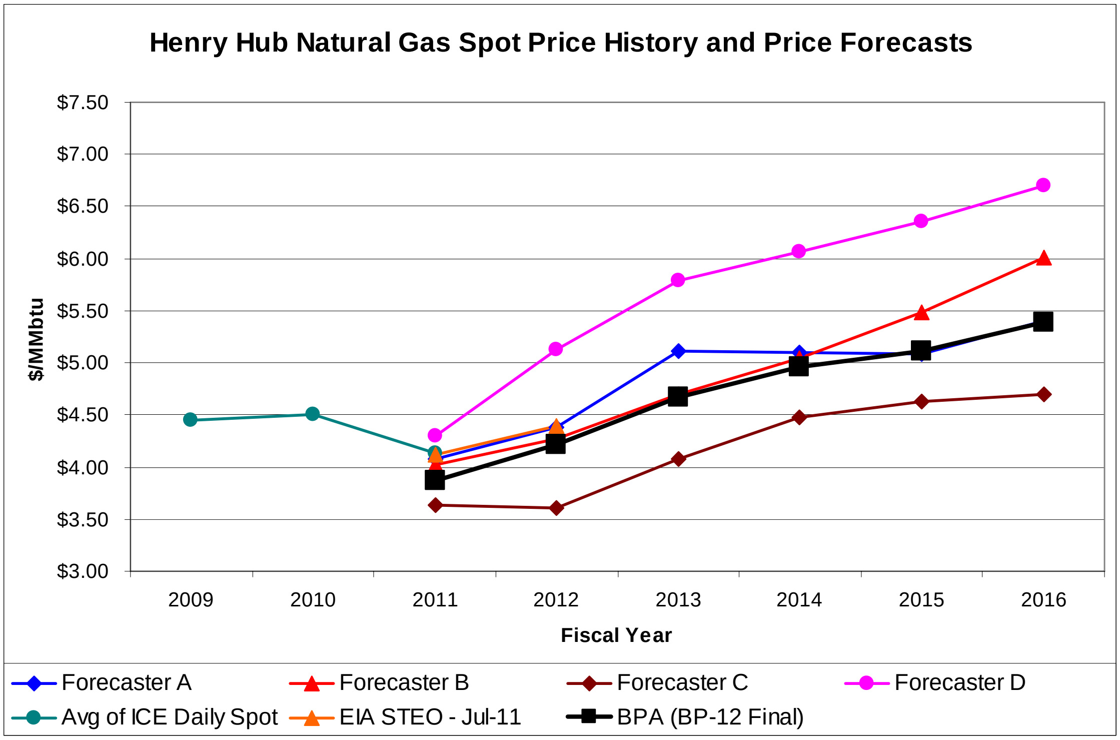

Figure 1 demonstrates that recent spot market prices for natural gas at the Henry Hub have been less than $5 per MMBtu on an annual average basis in FY 2009, FY 2010 and FY 2011 to date (through July 31, 2011). This illustration also demonstrates that the forecasts of five other industry experts are between $3.60 per MMBtu and $5.12 per MMBtu for FY 2012 – the starting fiscal year of BPA's evaluation of equivalent benefits for the 2012 Contract – and the forecasts of four (4) out of five (5) of the forecasters remain lower than $5 per MMBtu through at least FY 2013, the fiscal year in which Forecaster A forecasts that Henry Hub spot prices for natural gas will average $5.11 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 Final Proposal is reasonable compared to a recent history of monthly average Henry Hub spot prices for natural gas and compared to what other industry experts are expecting.

V. DRAFT DETERMINATION

Based on the above application of the Equivalent Benefits Test, BPA's preliminary determination is that it can make available to CFAC 140 aMW of firm power sold at the IP rate for the term of the 2012 Contract. Public review and comment period begins on the date of the issuance of this draft determination and continues through August 31, 2011. BPA currently expects to issue its final determination several months after the conclusion of public comment.