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ADMINISTRATOR'S RECORD OF DECISION

POWER SALES AGREEMENT OFFER TO ALCOA, INC.

December 6, 2012

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I. INTRODUCTION

On December 7, 2012, the Bonneville Power Administration (BPA) will sign a Power Sales Agreement, BPA Contract Number 13PM-10978 (Agreement), with Alcoa, Inc. (Alcoa), for power service to Alcoa's Intalco Plant in Ferndale, Washington. This Agreement provides 300 aMW of electric power to Alcoa's Intalco Plant for a term of nine years and nine months[1], from January 1, 2013, until September 30, 2022, at BPA's industrial firm power rate (IP rate).

Prior to making its final determination to enter into the Agreement, BPA provided an opportunity for public review and comment on the draft Agreement and BPA's evaluation of the economic benefits and costs of serving Alcoa ("Equivalent Benefits Test" or "EBT"). The methodology and results of the EBT analysis are fully discussed in section IV. The public review and comment period began on October 9, 2012, and continued through November 7, 2012. BPA received 73 comments during this public comment period including comments from individuals, public power interest groups, and Alcoa.

This Record of Decision (ROD) documents BPA's conclusion that offering a tenyear contract for the sale of power to Alcoa at the IP rate is consistent with BPA's legal authorities and sound business principles. First, the EBT analysis forecasts that BPA will derive significant financial benefit from the contract. Second, due to BPA's rate-making requirements, a sale at the IP rate will assure that BPA recovers its costs for the entire term of the contract. Third, the ten-year term of the contract is within the parameters established by Congress for service to Direct Service Industry (DSI) customers pursuant to the Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act) and consistent with standard industry practices. Finally, Alcoa was clear during negotiations that, due to the company's ability to obtain power at a lower price than IP for several years, any offer of a shorter term contract would be rejected, and BPA would be deprived of the significant margin by which the IP rate exceeds forecasted market prices for the next several years. For these reasons, the Administrator determined that the Agreement is consistent with sound business principles, consistent with BPA's statutory authority, and a win-win proposition for BPA, Alcoa, and BPA's customers.

[1] The nine year nine month contract term will be rounded up to and refered to as ten years within this document for ease of reference.

II. BACKGROUND

a. 2009 Agreement

This Agreement will replace Alcoa's previous Power Sales Agreement, Contract No. 10PB-12175 (2009 Agreement). Under the 2009 Agreement, BPA agreed to sell Alcoa up to 320 aMW of firm power. The term of the 2009 Agreement was divided into four potential "periods": the Initial Period, the Extended Initial Period, the Transition Period, and the Second Period. The Initial Period began December 22, 2009, and ran through May 26, 2011. The 2009 Agreement contained an option for Alcoa to request an Extended Initial Period. BPA determined that it would be consistent with sound business principles to offer Alcoa an Extended Initial Period of twelve months, from May 27, 2011, to May 26, 2012, and documented that option in an accompanying Record of Decision. *See* Administrator's Record of Decision Granting Alcoa's Request to Extend the Initial Period of Alcoa's Power Sales Agreement, Contract No. 10PB-12175, Oct. 29, 2010 [hereinafter Alcoa Extension ROD].

The occurrence of the Transition and Second periods of the 2009 Agreement depended on the United States Court of Appeals for the Ninth Circuit (Court) issuing an opinion, prior to May 26, 2012, holding that the EBT standard does not apply to power sales under the 2009 Agreement. As the May 26 deadline approached and the Court had not issued an opinion, it appeared that the 2009 Agreement was likely to expire by its own terms. Therefore, Alcoa and BPA agreed to begin negotiations on a new power sales agreement. To provide the parties with adequate time to negotiate, Alcoa and BPA entered into a series of short-term extensions to the 2009 Agreement, based upon new EBT determinations by BPA. Because the new agreement would replace the 2009 Agreement, the parties also agreed to amend the 2009 Agreement to remove the contingent Transition and Second periods.

b. *Alcoa v. BPA*

On January 22, 2010, Alcoa filed a petition for review in the Ninth Circuit challenging (a) the 2009 Agreement, and (b) BPA's Record of Decision in support of the 2009 Agreement, dated December 21, 2009. *See* Power Sale to Alcoa Inc. Commencing December 22, 2009 Administrator's Record of Decision, Dec. 21, 2009 [hereinafter 2009 Alcoa ROD]. Petitions for review challenging the same actions were filed by the Pacific Northwest Generating Cooperative, the Public Power Council, Northwest Requirements Utilities, the Industrial Customers of Northwest Utilities, and Canby Utility Board (collectively, the preference customers). Avista Corporation, Portland General Electric, PacifiCorp, Idaho Power Company, Oregon Public Utilities Commission, and Puget Sound Energy intervened. All petitioners challenged BPA's interpretation of *PNGC I* and *PNGC II*, in particular BPA's development and application of the Equivalent

Benefits Test for purposes of determining whether the economics of the transaction are favorable to providing service to a DSI.

On October 16, 2012, the Ninth Circuit issued its decision in *Alcoa, Inc. v. Bonneville Power Administration* (*Alcoa*), 698 F.3d 774 (9th Cir. 2012). The Court unanimously held that the Initial Period of the 2009 Agreement was consistent with BPA's statutory authorities and that BPA's rationale for entering into the 2009 Agreement was not arbitrary or capricious. *Id*. at 789. The Court addressed the numerous issues raised by the petitioners and held that "[a]ll these arguments are wrong." *Id*. at 785.

In particular, the Court stated that it would grant deference to BPA in making its business decisions when, as in this case, these decisions are supported in the administrative record. *Id.* at 789. The Court repeatedly stated that it would not second guess the wisdom of BPA's decisions, especially when BPA is making technical determinations within its particular area of expertise. *Id*. at 790.

With regard to the Second Period, the majority found that the Second Period was not reviewable, while the dissent determined that it should have been considered and set aside.

On November 30, 2012, Alcoa and the preference customers each filed a petition for rehearing.

1. The Initial Period

As noted above, with respect to service during the Initial Period, the Court unanimously upheld BPA's determinations and rejected every challenge.

The preference customers argued that: (1) service to Alcoa at the IP rate during the Initial Period violated BPA's obligations to act in accordance with sound business principles by foregoing profits that could be made by selling surplus power on the market; (2) BPA's analysis was flawed and did not support a finding that BPA would make a modest profit; and (3) the damage waiver provision of the contract violated BPA's statutory and constitutional authorities. *Alcoa* at 788. Alcoa argued that BPA's decision to adopt the EBT was arbitrary and capricious because the EBT is too restrictive and imposes a rigid test that is not required by case law or statute. *Id*.

In response to the preference customers' arguments that BPA violated sound business principles by selling power to Alcoa at the IP rate rather than into the market at market rates, the Court held that "[w]e disagree that BPA is required to maximize its profits . . . As we have previously noted, BPA's governing statutes 'do not dictate that BPA always charge the lowest possible rates.'" *Id.* at 789. The Court further noted:

> In light of the deference we are to give BPA, we cannot say that BPA's decision to enter into the [2009 Agreement] was so arbitrary and capricious as to violate its statutory obligation.

Id. The Court found that BPA was selling power at the IP rate as required by statute, it anticipated earning a modest profit, and there was no evidence to support the claim that BPA was subsidizing Alcoa. *Id*.

Next, the Court turned to the arguments that BPA's EBT was flawed. The Court noted that "[w]e again approach these methodological challenges with deference to BPA's decision making." *Id*. at 790. The Court reviewed the petitioners' multiple challenges to virtually every facet of BPA's analysis and determined that BPA responded to all of these issues in the administrative record and fully explained its rationale:

> In sum, BPA's analysis of these issues was thorough. No factor or argument identified by the petitioners went unaddressed in the ROD, and all of BPA's explanations are plausible and rationally connected to the facts that were before it at the time.

Id. Similarly, the Court addressed and rejected PNGC's arguments that the 2009 Agreement was an effort by BPA to provide jobs: "The ROD expressly disclaimed reliance on job impacts as a factor in its decision and declined to include such impacts in its Equivalent Benefits Test. PNGC's speculation is an insufficient basis for upsetting the agency's contracting decision." *Id*. at 789.

Most notably, the Court declined to rule on whether the EBT "as an abstract proposition, is wholly in accord with BPA's governing statutes." *Id.* at 792. Rather, the Court explained that "we must evaluate whether BPA has violated its statutory obligation to adhere to sound business principles on a case-by-case basis." *Id*. In the case of the 2009 Agreement, based on the accompanying record, the Court found that BPA did not. *Id*.

The Court also addressed petitioners' challenges to the damage waiver provision of the 2009 Agreement, holding that the damage waiver provision does not violate either statutory or constitutional provisions. *Alcoa* at 791–92; *see infra* Part V.g. With respect to the former, the Court referred specifically to the Administrator's broad contracting and settlement authority.

2. Second Period

The majority dismissed all challenges to service during the Second Period for lack of jurisdiction based on a confluence of jurisdictional defects involving standing, ripeness, and mootness. *Alcoa* at 793–94. The Court found that service during the Second Period was strictly contingent on events that may never happen, and after the May 2012 amendment to the contract, would never happen. *Id*. Therefore, the Court held that any potential injury to petitioners was too remote and speculative to justify invoking the jurisdiction of the Court to review this portion of the contract. *Id*. The dissenting judge rejected the majority's perspective and would have set aside the Second Period, even though it had already been cancelled by agreement of the parties.

3. NEPA Claims

The Court rejected arguments that BPA violated NEPA by preparing a categorical exclusion rather than an Environmental Impact Statement (EIS) on the power sale. *Alcoa* at 794–96. The Court held that BPA correctly invoked the relevant categorical exclusion in the 2009 Alcoa ROD as well as explaining the reasons for its reliance on the categorical exclusion and BPA's decision to satisfy NEPA through a categorical exclusion was not arbitrary and capricious. *Id*.

III. POLICY DISCUSSION

The Agreement will provide numerous benefits, as more fully described in the next sections. At the outset, however, understanding the reasonableness of the Administrator's decision requires consideration of two key economic factors and a practical assessment of two businesses conducting arm's length negotiations with the goal of reaching a final agreement that provides value to both parties:

1. Sales to Alcoa will have a downward impact on rates for future rate periods.

Given expected economic conditions in the power market for the next several years, the IP rate is likely to remain well above the market price of power for quite some time. *See infra* section IV.b. During this time, BPA will earn greater revenues from selling 300 aMW of power to Alcoa than it would from selling that power on the market. The economic advantage of making this sale will keep BPA's rates lower than they would have been otherwise for the next several rate periods and better enable BPA to recover its costs. Therefore, even though BPA is not statutorily obligated to maximize profit, BPA's decision to offer this Agreement will promote BPA's ability to achieve the "lowest rates possible consistent with sound business principles" and meet its cost-recovery responsibilities. Federal Columbia River Transmission System Act of 1974, 16 U.S.C. §§ 838–838h, 838g; Northwest Power Act, 16 U.S.C. § 893e(a)(1).

2. The Agreement will guarantee a revenue stream based on the IP rate, the statutorily defined rate for DSI sales.

Assuming the Agreement is performed for its entire term, BPA will receive a guaranteed revenue stream based on the IP rate. The IP rate is established pursuant to BPA's statutory rate-making authority and is currently adjusted every two years. BPA's ability to adjust the rate in this manner will mitigate any market uncertainties in the longer term and support BPA's Treasury payment obligation and statutory obligation to recover its costs. BPA's statutory authority to adjust the IP rate for power service provided under the Agreement is unaffected by the Agreement.

3. A shorter term contract was not possible given Alcoa's access to more attractive alternative power supplies for a shorter term.

Because market prices for energy are currently below the IP rate, Alcoa has access to other power suppliers that are willing to offer prices and terms that are more favorable to Alcoa than those offered by BPA. In negotiations, Alcoa maintained that it could make a market purchase for seven years that would be preferable to purchasing from BPA. BPA staff found that assertion to be credible. Thus, negotiations quickly turned to the possibility of a ten year contract—even though Alcoa would have preferred a still longer term—which would allow BPA to earn greater revenues during the first two to five years of the contract and provide a predictable revenue stream during the later years.

Ultimately, the Administrator determined that the ten-year term of the Agreement serves BPA's business interests and the interest of BPA's preference customers.

IV. THE EQUIVALENT BENEFITS DETERMINATION FOR THE PERIOD BEGINNING JANUARY 1, 2013, THROUGH SEPTEMBER 30, 2022

BPA developed the Equivalent Benefits Test in response to *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), and *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), to determine whether a power sale to serve a DSI customer is consistent with sound business principles. The EBT is a tool used by the Administrator to determine whether the economic benefits to BPA of serving the DSI load are forecast to equal or exceed BPA's cost of serving the load during the period of service. *See* Alcoa ROD at 8–9; *see also* 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 [hereinafter Port Townsend ROD].

BPA's EBT evaluation shows that BPA can supply firm power to Alcoa for the proposed term under most water conditions. In determining its forecast of positive net benefits from providing service to Alcoa for the full term of the contract, BPA followed the steps described below. As in prior EBT analyses, BPA's methodology for making this determination is based, to the extent possible, on modeling tools used in BPA's rate cases. The rate case process includes discovery, testimony, rebuttal testimony, and cross examination prior to a final determination by the Administrator. BPA believes this process enhances the reliability of the modeling tools.

a. Models and Data Used in EBT for the Agreement

In prior analyses of equivalent benefits, BPA employed rate case models and data from the most current BPA rate proceeding. This was possible because prior EBTs resulted in relatively short contract terms. Due to current market conditions, which have been particularly impacted by low natural gas prices, the EBT analysis shows that the power sale will provide economic benefits to BPA beyond the current rate period.

As a consequence, this EBT extends beyond the range of the modeling tools and methodologies used in the BP-12 rate proceeding. Therefore, BPA used data and methodologies from the BP-12 rate proceeding for the EBT through September 30, 2013, and thereafter, to the extent possible, BPA used values and methodologies from the REP-12 rate proceeding through September 30, 2022, including escalation factors from October 1, 2017, through September 30, 2022. The REP-12 rate proceeding followed all the procedural safeguards of all other rate proceedings, such as discovery, testimony, rebuttal testimony and cross-examination, as required by Section 7(i) of the Northwest Power Act.

b. IP Rate Forecast Used in EBT for the Agreement

In prior analyses of equivalent benefits, BPA has assumed that IP rates remain unchanged for the entire term of the Agreement. *See* Alcoa Extension ROD at 7–9. BPA does not believe that this assumption is reasonable for a ten year contract term because holding the IP rate static does not account for the effects of BPA's updated natural gas price forecast on the values of the secondary energy revenue credits, balancing power purchase expenses, augmentation expenses and 4(h)(10)(c) credits used when projecting BPA's cost-based power rates. Therefore, in the EBT for the Agreement, BPA used an IP rate forecast that relies on models and cost inputs consistent with the REP-12 proceeding, which incorporates results of the completed 7(i) process, and agency decisions regarding capital and program spending as of the completed 2010 Internal Program Review (IPR). BPA has incorporated all assumptions as used in the REP-12 proceeding with the exception of revisions impacted by the updated natural gas price forecast. BPA's methodology for determining the IP rate forecast is further explained in section IV.d below.

c. BPA expects to be surplus during the Agreement Period

BPA does not forecast the need to make purchases specifically to serve Alcoa during the Agreement 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 2013 through September 30, 2022, particularly under critical water conditions.[2]

BPA's most recent load and resources studies are contained in the *2011 Pacific Northwest Loads & Resources Study* (the "2011 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) 2012–2021). BPA is forecast to have a surplus on an average annual basis under the middle 80 percent of historical water conditions for OY 2012 through OY 2021

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[2] 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.

as illustrated in Figure 1 below.[3] The 2011 White Book forecast includes 340 aMW of service to the DSIs through September 30, 2017. Using the same studies used to compile the 2011 White Book, the values for the average middle 80% water conditions in OY 2022 and OY 2023, are 1,243 aMW and 1,090 aMW of surplus power, respectively.

Figure 1 – Excerpt from 2011 White Book

Potential Variability of Annual Federal Energy Surplus/Deficit Projections

To illustrate the potential variability of annual Federal system energy surpluses and deficits for OY 2012 through 2021, this study compares different scenarios using varying levels of Federal system generation based on water conditions, normal weather conditions, and do not reflect future climate change impacts. Table 8, below, compares the annual Federal system surpluses and deficits under four resource scenarios: 1) 1937-critical water conditions (the base case of this study); and the averages of 2) the bottom ten percent; 3) the middle 80 percent; and 4) the top ten percent of the historical 70-water year conditions (1929 through 1998).

Table 8

Potential Variability of Annual Federal Energy Surplus/Deficit
For OY 2012 through 2021
Utilizing Differing Water Conditions

Operating Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
1937-Critical Water Conditions	-257	-92	-29	-266	-194	-401	-56	-192	-85	-250
Average Bottom 10% Water Conditions	-285	-104	-41	-281	-208	-414	-70	-205	-99	-263
Average Middle 80% Water Conditions	1,199	1,332	1,370	1,121	1,197	992	1,332	1,202	1,305	1,144
Average Top 10% Water Conditions	2,686	2,792	2,798	2,538	2,618	2,388	2,749	2,599	2,726	2,541

2011 White Book at 39, tbl.8; *see also* Exhibits 11–12 at 104–11.

The term of the Agreement includes: 7 months in OY 2013, all months in OY 2014 through OY 2022; and 2 months in OY 2023. The 300 aMW of power that will be sold to Alcoa under the Agreement represents approximately twenty-two percent of the forecast surpluses. As also illustrated, the 2011 White Book reflects a deficit on an average annual basis under extremely low water conditions, the 1937-Critical Water Conditions, during OY 2012 through OY 2021 respectively, and does so assuming 340 aMW of service to the DSIs through September 30, 2017. *See* 2011 White Book at 39.

While BPA has established a portion of its costs for the period of the BP-12 rate proceeding based on 1937-Critical Water Conditions, the secondary energy revenue credits, balancing power purchase expenses and 4(h)(10)(c) credits for the same period were set based on average values for the 70 water years. *See* BP-12-FS-BPA-03A at 138–139 (regarding Critical Water Conditions); BP-12-FS-BPA-04A at 45–46, tbls.19 &

[3] Operating Year (OY) in the 2011 White Book is the 12-month period August 1 through July 31. For example, OY 2012 is August 1, 2011, through July 31, 2012.

20, (regarding Secondary Sales revenues and Balancing Purchase costs); BP-12-FS-BPA-04A at 40, tbl.16 (regarding 4(h)(10)(c) credits).

For rate design and rate calculation purposes Power Services set power rates by allocating the costs of resources to loads and assumes firm resource availability under critical water. If firm resources are inadequate, it is assumed that the shortfall will be met by augmentation purchases, with these costs being recovered from both Slice and Non-Slice customers. When computing the PF and IP rates, additional adjustments are made to account for secondary energy revenue credits, balancing power purchase expenses and 4(h)(10)(c) credits, which are based on average values for the 70 water years. While this is the approach used for rate setting purposes, Power Service's marketing decisions in its typical operations are seldom conducted based on hydro generation under critical water conditions. The approach used in the EBT analysis is more aligned with expected conditions, and how Power Services would actually serve the Alcoa load, and is therefore a reasonable approach.

In sum, this analysis of the Equivalent Benefits Test is reasonably based on BPA's foregoing forecasts of for OY 2013 through OY 2021 in the 2011 White Book (Average Middle 80% Water Conditions) and BPA's Final Proposals in the BP-12 and REP-12 rate proceedings. BPA does not anticipate the need to alter its purchasing strategy for the power sold to Alcoa during the term of the Agreement.

Some parties expressed concern about BPA's use of the above forecasts in the EBT. *See, e.g.*, WGMT at 1 ("Under critical streamflow and the bottom 10% of water conditions, BPA faces an energy deficit that could exceed 400 MW. With a contract extending nearly ten years, the risk associated with energy deficits and the associated rate impacts are transferred to preference customers."). For the most part, these concerns are the same as those raised in connection with the prior 2009 Agreement. As was the case in that proceeding, BPA has fully considered relevant information. *See Alcoa* at 790 (rejecting the argument that BPA was arbitrary and capricious in its consideration of how weather and water flows would affect its profits during the Initial Period of the 2009 Agreement and holding that BPA "gave adequate consideration to these matters"). Moreover, BPA has explained above why its assumptions in this connection are reasonable and appropriate. Finally, commenters' concerns about the additional risk posed by the ten year term of the Agreement are addressed below in section V.a.

d. Economic benefits to BPA will equal or exceed costs for the period of the Agreement

BPA forecasts that the economic benefits it will accrue from the sale of 300 aMW of firm power to Alcoa at the IP rate, under the Agreement, will exceed by approximately $89,905,111.00 the forecasted benefits BPA could otherwise obtain from selling that power into the market. *See* Attachment A, tbls.3–8. BPA notes that more than half of these benefits ($48,633,782) are projected to accrue between the beginning of the Agreement and the end of BPA's next rate period (September 30, 2015). *See* Attachment A, tbl.6. Thus, the Agreement provides a stable revenue stream to hedge against low natural gas and electricity prices and any associated low secondary revenues throughout the next rate period. This stable revenue stream continues throughout the entirety of this Agreement, further hedging against variability in BPA's secondary revenues by fixing a guaranteed revenue stream and helping to make BPA's rates more stable and predictable.

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. This analysis uses the IP-12 energy and demand rates estimated by the Rates Analysis Model (RAM) and adopted in the BP-12 rate proceeding through September 30, 2013. Thereafter, BPA's updated forecast of IP rates follows the methodology and inputs established in the REP-12 rate proceeding (REP-12).[4] Forecasted IP rates from FY 2014 to FY 2022 were recalculated in the Long-Term Rates Model (LTRM) using the inputs for REP-12 and revised surplus energy revenues, balancing purchase expenses, augmentation expenses, and 4(h)(10)(c) credits estimated by RiskMod for FY 2014–FY 2017. These updated values for 4(h)(10)(c) credits from RiskMod were based on updated spot market electricity prices (modeled by AURORA) associated with BPA's updated natural gas price forecast discussed in Attachment B.

Surplus energy revenues, balancing purchase expenses, augmentation expenses, and 4(h)(10)(c) credits for FY 2018–22 were derived by escalating the FY 2017 values using the Common Agency Assumption[5] forecast for inflation, plus 2%, as was done in the REP-12 proceeding. *See* REP-12-FS-BPA-01 at 69. The monthly–diurnal shape computed for FY 2012–13 in the BP-12 case was then imposed upon the annual rate forecast from the LTRM to create a monthly–diurnal forecast for the IP rate through the 10-year term. The annual growth rate implied by the change in the annual IP rate was applied to the known monthly-diurnal rates for FY 2012–13 from BP-12. *See* Attachment A, tbls.1 & 2 (reporting the IP rate forecast adopted in REP-12 and the IP rate forecast used in the EBT analysis for the Agreement).

BPA has calculated revenues under the Agreement based on a sale of 300 aMW of firm power each hour to Alcoa under the IP rate schedule beginning January 1, 2013, and ending September 30, 2022. *See* Attachment A, tbl.3. The energy and demand entitlements are the projected amounts to be sold by diurnal period each month in the Agreement. Since under the Agreement BPA expects to make 300 aMW available each

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[4] The BP-14 Initial Proposal, released on November 14, 2012, contains an updated forecast that was developed for the upcoming rate case. Because this forecast was developed for the purpose of setting rates over a two year period and includes assumptions that are less conservative than those that went into the EBT, this forecast is less suitable for use in the EBT for the Agreement. In the interest of due diligence, however, BPA conducted an EBT analysis using the Initial Proposal numbers and determined that using this updated forecast in the EBT for the Agreement would not result in a shorter contract term. In fact, the forecast based on the Initial Proposal numbers showed a substantial increase in EBT benefits. Thus, the release of the Initial Proposal numbers does not affect BPA's decision to use the REP-12 forecasts for this EBT analysis.

[5] The Common Agency Assumption is a BPA forecast of various financial variables that is used by the Agency to produce a consistent economic view of the future.

month, 300 megawatts (MW) is the monthly demand amount specified in Table 3. BPA's projected monthly revenues are calculated using the IP rate components specified in Table 3, and then accumulated as illustrated in Table 4. *See* Attachment A, tbls.3 & 4.

e. 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.[6] Additionally, 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.[7]

In the absence of selling 300 MW of firm power to Alcoa 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 300 aMW of surplus energy to sell in the market on an average annual basis. As illustrated in Attachment A, Table 5, BPA has forecast the revenues it would otherwise obtain from the market for the term of the Agreement using a forecast for the market price of electricity based on the methodology used in the BP-12 rate proceeding, the incorporation of BPA's updated natural gas price forecast, and the extension of the rate case methodology through September 30, 2022. *See* Attachment B, fig.1 (illustrating BPA's updated natural gas price forecast as compared to other recent forecasts of natural gas prices).

BPA determined its net benefit of serving Alcoa at the IP rate for each month by subtracting the forecasted opportunity cost of foregone surplus energy revenues detailed in Attachment A, Table 5, from the projected IP revenues described in Attachment A, Table 4. BPA's net benefit, before accounting for the benefits associated with adjustments described in section IV.f below, is illustrated in Attachment A, Table 6.

f. Calculation of the net financial value of tangible economic benefits of selling power to Alcoa which would not be obtained by selling an equivalent amount of power on the market.

Consistent with the methodology described in the 2009 Alcoa ROD and the Port Townsend ROD, BPA has identified a number of tangible economic benefits to BPA that would be achieved by selling 300 MW to Alcoa during the term of the Agreement which would not be achieved by selling an equivalent amount of power on the market. BPA conducted an economic analysis to determine the net value of those benefits.

[6] For a more complete description of the operating risk factors BPA faces in the course of doing business, refer generally to the *Power Risk and Market Price Study* in the BP-12 rate proceeding; and specifically to section 2.5.2 and section 2.6.3 for surplus energy sales and revenue. *See* BP-12-FS-BPA-04 at 37–39; 47–49.

[7] 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* BP-12-FS-BPA-04 at 15–36.

1. Value of Reserves

Like Alcoa's previous contracts, the Agreement requires Alcoa to make supplemental operating reserves for power system contingencies available to BPA during the contract period. Such reserves would not be available from making a typical market sale. Sales at the IP rate reflect the value of BPA's right to obtain supplemental operating reserves.[8] 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. For this EBT, BPA used the value of reserves credit from the BP-12 rate proceeding for the EBT through September 30, 2013, and thereafter, BPA used the value of reserves credit from the REP-12 rate proceeding through September 30, 2022. Both the energy rate tables in the IP-12 rate schedule adopted in the BP-12 rate proceeding and the REP-12 rate proceeding include a $0.94 per MWh credit for the value of these reserves.[9] Therefore, BPA's net benefit above compares a surplus power sale to a sale of power at the IP rate with reserves. BPA adjusted for this in each month through FY 2022 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. *See* Attachment A, tbl.7a.

2. Avoided Transmission and Ancillary Services Expenses

When BPA makes a sale to a DSI, that DSI customer covers 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), the organization within BPA that is responsible for the marketing of federal power, 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 might sell under all load and resource conditions, especially during periods of 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. The incremental transmission and ancillary services costs are avoided when BPA sells power 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

[8] Sales at the IP rate require the provision of the DSI Minimum Operating Reserve – Supplemental. *See* 2012 Power Rates Schedules and General Rate Schedule Provisions, October 2011, at 21. The Agreement is a sale at the IP rate and, accordingly, Alcoa is required to make such supplemental operating reserves available to BPA, as specified in section 6.1 and Exhibit E to the Agreement.

[9] For the purposes of this EBT analysis, BPA has not forecast a change in the value of reserves credit to be included in future IP rate schedules.

expenses and their uncertainty were addressed in the WP-10 and BP-12 rate proceedings and are expected to be similarly addressed in each subsequent BPA rate proceeding.[10]

PS valued these avoided transmission and ancillary services costs for the period of the Agreement 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.[11] For this EBT analysis, BPA has not forecast a change in the tariff costs even though there is a likelihood of a transmission rate increase sometime before September 30, 2022, especially considering BPA's recently proposed transmission rate increase for the next rate period.[12] BPA believes that this approach will produce the most conservative results under the EBT analysis.

In these computations, both fixed, take-or-pay costs and variable incremental transmission and ancillary services 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.

BPA continues to value avoided transmission and ancillary services costs for the entire period of the Agreement using the tariff costs adopted by BPA's Transmission Services organization in the BP-12 rate proceeding.[13] 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 at 480 aMW continuing from January 1, 2013, through September 30, 2022.[14] 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, Alcoa has been allotted 62.5% in each month through September 2022, as illustrated in Attachment A, Table 7b. This

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[10] For further information on BPA's methodology for addressing planned transmission and ancillary service expenses, refer to *Revenue Requirement Study*, WP-10-FS-BPA-02 at 13-28; *Risk Analysis and Mitigation Study* WP-10-FS-BPA-04 at 30–31. *See also Power Revenue Requirement Study Documentation*, BPA-12-FS-BPA-02A at 29 tbl.3A, line 121; *Power Risk and Market Price Study*, BP-12-FS-BPA-04 at 42–43.

[11] The megawatt amounts of surplus energy for FY 2013–FY 2017 were computed using RiskMod. The megawatt amounts of surplus energy were extended beyond FY 2017 by using megawatt amounts of surplus energy for FY 2016 (non-planned outage year for CGS) for FY 2018, FY 2020, and FY 2022 and megawatt amounts of surplus energy for FY 2017 (planned outage year for CGS) for FY 2019 and FY 2021.

[12] For additional information on the proposed transmission rate increase, *see generally* BP-14 Initial Proposal, released Nov. 14, 2012, *available at* http://www.bpa.gov/Finance/RateCases/BP-14RateAdjustmentProceeding/Pages/Initial-Proposal.aspx. *See also* Transmission, Ancillary and Control Area Service Rate Schedules, BP-14-E-BPA-10, released Nov. 14, 2012.

[13] For the purposes of this EBT analysis, BPA has not forecast a change in the tariff costs that may be adopted in future BPA rate proceedings.

[14] The current assumption for DSI service of 480 aMW includes 320 aMW for Alcoa, 20 aMW for Port Townsend Paper Company, and 140 aMW for Columbia Falls Aluminum Company. These amounts may vary depending on the amount defined in the individual DSI power sales contracts.

percent allotment represents Alcoa's portion of the total MW of DSI service assumed during the period of the Agreement.

3. Demand Shift

The Demand Shift, as discussed in previous EBT analyses, assumes that the DSIs would not operate in the absence of BPA service. *See* 2009 Alcoa ROD at 44, 68–70. In its draft EBT analysis for the Agreement, BPA reduced the benefits of the Demand Shift to zero because BPA believed that Alcoa would continue to operate in the absence of BPA service since current market conditions suggest that it is possible for Alcoa to maintain operations through another supplier if BPA was unable to supply Alcoa's Intalco smelter. In such circumstances, the demand shift would not materialize because the Intalco load could not be considered incremental based solely on BPA's ability to provide service.

In its comments filed on the draft Agreement, Alcoa disagreed with BPA's conclusion, stating that BPA "misunderstands the nature of aluminum smelter operations" and believes that consideration of the demand is justified and would support extending the term even beyond the present EBT protection and perhaps warrant extending the term beyond ten years." AAIP12 0072, Alcoa Intalco Works (Alcoa) at 19. Thus, Alcoa requested that BPA include the demand shift benefit in its EBT analysis. Alcoa at 20. BPA declines to do so. BPA understands that continuing or discontinuing smelter operations are often based on factors unrelated to the condition in the power market. However, the EBT is largely geared toward considerations relevant to the power market. More importantly, since the EBT already supports the ten year term of the Agreement that the Administrator is willing to offer without the inclusion of the demand shift benefit, consideration of the issue is essentially moot.

g. Conclusion of Equivalent Benefits Test

Attachment A, Table 8, illustrates that the financial benefits BPA expects to receive from selling 300 aMW at the IP rate to Alcoa during the period of the Agreement (from January 1, 2013 through September 30, 2022) exceed the forecasted revenues that BPA would otherwise obtain from selling the same amount of power on the wholesale electricity market by approximately $89,905,111.00.

V. RESPONSE TO COMMENTS: SPECIFIC CONTRACT ISSUES

This section responds to comments regarding specific terms of the Agreement.

a. Whether the ten year term of the Agreement is reasonable and consistent with sound business principles.

<u>Summary of Comments</u>

Many of the comments offered by preference customers and interest groups centered on the risks associated with the ten-year term of the Agreement. *See* AAIP12 0073, Canby

Utility (Canby); AAIP12 0069, Industrial Customers of Northwest Utilities (ICNU); AAIP12 0064, Northwest Requirements Utilities (NRU); AAIP12 0067, Western Montana Electric Generating & Transmission Cooperative, Inc. (WMGT); AAIP12 0068, Seattle City Light (Seattle); AAIP12 0070, Public Power Council (PPC); and AAIP12 0071, Pacific Northwest Generating Cooperative (PNGC).

A primary concern, raised by several commenters, is the risk that BPA's market forecasts, which are the basis of BPA's EBT, will prove incorrect. ICNU states:

> BPA has forecast that under certain market conditions, it will obtain economic benefits, but almost half the benefits accrue during the first two years of the contract. This places significant risk on BPA if current gas price forecasts prove to be inaccurate.

ICNU at 2. WMGT echoes this concern, stating that BPA's conclusion that revenues will exceed those expected from the wholesale power market over the ten year term is "highly questionable." WMGT at 2. PNGC notes that "BPA can be fairly certain of the range of power prices for the next year or two but, by 2022, things become murky." PNGC at 2. Commenters also expressed concern about BPA's forecasts of water conditions. *See, e.g.*, PPC at 3 (stating that "BPA's assertion that it can serve Alcoa out of BPA's existing inventory over most water conditions only increases BPA's risks").

Because of the uncertainty associated with long term forecasts, several commenters suggest that if BPA elects to enter into a contract with Alcoa, it should be for a shorter term. *See, e.g.,* NRU at 2, PNGC at 2. In their view, a shorter term contract would mitigate the risk associated with the principle that the farther out one goes in time, the more unknown variables could come into play with the potential for significant adverse consequences. NRU recommends that the term be no longer than five years, while PNGC suggests that two years and nine months would be an acceptable term. *See* NRU at 2; PNGC at 2.

Alcoa, in contrast, believes that BPA's use of the EBT artificially and unfairly truncates the term of the contract and the term should be extended to the point that the EBT forecasts only a small benefit to BPA. Alcoa at 13–14.

BPA's Position

Offering a ten-year term for a sale of power to Alcoa at the IP rate is reasonable and consistent with sound business principles for the following reasons: (1) a ten-year contract is consistent with the statutory framework designed by Congress; (2) the EBT analysis forecasts that at the end of ten years BPA will have derived a significant financial benefit from the contract; (3) a sale at the IP rate provides a guaranteed revenue stream based on the IP rate and, due to BPA's rate-making requirements, will help to assure that BPA recovers its costs; (4) BPA would be unable to obtain a shorter term contract due to Alcoa's ability to obtain preferable arrangements from other suppliers; and (5) the Agreement will provide operational benefits to BPA.

Discussion

1. A ten year contract is consistent with the statutory framework designed by Congress.

When it enacted the Northwest Power Act, Congress understood that aluminum smelting and other then-existing directly served industries were, for the large part, electric power-intensive operations. *See* H.R. Rep. No. 96-976, pt. 1, at 28–29 (1980). At the time of enactment, DSI customers accounted for approximately 3400 MW (approximately one-third) of the Administrator's total load obligation. *Id*. at 29.

In order to provide planning certainty for those customers with respect to their power supply needs, the Northwest Power Act provided that the Administrator would be required to offer an "initial long term power contract" based on the amount of power BPA was supplying pursuant to the contract in existence immediately prior to enactment. Northwest Power Act, 16 U.S.C. §§ 839–839h, 839c(d)(1)(B); 839c(g)(1). These contracts were anticipated to be contracts that would not exceed 20 years in duration. 16 U.S.C. § 839c(g)(1); 832d(a). In response, the Administrator offered, and BPA's customers accepted, 20-year power sales contracts.

As to what would occur after expiration of the initial contracts, Congress left that decision to the Administrator's discretion. As confirmed by the Ninth Circuit on more than one occasion, the Administrator is authorized, but not required, to sell power to DSIs, consistent with other statutory requirements, when in his business judgment it is appropriate to do so. *See, e.g., PNGC II* at 1073 ("BPA is certainly authorized to sell power to the DSIs at the IP rate. But that authority . . . is cabined by its obligation to 'operate with a business-oriented philosophy.'")(citation omitted). In this instance, the Administrator was faced with the expiration of Alcoa's 2009 Agreement, fully appreciating that the 2009 Agreement resulted in very significant economic benefits to BPA relative to market. He considered the results of staff's EBT analysis, and determined that it was in BPA's economic interests to pursue negotiating a contract for the sale of power to Alcoa.

After deciding to pursue a power sales agreement with Alcoa, the Administrator has broad discretion to negotiate appropriate terms and conditions for such a sale pursuant to contracting authority provided by statute. *See* Bonneville Project Act of 1937, 16 U.S.C. §§ 832–832j, 832a(f) (Administrator is authorized to enter into contracts "upon such terms and conditions . . . as he may deem necessary"); *see also Alcoa* at 792 ("While in certain extreme circumstances we may conclude that BPA has strayed too far afield from business like operations, in the ordinary case we will not usurp BPA's judgment regarding whether to sell surplus power to DSIs, or on what terms.")(citation omitted). This authority extends to negotiating the length of the power sales agreement. Given the economic benefits provided by the Agreement, as discussed more fully below, it is plausible to assume that a contract half the length of the initial DSI contracts contemplated by Congress would not be inconsistent with the intent of Congress when it enacted the Northwest Power Act and could be within the Administrator's discretion.

Despite PNGC's suggestion that Congress and the courts have contemplated a "phasing out" of DSI service, PNGC at 3, BPA finds no evidence to that effect in the statutes, legislative history, or court opinions. As noted above, when the Northwest Power Act was passed, DSI customers accounted for approximately 3400 MW of the Administrator's total load obligation and BPA, at the time, was the only viable supplier in the region given the then-existing power grid. Markets were not deregulated in order to create greater competition among potential suppliers until many years after the passage of the Northwest Power Act. It is far more likely that Congress assumed that much of that load would continue to exist and that BPA would continue to supply power to the DSIs.

In conclusion, given the broad scope of his contracting, settlement, and compromise authority, the particular term of a DSI contract (including the one establishing the length of the contract) is well within the scope of the Administrator's contracting discretion and should be upheld unless it is arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law.[15]

2. The EBT analysis forecasts that at the end of ten years, BPA will have derived a significant financial benefit from the contract.

The analysis conducted under the Equivalent Benefits Test shows that BPA is highly likely to obtain revenues well in excess of a sale at market prices for the first three to five years of the Agreement. For a full and detailed discussion of the EBT methodology and results, see section IV. These projected increased revenues from Alcoa will reduce the PF rate for at least the next two to three rate periods.

A number of commenters point out that any forecast inherently contains some degree of uncertainty and the actual state of the market in the future depends on events that are not yet known. In their comments, preference customers tend to focus on the possibility that the market could be higher than the IP rate in the later years of the contract and BPA might not, therefore, maximize its revenue stream. However, the opposite could be true and the IP could remain higher than anticipated for a longer period than contemplated by EBT analysis. If, for example, demand for power remains flat due to a continuing depressed economy, the market price for power could be lower than forecast by the EBT over the long term. Similarly, if gas supplies continue to increase as they have in recent years, that could also have a long term effect of lower than anticipated power prices because the marginal cost resource for the West Coast is currently the gas-fired

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[15] It is also important to note that long term contracts for aluminum smelters are a common industry practice. For example, the New York Power Authority's power contract with Alcoa's Messena Plant is a 20 year contract with an option for an additional 10 years and Chelan County PUD has a17-year contract with Alcoa to serve the Wenatchee Plant. *See* New Long-Term Power Supply Contract With Alcoa Approved By N.Y. Power Authority Trustees (Dec. 16, 2008), http://www.nypa.gov/press/2008/081216a.htm; Alcoa Reaches New Renewable Power Deal for Wenatchee, WA Smelter (July 15, 2008), http://www.alcoa.com/global/en/news/news_detail.asp?pageID=20080715005215en&newsYear=2008.

combustion turbine. Thus, the stable revenue stream generated by the IP rate is, as discussed elsewhere, an effective risk mitigation strategy.

More importantly, however, while the preference customers state general concerns about risk and uncertainty, they have not demonstrated that BPA's reliance on these forecasts is misplaced. The fact that the future is uncertain does not make the decision to offer the Agreement unreasonable nor does it create any kind of legal infirmity because the Court does not expect more from BPA than it has done here. BPA does not need to have "perfect information before it takes any action." *N. Carolina v. Fed. Energy Regulatory Comm'n*, 112 F.3d 1175, 1190 (D.C. Cir. 1997) (quoting *Dep't of the Interior v. Fed. Energy Regulatory Comm'n*, 952 F.2d 538, 546 (D.C. Cir. 1992)). "In the face of 'serious uncertainties,' an agency need only 'explain the evidence which is available, and . . . offer a rational connection between the facts found and the choice made.'" *Id*. (citation omitted). As explained above, BPA has met this standard.

Moreover, there is nothing unusual about the ten-year term for the Agreement that BPA has considered in this proceeding. BPA routinely relies on long-term forecasts to evaluate long-term transactions, whether between itself and its customers or others. For example, BPA relied on forecasts that looked forward 17 years to test the reasonableness of the 2012 Residential Exchange Program Settlement Agreement ("REP Settlement"), which settled several controversial components of the REP until 2028. Based on long-term projections of BPA's costs, market conditions, loads, and other factors, the Administrator was able to conclude that the REP Settlement was in the region's interests, lawful, and met the agency's other identified goals, and agreed to sign the REP Settlement with six investor-owned utilities, a variety of interest groups and parties, and many preference customers (including many of the preference customers that have submitted comments in this proceeding).

Finally, the preference customers have not identified any defects in the forecasts BPA is relying on to evaluate the Agreement. This is not surprising because the underlying data BPA used to evaluate the Agreement was thoroughly vetted in the REP-12 proceeding, the proceeding that BPA established to evaluate the REP Settlement. No party identified any fundamental problems with BPA's long-term forecasts in the REP-12 proceeding and, similarly, no party in this proceeding has identified any problems with the data that BPA is using in its EBT analysis.

Commenter Alcoa contends that the Administrator's decision to offer ten years of service "artificially truncates the term" of the Agreement. Alcoa at 13. That claim is incorrect. The Administrator has considered the risks of the ten-year term and, accordingly, elected to limit the term of the contract offer to ten years, when the EBT shows a significant $89,000,000 cushion in net financial benefits, rather than take the risk of extending the contract term further. In previous applications of the EBT, the Administrator was willing to allow benefits to decline further, but previous EBTs resulted in much shorter contract terms. Limiting the term of the Agreement to ten years is another way of mitigating the risk associated with the longer term of this contract, as opposed to previous ones.

3. A sale at the IP rate provides a guaranteed revenue stream based on the IP rate that will help to assure that BPA recovers its costs.

Under the Agreement, Alcoa will purchase power from BPA at the IP rate, which is the statutorily defined rate for the sale of Industrial Firm Power to DSI customers.[16] The IP rate is adjusted every time BPA sets its power rates by conducting a rate proceeding pursuant to Section 7(i) of the Northwest Power Act. In section 1.1 of BPA's Tiered Rate Methodology, BPA committed itself to set power rates every two years through the 2028 ending date of its preference customers' Contract High Water Mark Contracts. *See* Tiered Rate Methodology, TRM-12S-A-03, Sept. 2009, at 1–2. Therefore, BPA will be able to assure that its costs are recovered through the IP rate, even in the event that market or resource conditions change.

The IP rate is also subject to various risk mitigation policies that BPA has in place. For example, BPA's rates include planned net revenues for risk, a portion of which are recovered through the IP rate. The IP rate is also subject to various Cost Recovery Adjustment Clauses that go into effect when certain triggers are met, e.g., financial reserves drop to a point that could jeopardize cost recovery and Treasury repayment.

For planning purposes, selling a fixed amount of power over a fixed period of time and receiving predictable revenues at the IP rate is a sound business strategy. It insulates BPA from exposure to prices in the wholesale power market which, unlike the IP rate level, BPA has no control over. As noted above, BPA must periodically establish rates that are "based upon the Administrator's total system costs" and "are sufficient to assure repayment of the Federal investment in the Federal Columbia River Power System over a reasonable number of years after first meeting the Administrator's other costs." 16 U.S.C. §§ 839e(a)(2)(A), (B).

Some comments suggest that BPA should forego this opportunity to lock in a long-term source of predictable revenues, effectively proposing a "wait and see" approach. *See, e.g.*, PNGC at 2 (suggesting a term of two years and nine months instead of ten years). Such an approach does not represent a sound business practice. As noted elsewhere, such comments focus only on the market situation where the IP rate is less than the price of power in the market. In such situations, the commenters argue, BPA would miss an opportunity to maximize revenues. However, it is also possible that market conditions like those that currently exist could continue or recur. In that situation, the "wait and see"

[16] *See* 16 U.S.C. § 839e(c). BPA notes that some parties have raised issues about whether Alcoa will be charged a rate that is above the rate paid by BPA's preference customers. To the extent that this is still a question, BPA notes that, as has been noted by the Ninth Circuit, the IP rate is developed pursuant to the formula for developing the IP rate that is clearly prescribed by Congress in sections 7(c) and 7(b)(2) of the Northwest Power Act, 16 U.S.C § 839e(c), a formula that should result in an IP rate that is higher than the PF Tier 1 rate. First, the IP is subject to an adder known as the industrial margin. *See* 16 U.S.C. § 839e(c)(2). Second, the IP rate is subject to further increase due to rate protection afforded to preference customers with respect to recovering costs associated with the Residential Exchange Program, which provides benefits to residential and small farm customers of regional investor-owned utilities. 16 U.S.C. § 839e(b)(2).

approach places the agency at risk of under-recovering the revenues it had forecast in a prior rate proceeding from secondary market sales. BPA believes that it is reasonable to avoid that potential outcome by locking in sufficient revenues to recover costs through a firm power sale priced at the IP rate. As previously indicated, Alcoa was unwilling to enter into a contract for a term less than ten years and, in fact, sought a longer-term contract.

4. A shorter term contract was not possible due to Alcoa's ability to obtain preferable arrangements from other suppliers.

As described above, a number of comments indicated that a term well short of ten years would better mitigate risks in the outyears and create greater certainty. These comments recommend that BPA revise the contract to make the term much shorter than ten years, usually the three to five year range. *See, e.g.*, NRU at 2 (suggesting a term of five years); PNGC at 2 (suggesting a term of two years, nine months).

Without conceding the argument that a short term is not always better from a risk mitigation standpoint, the suggestion that BPA could dictate the term of the contract in this instance is greatly oversimplified. Currently, market prices are well below the IP rate and BPA stands to maximize revenues for the next several years by selling at the IP rate rather than selling on the open market. That means Alcoa, which has access to power providers other than BPA, could have and would have obtained a better price and terms in a market transaction for a term less than ten years in the absence of a BPA contract.

As noted in its comments, Alcoa is not interested in a BPA contract because it enjoys paying an IP rate that is considerably higher than the market prices that are expected to continue for the next several years. Instead, Alcoa is only willing to accept that situation in exchange for the certainty of a long-term power supply at a cost based rate that may or may not be lower than market prices during the later years of the contract. Alcoa at 5. Thus, Alcoa has concluded, based on its own business judgment, that the Agreement must have a term of at least ten years in order for it to make sense to forego the more favorable market prices at which it could presently acquire power. *Id*. (stating that a ten year term is the minimum period that would allow Alcoa to amortize its expected capital investments in the Intalco plant).

In consideration of both the likelihood of significant financial benefits to BPA in the first several years of the transaction and the business interests of Alcoa, negotiations quickly turned to the possibility of a ten-year contract that would protect BPA's ability to maximize revenues in the early years and provide a stable revenue stream in the later years. Given Alcoa's position and current market conditions, BPA continues to believe there were only two potential outcomes: a ten year agreement or no agreement at all.

In sum, while sales to DSI customers like Alcoa are now discretionary, that does not mean Alcoa is a "captive" customer of BPA that must accept whatever terms and conditions BPA chooses to dictate. To the contrary, Alcoa has access to the same markets that BPA might be selling into in the absence of this contract. Without this contract, Alcoa would be paying less and BPA's secondary revenues would be lower. It was only possible to proceed with this negotiation process by reckoning with the reality that Alcoa had some amount of bargaining power due to its access to other suppliers willing to charge prices significantly lower than the IP rate.

5. The Agreement will provide additional operational benefits to BPA.

Alcoa commented that BPA has declined to take into account the operational advantages that sales to Alcoa (and other DSIs) have provided since the 1930s when determining the term of its proposed sale to Alcoa. *See* Alcoa at 18. Although Alcoa is correct that BPA has not included the value of such operational benefits in the EBT, the Administrator has nonetheless considered these benefits and they have bolstered his decision to offer a ten-year term. As described elsewhere in this section, the EBT analysis is not the sole determinative factor in the Administrator's decision to offer a ten-year term. The operational benefits which can be provided by Alcoa to BPA support the Administrator's decision to offer Alcoa a ten-year term by offsetting some of the risk posed by the length of the term and providing additional assurance that the Agreement will have an overall benefit to BPA and therefore to BPA's customers.

As BPA has readily acknowledged, DSI load has historically provided value to BPA in connection with the Administrator's statutory obligation to assure an adequate, efficient, economical, and reliable power supply, by providing the Administrator with flexibility to help manage the complexities and uncertainties of marketing large quantities of federal power. *See* 2009 Alcoa ROD at 72–82. BPA has referred to these operational benefits as "intangible benefits" in past RODs. These operational benefits include: 1) operational flexibility during oversupply events; 2) balancing reserves; and 3) potential demand response arrangements.

First, the sale to Alcoa will provide BPA with a flat, continuously operating load, which acts to level the shape of BPA's overall load. Alcoa's load is also able to increase or decrease with a fair degree of certainty when called upon, providing valuable operational flexibility to BPA. This ability helps BPA during periods of oversupply, when large volumes of water flows in the Columbia River system and large amounts of wind generation connected to BPA's transmission system require BPA and federal dam operators to balance both the federal power system and transmission system to meet environmental requirements (protection of endangered salmon listed under the Endangered Species Act) and the provision of transmission services. The concentration of wind resources within BPA's balancing area authority has created operational challenges during these high water and high wind events. BPA is taking steps to manage generation during these events, but adding load (particularly during light load hours) is another way to help bring the system into balance during oversupply events.[17] Alcoa has the ability to consume more power, within plant operating limits, during light load hours, thereby producing more aluminum at night and less during the day. Alcoa has already provided such benefits on a short-term basis during the 2009 Agreement. At BPA's

[17] For more information about BPA's oversupply management and wind integration efforts, see BPA's website at http://www.bpa.gov/Projects/Initiatives/Pages/default.aspx.

request, Alcoa purchased additional surplus power and began consuming approximately 25 MW more per hour in light load hours from 11 pm to 6 am. By offering Alcoa a long term contract BPA will be able to pursue these operational benefits in the future.

Second, continuing BPA's long-time relationship with Alcoa provides potential opportunities for BPA to purchase additional contingency reserves from Alcoa. During the spring of 2011 and 2012, Alcoa provided support for BPA's efforts to deal with oversupply by making additional load interruptible (in excess of the contingency reserve requirement in the 2009 Agreement). Alcoa at 17.

Third, BPA and Alcoa have discussed the potential for additional collaboration on demand response projects. BPA is currently pursuing several demand response pilot projects that do not include Alcoa.[18] Alcoa's operational flexibility makes it an ideal candidate for demand response, especially as it relates to industrial process load control.

In conclusion, the Administrator has considered the operational benefits of service to Alcoa when deciding to offer the ten year Agreement.

Final Decision

For all of these reasons, the record demonstrates that providing service to Alcoa for a term of ten years is a reasonable business decision.

b. Whether the termination and curtailment provisions of the Agreement are appropriate.

Comments

A number of parties raised concerns regarding Alcoa's curtailment and termination rights under the Agreement. Several of BPA's preference customers (PNGC, PPC, Canby, NRU and ICNU) argued that Alcoa's termination and curtailment rights in the Agreement were unacceptable risks and should either be amended or eliminated from the Agreement. This sentiment is typified by PNGC's statement:

> Alcoa would be able to terminate the contract for "any reason" at any time, provided it pays limited liquidated damages tied, in part, to the price of aluminum at the time on the London Metal Exchange. Alcoa would also be able to terminate if it becomes subject to certain environmental regulations or emissions requirements. In addition, Alcoa would be able to twice "curtail" some or all of its power purchases during the contract for a period of up to two years, subject only to limited liquidated damages.
>
> It should go without saying that these extensive termination and curtailment rights would significantly undermine the take-or-pay nature of

[18] For more information about BPA's demand response program, see BPA's website at http://www.bpa.gov/Energy/N/Smart_Grid-Demand_Response/index.cfm.

> the new contract. The provisions would also create unacceptable risk and uncertainty for Bonneville, significantly undermining the value of Bonneville entering into the contract in the first place.

PNGC at 5; *see also* Canby at 1, ICNU at 2, PPC at 1–2, NRU at 3.

Along these same lines, ICNU argued that if Alcoa were to have these curtailment and termination rights that BPA should similarly enjoy broad termination and curtailment rights:

> This will allow Alcoa to walk away but require BPA to continue selling power to Alcoa in the event that conditions change, so that it becomes a significant money losing transaction. BPA should alter the contract to allow BPA to terminate, and reduce Alcoa's ability to walk away from the contract if market conditions change.

ICNU at 2.

BPA's Position

Including these limited termination rights for Alcoa in return for the assurance of higher-than-market revenues and long term stability is a sound business decision.

Discussion

First, the preference customers' comments fail to recognize BPA's termination rights, which are found in section 19.2 of the Agreement. Section 19.2 includes rights to terminate for Alcoa's: (1) failure to pay, (2) failure to provide payment assurance, (3) failure to maintain employment levels, (4) reselling of Firm Power, (5) failure to provide a letter of credit, and (6) failure to provide documentation showing 35 million dollars in capital investment to the plant. None of these termination rights require BPA to make Alcoa financially whole by paying liquidated damages or providing any other form of compensation to Alcoa. In contrast, all three of Alcoa's termination rights require Alcoa to provide notice ahead of termination, and to compensate BPA either by purchasing power through the notice period or paying liquidated damages.

Second, the comments neither appear to recognize that these termination and curtailment rights are the product of lengthy negotiations between Alcoa and BPA, nor do they recognize the value that BPA receives in exchange for these rights. As BPA's preference customers are aware and Alcoa references in its own comment, the EBT shows that BPA and Alcoa are entering into this contract at a time when the IP rate is significantly higher than the market price of power. Alcoa at 5. On average, the IP rate is expected to remain higher than market prices for more than seven years, according to BPA's forecasts included in the EBT. Given these circumstances, Alcoa could easily choose to forego power service from BPA in order to purchase less expensive power from market suppliers.

BPA worked with Alcoa to negotiate an agreement that would be acceptable to both parties because BPA believes that the Agreement will benefit both BPA and its preference customers. In essence, BPA has asked Alcoa "to forgo the more favorable market prices at which it could presently (and for some time) acquire power." *Id.* In exchange, Alcoa negotiated for several termination and curtailment rights but also agreed to BPA's requested liquidated damages provision. These liquidated damages provisions are designed to assure that BPA will receive a significant percentage of the EBT's forecast benefits even if Alcoa exercises one of the termination rights afforded it by the Agreement. By protecting the benefits BPA will accrue during the first three years of the Agreement, BPA protects the PF rate paid by BPA's preference customers.

Lastly, BPA notes that these termination and curtailment rights are in fact an improvement over the termination and curtailment rights Alcoa held under the 2009 Agreement. Under the 2009 Agreement, which had a potential term of seven years or longer, Alcoa would not have been liable for any liquidated damages during any period of curtailment. Furthermore, Alcoa held termination rights that were either more liberal than or equivalent to the termination rights in this Agreement. [19]

<u>Final Decision</u>

Alcoa's termination and curtailment provisions will included in the Agreement without changes.

c. Whether section 15.2, Uncontrollable Forces, should be adjusted in response to comments received.

<u>Comments</u>

NRU comments regarding section 15.2:

> Under section 15.2, Uncontrollable Forces includes, "any failure of Alcoa's production, distribution or transmission facilities that prevents Alcoa from taking Firm Power delivered to the Point of Receipt." This language is far too broad regarding Alcoa's "production". This provision should be modified to clearly define what circumstances constitutes an uncontrollable force regarding Alcoa's production.

NRU at 2.

[19] The previous contract allowed Alcoa to terminate for any reason during the first several years of the contract with six month's notice, with liability limited to 90 percent of the Firm Power obligated under the contract for the first three months of the notice and then only for power taken in the last three months period and Alcoa could then choose to purchase power amounts at or below the Firm Power amount the last three months of the notice period. Under the terms of the previous contract, during the last five years of the contract (had the contract continued), Alcoa was allowed the same termination right it enjoys after September 30, 2015, in the Agreement: requiring twelve months' notice of termination and compensation to BPA for any Firm Power amount not taken during those twelve months.

BPA's Position

BPA believes that this contract provision adequately defines what circumstances constitute an uncontrollable force.

Discussion

The Uncontrollable Forces provision is an agency standard provision which has been developed and approved pursuant to BPA's internal processes. A nearly identical provision is used in BPA's Regional Dialogue contracts, including those signed by NRU's members. Additionally, BPA disagrees with NRU that the language is far too broad. Though not mentioned in NRU's comments, the events allowed as uncontrollable forces under section 15 are very limited. Specifically, section 15.2 states that the event must be:

> [B]eyond the reasonable control of, and without the fault or negligence of the Party claiming the Uncontrollable Force that prevents that Party from performing its contractual obligations under this Agreement and which by exercise of that Party's reasonable care, diligence, and foresight such Party was unable to avoid.

Based on the successful past use of this agency standard clause, combined with the protections afforded by the clause that were not mentioned in NRU's comments, BPA believes that this contract language is adequate and need not be changed.

Final Decision

Section 15.2 will not be changed.

d. Whether section 5.5, No Purchases from Third Parties During Curtailment, should be changed in response to comments received.

Comments

NRU expressed concern regarding section 5.5, No Purchases from Third Parties During Curtailment, of the Agreement, stating:

> Under section 5.5 regarding curtailments, the contract states that, "Alcoa shall not make any *market purchases* from third party suppliers to replace all or any portion of the amount curtailed." It is unclear why Bonneville would limit this clause to market purchases. Alcoa should not be allowed to make any power purchases, including but not limited to market purchases, if it is in a period of curtailment. Therefore, NRU advises Bonneville to replace the term "market purchase" with "power purchase."

NRU at 3–4.

BPA's Position

BPA agrees with NRU's comment.

Discussion

In order to eliminate any ambiguity, section 5.5, No Purchases from Third Parties During Curtailment, will be changed to read:

> During any period of curtailment, Alcoa shall not make any power purchases from third party suppliers to replace all or any portion of the amount curtailed.

Final Decision

BPA will make the changes stated above.

e. Whether section 19.2, BPA's Right to Terminate, should be changed in response to comments received.

Comments

NRU commented on section 19.2, BPA's Right to Terminate, specifically, section 19.2.7:

> Under section 19.2.7, Alcoa must demonstrate that it has invested 35 million dollars, or more, in capital projects at the Intalco Plant by September 30, 2019, or Bonneville may terminate the contract. In order to put the appropriate parameters around such a requirement, Bonneville should include a starting date for such investment.

NRU at 4.

BPA Position

BPA agrees with NRU's comment.

Discussion

In order to eliminate any ambiguity, section 19.2.7 will be changed to read:

> Alcoa fails to provide BPA with documentation showing that it has invested 35 million dollars or more in capital projects at the Intalco Plant between January 1,

> 2013 and September 30, 2019. In order to facilitate the administration of this provision, Alcoa shall provide BPA with a yearly accounting of capital project expenditures at the Intalco Plant on September 1 of every year under this Agreement. BPA reserves the right to determine, at its own discretion, the adequacy of the documents provided by Alcoa under this section.

Final Decision

BPA will change the provision as shown above.

f. Whether clarification of the effect of a court ruling that partially invalidates the Agreement is needed.

Comments

PNGC asked BPA to clarify the effects of a court ruling on section 4.3 and 18.7 of the contract. Specifically, PNGC states:

> Section 4.3 of the draft new contract addresses termination of the contract if a court were to invalidate the contract. The section addresses what happens in the event of a complete invalidation of the contract but it is not clear what would happen if a court were to only partially invalidate the contract. Further, it is not clear how section 4.3 is meant to interact with section 18.7, which addresses severability.
>
> Should the parties decide to go forward with the new contract, they should clarify sections 4.3 and 18.7.

PNGC at 6.

BPA Position

The contract language as drafted adequately addresses the effects of a partial invalidation of the Agreement. BPA clarifies its reasons for including both provisions below.

Discussion

Section 4.3, Termination Upon Court Opinion or Other Ruling, reads as follows:

> Notwithstanding anything in this Agreement to the contrary, in the event that the Ninth Circuit issues an opinion or other ruling that holds, or that otherwise renders, this Agreement unlawful and prevents BPA from performing its obligations hereunder, this Agreement shall terminate upon issuance of the Court's mandate, unless the Court further stays the issuance of the mandate or otherwise extends the period that BPA can

> provide service to Alcoa or unless this Agreement can be amended to comply with the Court's holdings. The Parties agree that they will confer prior to issuance of the mandate regarding issues arising from or related to any such Court order. BPA agrees not to challenge any effort by Alcoa to obtain a stay of the mandate or otherwise extend the period that BPA can provide service to Alcoa.

The contract language specifies that this section applies only if the Ninth Circuit holds the Agreement unlawful and prevents BPA from continuing to serve Alcoa under the Agreement. PNGC is correct that this provision does not address a "partial invalidation" of the Agreement.

On the other hand, section 18.7 applies to situations where specific terms of the Agreement are invalidated by a court but other portions of the agreement remain undisturbed, i.e., a "partial invalidation" of the Agreement. Section 18.7, Severability, states:

> If any term of this Agreement is found or rendered invalid or unenforceable by a court of competent jurisdiction, then, unless that term is not severable from all other provisions of this Agreement, such invalidity or unenforceability shall not otherwise affect any remaining lawful obligations under this Agreement. Neither Party shall be liable to the other Party for any damages associated with any term being severed from this Agreement.

BPA does not believe it is feasible to clarify what would happen if a court were to only partially invalidate this contract at this time. The effect on performance of the contract would be dependent on which term of the agreement was found invalid or unenforceable.

Finally, BPA does not understand PNGC's comment that it is not clear how section 4.3 is meant to interact with section 18.7. The two provisions were intentionally drafted to address different circumstances, and therefore the interaction of the two provisions should not be problematic.

Final Decision

Sections 4.3 and 18.7 are sufficiently clear and will not be changed.

g. Whether Section 18.11, Waiver of Damages, should be included in the Agreement.

Comments

Several parties object to the inclusion of section 18.11, Waiver of Damages. A common concern among the commenters is that including a damages waiver provision will leave BPA with no ability to recover funds from Alcoa in the event that the Agreement is invalidated, and thus deprives BPA's customers of a remedy. *See, e.g.*, PNGC; PPC; NRU; WMGT.

BPA's Position

BPA believes that inclusion of the damages waiver provision is mutually beneficial to both the agency (and thus its preference customers) and Alcoa.

Discussion

The Ninth Circuit recently upheld the use of a nearly identical damages waiver provision in the 2009 Agreement, stating that the damages waiver provision falls within BPA's claim-settling authority and does not violate either statutory or constitutional provisions. *Alcoa*, 698 F.3d at 791–92. Further, because BPA explained in the ROD that the damage waiver protects BPA from claims that Alcoa may raise against BPA, the Court held that, "[i]t is not our place to second-guess the agency's considered judgment regarding the balance of risks embodied in a damage waiver or similar release or settlement provision." *Id*. at 792.

The rationale for including the damages waiver provision in the 2009 Agreement is largely applicable today, and may be even more compelling in light of current market conditions. As noted in Alcoa's comments, BPA is not Alcoa's only power supply option. Alcoa at 5. Alcoa is willing to pay the IP rate, even though the IP rate is above market, in exchange for the certainty of a long-term power supply. If, however, the Agreement is invalidated two or three years from the beginning of power deliveries, Alcoa may feel that it has a valid grievance with respect to lost market opportunities during the initial years of the Agreement and lost protection from the vagaries of the market in the long term. Any Ninth Circuit opinion invalidating the Agreement would most likely be issued within two to three years of the beginning of the contract. During this period, market forecasts indicate that BPA should receive revenues well in excess of those it would otherwise receive from a market sale. Therefore, Alcoa will almost certainly have paid higher prices for power in reliance on the validity of the Agreement.

Moreover, given expected market conditions for the next several years, the damage waiver provision is more likely to protect the interests of BPA's preference customers than Alcoa's. There can be only be one challenge to the decision to offer the contract, and that challenge must commence within ninety days of the date the Agreement is executed. *See Blachly-Lane Elec. Coop. Ass'n v. U.S. Dep't of Energy*, 79 Fed. Appx. 975, 977 (9th Cir. 2003); *see also* 16 U.S.C. § 839f(e)(1)(B) (providing that power sales are final agency actions subject to judicial review). Consequently, the validity of the Agreement will most likely be decided within the first two to three years of the contract term. As noted above, during that two to three year period, Alcoa is likely to pay higher-than-market prices for power service, and the preference customers' rates will be lower as a result.

NRU suggests that this damage waiver is not a two-way provision because "there are not likely to be third parties suing Alcoa over the terms of the contract." NRU at 2. This comment misunderstands the intent of the damage waiver provision. The damage waiver is a provision in a contract between two parties, Alcoa and BPA. It is designed to provide mutual protection. If the Ninth Circuit finds the contract unsustainable, Alcoa could allege that it was injured by BPA's actions and attempt to raise a claim in the Court of Federal Claims. At this time, it is not possible to know whether such a claim would have merit, but even an ultimately unsustainable claim would require BPA to expend time, money, and human resources to address it. The damage waiver provision allows the Administrator to avoid such a prospect by agreeing that, if the contract is set aside as unlawful, the parties walk away without a right to claim damages against the other. The Administrator finds nothing inappropriate about such a negotiated result in light of his broad contracting and settlement authorities. *See supra* section V.a.1 (discussing the Administrator's contracting authority).

PNGC supports its argument against the inclusion of the damages waiver by stating that "if Bonneville undercharges Alcoa under the new contract at the expense of other customers, then Bonneville could be unable to recover funds that rightfully belong to other customers." PNGC's example is unpersuasive. Under the terms of the Agreement, Alcoa will be charged the IP rate, which is the appropriate statutory rate for service to the DSIs. 16 U.S.C. § 832e(c)(1). The Court has been very clear that any offer of service to a DSI must be priced at the IP rate. *PNGC I* at 807 ("[I]f the agency chooses to offer firm power to the DSIs . . . it must first offer them the IP rate."). It is therefore implausible that the Court would, at a later date, determine that BPA has "undercharged" Alcoa under the Agreement by applying the very rate that the Congress has prescribed and that the Court has endorsed as the sole basis for any initial offer. Since PNGC has provided no credible support for its assertion that BPA could, as a matter of fact or law, "undercharge" Alcoa by charging the IP rate, BPA sees no justification for eliminating the damage waiver provision on that basis.

Final Decision

The inclusion of the damages waiver provision is a sound business decision and the clause will be included in the Agreement.

h. Whether Section 11, Employment Levels, should be included in the Agreement.

Comments

A number of commenters raised questions about BPA's motives for including Section 11, Employment Levels, in the Agreement. Canby commented, based on BPA's press release materials, that the purpose of the Agreement is 'preserving hundreds of family-wage jobs' and 'long term certainty to Alcoa and its employees.'" Canby at 2. PPC points out that the Ninth Circuit has previously rejected "BPA's attempts to use employment levels to justify entering into contracts with the DSIs because Congress did not intend for BPA to consider such factors in deciding whether or not to sign a power sales agreement with a DSI customer." PPC at 4. PNGC also reminds BPA that it may not enter into a new contract with Alcoa in order to preserve jobs at the Intalco plant. PNGC at 4. PNGC states that "to the extent that this is the reason, or even part of the reason, that Bonneville is considering entering into the new contract, Bonneville must cease negotiations with Alcoa and decline to enter into the new contract." *Id.*

BPA's Position

To the extent that commenters imply that job creation is the actual basis for BPA's decision, they are incorrect. The Administrator has the discretion to include terms in the DSI contracts that are not directly related to the tangible benefits included in the EBT analysis.

Discussion

BPA agrees that the Ninth Circuit has held that creation of jobs, does not provide legal justification for offering a power sale to the DSIs. However, the Court recently upheld the validity of the 2009 Agreement, which contained an identical Minimum Employment provision. The Court stated, in reviewing the 2009 Agreement that:

> [W]e consider merely whether 'the agency considered the relevant factors and articulated a rational connection between the facts found and the choices made,' we do not second-guess its policy judgments.

Alcoa at 788 (citation omitted). The Court also found that BPA's ROD "expressly disclaimed reliance on job impacts as a factor in its decision and declined to include such impacts in its Equivalent Benefits analysis." *Id.* at 789. However, nothing in the opinion states that BPA may not even broach the subject of employment in the contract as long as BPA's decision to make the sale is in accord with sound business principles. *Id.* at 792 ("[I]n the ordinary case, we will not usurp BPA's judgment regarding whether to sell surplus power to DSIs, or on what terms.").

As BPA has thoroughly explained above, its decision to offer the Agreement is consistent with sound business principles. The employment levels at the Intalco plant are not part of BPA's business justification for offering the Agreement. Rather, the Agreement is supported by tangible, financial benefits to BPA which are forecast to exceed the cost of providing service to Alcoa during the contract term, and therefore, the Agreement is consistent with sound business principles.

Although supporting employment at the Intalco plant is not part of the business justification for this Agreement, the Administrator is not precluded from considering the numerous comments filed in support of this Agreement, many of which stress that very point. For example, many comments expressed that the continued operation of Intalco is valuable to the regional economy and the Ferndale community. *See, e.g.,* AAIP12 0005, Superintendent, Ferndale School District ("Intalco Works is enormously important to the health of our local economy."); AAIP12 0057, Washington State Senator Doug Ericksen ("This agreement is vital to the people of Whatcom County, and to the people of Washington State. Alcoa at Ferndale provides 625 family-wage jobs in Northwest Washington and over 1,800 indirect jobs in the region. The value of Intalco employee wages, benefits, leave, etc. totals over $65 million, and Intalco's contribution to Washington's GDP is over $210 million."); AAIP12 0004, Northwest Workforce Council ("The economic impact of the plant is vital to all of the communities in Whatcom County and our local schools. Whatcom County's unemployment rate continues to remain high, 7.7% in August, and Washington State's unemployment rate is currently 8.6%. We cannot afford to lose this plant or the family-wage jobs it provides."). The Administrator appreciates these comments and believes that, given the current economic situation, it would not be appropriate for the Administrator to ignore concerns expressed by the public and others regarding the economic well-being of the region.

Moreover, employment requirements are not unheard of in long-term contracts for power supply to industrial customers. For example, the New York Power Authority's power sales contract for service to Alcoa's Massena East smelter in New York State specifies that Alcoa will maintain at least 900 jobs at their two Massena smelters. *New Long-Term Power Supply Contract With Alcoa Approved By N.Y. Power Authority Trustees* (Dec. 16, 2008), http://www.nypa.gov/press/2008/081216a.htm.

Additionally, the employment requirement incentivizes Alcoa to take physical power from BPA and not utilize its curtailment rights under the Agreement. As established in Exhibit F of the Agreement, even if Alcoa were to curtail its power load down to zero, Intalco would still be required to employ 120 people. As a result, Alcoa will be less likely to curtail load at the Intalco Plant compared to its other aluminum smelters operating in the United States that do not have the same provision working against them, due to the additional continuing costs required by Exhibit F.

Final Decision

The Minimum Employment Requirements provision will be included in the Agreement.

i. Whether BPA should include the capital investment requirement in the Agreement.

Comments

PPC commented on the "capital investment provision" which requires Alcoa to invest $35 million in the Intalco Plant during the first seven years of the Agreement. *See* Section 19.2.7. (providing that BPA may terminate the Agreement if Alcoa fails to provide BPA with documentation showing that it has invested 35 million dollars or more in capital projects at the Intalco Plant by September 30, 2019). PPC comments that:

> Despite the Court's admonishments, BPA appears to continue to rely on factors that should be irrelevant to its consideration of this contract. . . . [A]s a precondition for receiving service from BPA, Alcoa would be

> required to invest $35 million in the Intalco smelter. It is unclear how [this requirement] would further BPA's business interests or promote a business-oriented philosophy.

PPC at 4.

NRU's similar comment focuses on a recital included the Agreement which states that "if Alcoa commits to expend strategic capital in excess of the capital expenditures required in Section 19 that would require a period of amortization exceeding the remaining term of this Agreement, the parties will consult concerning whether it might be in their mutual interest to extend the term of this Agreement." NRU at 3. NRU asserts that this recital should be removed because BPA's interest in whether Alcoa makes capital investments is unclear. *Id*.

BPA's Position

BPA has not relied on Alcoa's capital investment as part of the legal justification for offering the Agreement. BPA agreed to include the capital investment recital as part of its negotiations with Alcoa. Both the capital investment provision and recital provide additional assurance to BPA that Alcoa is motivated to continue to operate the Intalco Plant for the duration of the Agreement, which BPA perceives as having economic value to BPA.

Discussion

In response to PPC's comment, BPA has not relied on Alcoa's capital investment as part of the legal justification for offering the Agreement. No benefits to BPA from Alcoa's capital investment are included in the EBT. BPA has required this investment requirement as a means of Alcoa demonstrating a commitment to the long-term viability of the plant and the continued benefit of this Agreement to BPA and its preference customers. Alcoa will be far less likely to shut down the plant after investing additional capital into it since Alcoa would then have to consider the capital invested in the plant as a complete loss. This is one of the reasons why failure to maintain capital investment requirement was included as a termination right for BPA after seven years (and not as a "precondition for receiving service" as was incorrectly suggested by PNGC). According to the EBT forecast, the market rate may become higher than the IP rate during the seventh year of the Agreement. *See* Attachment A, tbl.6. In such conditions, if Alcoa is not making investments to assure the long term stability of the plant then BPA has the ability to terminate the contract if it would be economically advantageous to do so.

Lastly, PPC appears to be suggesting that each individual provision of a DSI contract must further BPA's business interests. BPA disagrees with this interpretation of the Ninth Circuit's holdings. As noted above, the Court has indicated the Administrator has discretion to determine the terms of BPA's agreements with DSIs, as long as overall BPA's decision to make the sale is in accord with sound business principles. *Alcoa* at

792 ("[I]n the ordinary case, we will not usurp BPA's judgment regarding whether to sell surplus power to DSIs, or on what terms.").

With regard to NRU's comment about the recital, BPA included this recital as a result of negotiations between Alcoa and BPA. During negotiations, Alcoa raised the question of whether it would be possible to discuss a contract extension in the event that Alcoa has made significant capital investments at Intalco, above the requirements of Section 19.2.7. Rather than include a provision in the Agreement itself, the parties concluded that a recital would be an appropriate way to memorialize the parties' commitment to future discussions in the event that an extension of the contract term is mutually beneficial to both parties. It is difficult to see how an acknowledgement that some situations might result in the parties to the Agreement talking to one another about certain matters has any detrimental bearing on the exercise of business judgment.

Final Decision

Section 19.2.7 will be included in the Agreement and the recital concerning capital investment will also be retained.

VI. RESPONSE TO COMMENTS: GENERAL POLICY COMMENTS

Comments also raised issues not specific to a particular contract provision, but which instead dealt with more general policy concerns. Those comments are addressed in this section.

a. Whether the EBT should be revised to measure actual benefits.

Comments

PNGC comments that the EBT should measure actual benefits to Bonneville, not just forecasted benefits, and that Bonneville should be able to exit the contract if actual benefits fail to materialize. PNGC at 4. PNGC goes on to suggest that BPA should re-draft the EBT to provide for an ongoing analysis of the actual benefits of serving Alcoa over the life of the contract and should modify the new contract to allow BPA to exit the contract if there should cease to be a real net benefit to Bonneville at any time during the life of the contract. PNGC at 5.

BPA's Position

Implementation of PNGC's suggestion would be inconsistent with sound business principles.

Discussion

PNGC's suggestion that BPA should provide for an ongoing analysis of the actual benefits of serving Alcoa over the life of the contract and that BPA should modify the new contract to allow BPA to exit the contract if there should cease to be a real net benefit to BPA at any time during the life of the contract is inconsistent with sound business principles. As our preference customers are keenly aware, business contracts are instruments that allocate risks between the parties negotiating them. Parties to a business contract typically enter a contractual agreement based on the facts available and forecasted at the time of contracting, and therefore, risk is allocated between the parties at the time of the agreement. If BPA were to insist that it would bear none of the risk but reap all of the rewards, BPA's marketing opportunities would be largely eliminated. Such an approach would reduce the Administrator's discretion to make DSI sales to no discretion at all, an absurd result that would be inconsistent with principles of statutory interpretation. Negotiated contracts, as in this case, require the parties to deal with one another in good faith to achieve mutually acceptable benefits and an equitable allocation of risks, as this Agreement does.

Final Decision

BPA declines to implement PNGC's suggestion because it would be inconsistent with sound business principles.

b. Whether continued service to Alcoa will exacerbate PSANI transmission congestion.

Comments

The City of Seattle expressed concerns that the Agreement would "perpetuate a power delivery that exacerbates transmission congestion through the greater-Seattle area." Seattle then goes on to describe the Puget Sound Area Northern Intertie (PSANI) transmission capacity limitations and concludes with the following:

> Therefore, Seattle feels that it is essential that BPA, prior to entering into *any* power sales agreement, determine that such sale will not exacerbate transmission congestion in the region during the term of the agreement

Seattle at 2. Seattle also argued that Alcoa should be susceptible to PSANI curtailments along with other Puget Sound area power customers.

BPA's Position

BPA's continued service to Alcoa will not exacerbate transmission congestion in the Puget Sound region.

Discussion

The PSANI area consists of BPA's network transmission facilities interconnected with the electric systems of customers in the Puget Sound area and BPA's Northern Intertie (NI) facilities interconnected with the BC Hydro system to the north. BPA monitors the system operating limits (SOL) of the monitored facilities in the south to north direction to determine if the SOL levels will be sufficient for the transactions using those facilities in the operating hour. The transactions contributing to the SOL excedences of the monitored facilities include south to north scheduled deliveries to Puget Sound Area customers north of Covington and scheduled deliveries over the NI. The measures that are monitored have been identified as the PSANI mitigation or congestion measures. A PSANI congestion problem is a south to north problem that arises when multiple factors interact at the same time to affect the power flow and the SOL in this direction. These factors include: planned and/or unplanned facility outages; temperature; the forecasted generation patterns in Puget Sound Area, the forecasted load in the Puget Sound Area, and all of the scheduled deliveries in the south to north direction to serve the load in the area and deliveries to Canada, taking into account any north to south deliveries (i.e., counterflows) from Canada.

BPA's continued service to Alcoa will not exacerbate transmission congestion in the area above existing firm uses for two reasons. First, the load level at Alcoa's Intalco plant, by itself, is not the source of the PSANI congestion. All deliveries of power in a south to north direction contribute to the congestion problems in the area, including south to north deliveries to serve Alcoa's load. If Alcoa or any other load in the area acquires power from the north, in most cases those counter flows help to alleviate any PSANI congestion problems. However, even if Alcoa's Intalco Plant were to be served by another power marketer, that by itself is not likely to do anything to help relieve the area congestion. Instead, BPA would continue to be obligated to manage the south to north deliveries to any load in the area including Snohomish PUD, Seattle, BPA's transfer customers, Puget Sound Energy or deliveries to Canada.

Second, Alcoa has a long-term firm transmission contract which is separate from the Agreement. BPA has already concluded that even if BPA were not to serve Alcoa, the Intalco Plant would continue to operate on power purchased at the market. In all likelihood, that power would be purchased at Mid-C and transferred to the Intalco Plant utilizing Alcoa's existing firm transmission rights. Furthermore, even if the Alcoa load disappears, Alcoa holds those transmission rights and would be able to permanently transfer them to any eligible and willing buyer. Moreover, if any transmission capability reverted to BPA and is available, BPA must release it to the market under its open access transmission service policies. Since multiple factors contribute to the problem, and the congestion is specific to all of the conditions that apply at the time, BPA cannot definitively say that if Alcoa did not operate the plant, the congestion problem would disappear. Therefore, entering into this Agreement is likely to have no incremental effect on PSANI congestion.

BPA has worked closely with Puget Sound Energy, Snohomish PUD and Seattle City Light ("Puget Sound Area customers") on issues contributing to congestion in the PSANI area, including coordinating planned maintenance outages to minimize impacts, and undertaking efforts to encourage the Puget Sound Area customers to increase generation in the area during periods of congestion. BPA, Seattle City Light and Puget have also agreed to invest in transmission reinforcements in the area. In addition, BPA has conducted training for operations and technical staff of the Puget Sound Area customers so all entities understand implementation and operation of the PSANI curtailment procedures. BPA is continuing to work with the Puget Sound Area customers to increase understanding of the interconnected systems and operations practices that will help to meet the future service needs.

Additionally, in response to Seattle's second comment, Alcoa is, in fact, affected by PSANI related curtailments and has been curtailed for PSANI events in the past and will continue to be curtailed when deemed necessary in the future, consistent with NERC priorities and on a pro rata basis.

Final Decision

BPA's continued service to Alcoa will not exacerbate transmission congestion in the Puget Sound region.

c. Whether the Agreement should be BPA's last contract for service to Alcoa.

Comments

PNGC suggests that if BPA decides to go forward with the Agreement, it should be the last contract for service to Alcoa. PNGC at 3. PNGC asserts that this approach would provide "adequate notice and certainty" to Alcoa, other DSIs, and other regional stakeholders regarding DSI service going forward. *Id*. PNGC goes on to say that "preference customers would have certainty that they no longer will have to live with the specter of Bonneville attempting to subsidize BPA's service to Alcoa through preference rates." *Id*.

BPA's Position

Deciding that this will be the last contract for service to Alcoa would be an unreasonable, unbusiness-like decision made without the benefit of consideration of relevant facts and conditions.

Discussion

BPA does not understand how making a determination that this will be the last contract with Alcoa would be anything other than arbitrary, capricious, and inconsistent with any sound business principles. BPA's approach to DSI service since *PNGC II* has been to assess each contract individually, together with the facts available at the time in order to make a reasoned decision on whether or not to offer the contract. The court recently upheld this approach with respect to BPA service to Alcoa. *See* Alcoa at 791 ("BPA's explanations are plausible and rationally connected to the facts that were before it at the time."). Declaring that this will be the last contract with Alcoa would be the opposite of assessing the business case for each contract. The Administrator will not foreclose the possibility of future power sales contracts with Alcoa when such future contracts may be beneficial to BPA and its preference customers.

As for the “specter of Bonneville attempting to subsidize BPA’s service to Alcoa through preference rates,” PNGC’s concerns are unsupported by the facts and record of this case. First, under the EBT, BPA anticipates garnering substantially more revenue from the Agreement than would otherwise be achieved so there is no basis upon which to claim that there is a subsidy. Second, as reaffirmed in the recent *Alcoa* decision, the Administrator may lawfully sell physical power to Alcoa at the IP rate. *See, e.g., PNGC II* at 1073; *Alcoa* at 789. While BPA does not expect it to be the case for the duration of this contract, the Court has further held that it is lawful for BPA to include the costs of federal base system replacement resources in the PF rate, even if those resources are purchased to meet DSI contract obligations. *See Golden Nw. Aluminum v. Bonneville Power Admin.*, 501 F.3d 1037, 1045–46 (9th Cir. 2007). In the recent Alcoa decision, the Court held that there is no evidence “supporting PNGC’s claim that BPA entered into the Alcoa Contract to subsidize Alcoa.” *Alcoa* at 789. The Court also rejected PNGC’s argument that the terms of the 2009 Agreement required BPA to subsidize Alcoa’s rate by providing a credit for Alcoa’s provision of contingency power reserves to BPA, as required by statute, which explicitly requires that BPA obtain such reserves and provides for a credit to the IP rate to reflect their value. *Id.* at 791; *see also* 16 U.S.C. § 839e(c)(3). BPA believes that the allegations regarding subsidies to Alcoa are unfounded. It should also be noted that the revenues accruing from the prior sale to Alcoa outpaced even the EBT projected financial benefits.

Furthermore, BPA notes that PNGC’s comment is premised upon a clearly misleading restatement of Ninth Circuit case law. PNGC states:

> As the Ninth Circuit clarified in *PNGC I*, although the Northwest Power Act envisioned a phasing out of Bonneville service to DSIs after 2000, Bonneville may, but is not obligated to, continue to provide service to Alcoa and the other DSIs . . . .

PNGC at 3. The Ninth Circuit did not state in its *PNGC I* opinion that the Northwest Power Act “envisioned a phasing out of Bonneville service to DSIs after 2000.” Rather, the Court found that Congress’s use of the phrase “initial contract” gives rise to a reasonable inference that other contracts may follow the initial long term agreements, and held that BPA is authorized to offer additional contracts. *PNGC I* at 808–09. In addition, PNGC provides no citation for its proposition that the Northwest Power Act envisioned a phasing out of BPA service to DSIs after 2000. In fact, this proposition is contrary to the legislative history cited by the Court in *PNGC I* to support its conclusion that BPA is authorized, but not obligated, to offer additional contracts to the DSIs:

> The House Interior Committee’s report on S. 885 states that “[s]ection 5(d)(1) authorizes [BPA] to sell power to its existing direct-service industrial customers and requires [the agency] to offer to such customers initial long-term power sale contracts.” H.R. Rep. No. 96-976, pt. 2, at 34

> (1980) (emphasis added). . . . The report goes on to explain that, in addition to mandating that "[i]nitial long-term 20-year contracts are to be offered by BPA" to the DSIs, "[s]ubsequent contract . . . are authorized but not mandated. H. Rep. 96-976, pt.1, at 61 (1980).

Id. at 809.

Third, despite repeated allegations that BPA is attempting to subsidize Alcoa's rate for power through preference rates, the converse is actually closer to the truth. The statutory rate directives set forth in section 7(c) of the Northwest Power Act assure that the IP rate will continue to be higher than the rate paid by preference customers. Section 7(c) provides that the IP rate is to be equal to the applicable wholesale rate (the rate paid by preference customers), plus the industrial margin, less the value of reserves, plus any section 7(b)(3) reallocation of the 7(b)(2) rate protection amount. The formula for developing the IP rate in this manner is clearly prescribed by Congress in Sections 7(c) and 7(b)(2) of the Northwest Power Act. *See* 16 U.S.C § 839e(c).

The IP rate increase for the industrial margin reflects the "overhead" costs that are paid by industrial customers who purchase power from BPA's preference customer utilities and so such amounts are not even a part of BPA's overall cost structure. The IP rate is subject to further increase due to rate protection afforded to preference customers with respect to recovering costs associated with the Residential Exchange Program, which provides a benefit to residential and small farm customers of regional investor-owned utilities. *See* 16 U.S.C. § 839e(b)(2). The IP and the PF-Exchange rate are both formulated, in certain defined circumstances, to move costs associated with the Residential Exchange Program away from preference customers.

For the foregoing reasons, BPA believes that the allegations regarding subsidies to Alcoa are unfounded.

Final Decision

BPA will not make a determination that the Agreement is the last contract for service to Alcoa. Further, BPA believes that the argument that the Agreement may result in preference customers subsidizing the Agreement is unfounded, contrary to the Agreement, and refuted by the record.

d. Whether BPA is offering the Agreement "solely because Alcoa sued the agency on the Residential Exchange Settlement Agreement."

Comments

PNGC states that "Bonneville should not offer Alcoa this contract solely because Alcoa sued the agency on the Residential Exchange Settlement Agreement." PNGC at 3.

BPA's Position

BPA is not offering the Agreement "solely" to dismiss Alcoa's REP Settlement petition. Alcoa's agreement to dismiss its REP Settlement petition played only a minimal part in the negotiations of this Agreement.

Discussion

BPA's motivations for offering the Agreement are described in detail in the preceding sections of this ROD. As described above, BPA expects to receive (at least) $42 million in net revenue over the term of the Agreement, in addition to the various other operational and risk mitigation benefits attributable to serving Alcoa's load. It is for these tangible reasons that BPA has decided to offer the Agreement to Alcoa.

An additional requirement of the Agreement is described in section 18.12, which requires Alcoa to dismiss its current challenges to the REP Settlement and prohibits future challenges to BPA's decision to implement the REP Settlement. The REP waiver provides value to BPA by removing some challenges to the REP Settlement pending before the Ninth Circuit, thereby narrowing the issues the Court must consider. With fewer petitioners challenging the REP Settlement, and fewer issues for the Court to consider, the likelihood that the REP Settlement will be upheld by the Court increases. Inclusion of the REP waiver is in BPA's business interest as a sound exercise of the Administrator's settlement authority.

Certain commenters have apparently misconstrued BPA's motives for including this provision and allege that BPA's "sole" rationale for offering Alcoa the Agreement is to remove them from the pending REP litigation. This assertion is untrue.

BPA requested the inclusion of the REP waiver and dismissal during the course of the negotiations. BPA does not believe Alcoa would have ultimately prevailed.

It would have made no practical sense for BPA to place the inordinate value on obtaining the waiver that PNGC ascribes when it alleges the waiver was the "sole" motivation. By the time the issue came up in negotiations, BPA had already fully briefed and responded to every issue Alcoa raised in its own brief. Beyond that, the value from a legal perspective is that certain issues that Alcoa had raised will no longer be present, allowing the Court to render an opinion based on a somewhat smaller number of issues and simplifying the challenges to the REP Settlement that the Court must hear.

However, even with the departure of Alcoa, the REP litigation will proceed to a decision because of the presence of another active petitioner that raised many of the same issues Alcoa raised. To propose that BPA would have offered Alcoa a ten year power arrangement in order to simply narrow issues pending before the Court is illogical. In effect, PNGC is criticizing BPA for including in the Agreement a requirement that Alcoa dismiss its challenges to the REP Settlement, a settlement that regional parties (including PNGC) spent over a year to develop and which ends a decade worth of litigation. The alternative to the REP waiver language, however, would have been to omit any mention of Alcoa's REP challenges, thereby permitting Alcoa to continue its suit against the REP Settlement, while also receiving a long-term power arrangement from BPA. This outcome, to BPA, would have been far more unreasonable. Indeed, it is highly likely that if the REP waiver had *not* been included in the Agreement, PNGC and the other preference customers would have sent in comments demanding that language should be added to the contract requiring Alcoa to drop the lawsuit and stressing that without the inclusion of this language BPA should not enter into the Agreement.

In conclusion, BPA sees no basis for PNGC's allegation that that Alcoa "filed its petition on the REP Settlement solely to gain leverage against BPA in negotiating a new power sales contract" for the simple reason that economic considerations were the primary factor and the waiver, in and of itself, did not provide any compelling basis for offering the contract. That is not to say that the waiver is of no value in terms of streamlining the litigation by eliminating some issues from the Court's consideration, a result that BPA believes the Court will find desirable.

Final Decision

BPA is offering this contract based on sound business considerations and the negotiated waiver of the REP Settlement litigation supports these business considerations.

XI. ENVIRONMENTAL EFFECTS

BPA has reviewed the Agreement for potential environmental effects that could result from its implementation, consistent with the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321, et seq. Executing this Agreement would involve providing continued service to a facility (the Intalco smelter) that is already in existence and currently operating. This Agreement does not require BPA to take any action that would have a potential effect on the environment. BPA expects to provide power from existing generation sources that would continue to operate within their normal operating limits. This power would be supplied over existing transmission lines that connect Intalco to BPA's electrical transmission system and no physical changes to this system would occur. In addition, the proposed Agreement would not cause a change in Intalco's existing operations in such a way that environmental impacts would significantly differ from the currently existing situation. Further, BPA anticipates that Alcoa will comply with applicable statutory, regulatory, and permit requirements for environment, safety, and health.

For these reasons, BPA has determined that the Agreement falls within a class of actions excluded from further NEPA review pursuant to U.S. Department of Energy NEPA regulations, which are applicable to BPA. More specifically, this Agreement falls within Categorical Exclusion B4.1, found at 10 CFR 1021, Subpart D, Appendix B, which provides for the categorical exclusion from NEPA of actions involving "[e]stablishment and implementation of contracts, policies, and marketing and allocation plans related to electric power acquisition that involve only the use of the existing transmission system and existing generation resources operating within their normal operating limits." The Environmental Clearance Memorandum that documents this categorical exclusion for the contract has been posted at BPA's website at: http://efw.bpa.gov/environmental_services/categoricalexclusions.aspx.

X. CONCLUSION

For the foregoing reasons, BPA will has sign the Agreement on December 7th, 2012.

Issued at Portland, Oregon, this 6th day of December, 2012.

/S/ STEPHEN J. WRIGHT __12/6/12_______
Stephen J. Wright Date
Administrator and Chief Executive Officer

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TABLE 1 – IP Rate Forecast from REP-12

REP-12					
	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Avg Electricity Prices ($/MWh)	$ 28.53	$ 39.78	$ 42.20	$ 43.00	$ 44.52
Henry Hub Natural Gas Prices ($/mmBtu)	$3.34	$4.96	$5.12	$5.38	$5.62
IP Rate ($/MWh)	**$36.31**	**$38.87**	**$38.87**	**$41.28**	**$41.28**
7b3 Surcharge ($/MWh)	$7.72	$8.14	$8.21	$8.65	$8.70
Net Margin ($/MWh)	($0.26)	($0.26)	($0.26)	($0.26)	($0.26)
Flat PF Rate ($/MWh)	$28.84	$30.95	$30.95	$32.86	$32.86
Surplus Energy Revenues including Slice Secondary ($000)	$626,339	$613,005	$592,901	$602,036	$614,441
Balancing Power Purchase Expenses ($000)	$72,632	$74,120	$37,554	$42,536	$29,805
Augmentation Expenses ($000)	$66,155	$52,864	$130,704	$93,396	$174,463
Net ($000)	$487,552	$486,022	$424,642	$466,104	$410,173
4h10c Credits ($000)	$95,847	$100,859	$104,727	$107,165	$109,699
Surplus energy revenues after Slice is removed	**$458,141**	**$448,389**	**$433,683**	**$440,365**	**$449,438**
REP-12 (continued)					
	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Avg Electricity Prices ($/MWh)	$ 45.85	$ 47.23	$ 48.65	$ 50.11	$ 51.61
Henry Hub Natural Gas Prices ($/mmBtu)	$5.79	$5.96	$6.14	$6.33	$6.52
IP Rate ($/MWh)	**$42.96**	**$42.96**	**$41.45**	**$41.45**	**$43.49**
7b3 Surcharge ($/MWh)	$9.14	$9.13	$7.21	$7.25	$7.60
Net Margin ($/MWh)	($0.26)	($0.26)	($0.26)	($0.26)	($0.26)
Flat PF Rate ($/MWh)	$34.09	$34.09	$34.47	$34.47	$36.14
Surplus Energy Revenues including Slice Secondary ($000)	$632,874	$651,860	$673,256	$691,559	$712,305
Balancing Power Purchase Expenses ($000)	$30,700	$31,620	$32,658	$33,546	$34,553
Augmentation Expenses ($000)	$119,302	$204,004	$123,411	$198,081	$132,018
Net ($000)	$482,872	$416,236	$517,186	$459,931	$545,735
4h10c Credits ($000)	$113,967	$118,377	$122,970	$127,692	$132,468
Surplus energy revenues after Slice is removed	**$462,922**	**$476,809**	**$492,459**	**$505,847**	**$521,022**

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TABLE 2 – IP Rate Forecast used in this EBT Analysis

ALCOA EBT Analysis					
	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Avg Electricity Prices ($/MWh)	$28.53	$34.15	$37.99	$39.31	$40.42
Henry Hub Natural Gas Prices ($/mmBtu)	$3.34	$3.97	$4.35	$4.61	$4.86
IP Rate ($/MWh)	**$36.31**	**$40.14**	**$40.14**	**$42.32**	**$42.32**
7b3 Surcharge ($/MWh)	$7.72	$8.26	$8.38	$8.82	$8.87
Net Margin ($/MWh)	($0.26)	($0.26)	($0.26)	($0.26)	($0.26)
Flat PF Rate ($/MWh)	$28.84	$32.46	$32.46	$34.13	$34.13
Surplus Energy Revenues including Slice Secondary ($000)	$626,339	$507,339	$531,284	$543,203	$538,958
Balancing Power Purchase Expenses ($000)	$72,632	$65,869	$31,209	$36,292	$27,646
Augmentation Expenses ($000)	$66,155	$45,191	$123,549	$87,015	$162,587
Net ($000)	$487,552	$396,279	$376,525	$419,896	$348,725
4h10c Credits ($000)	$95,847	$96,472	$101,213	$104,265	$107,110
Surplus energy revenues after Slice is removed	**$458,141**	**$371,098**	**$388,613**	**$397,331**	**$394,226**
ALCOA EBT Analysis (continued)					
	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Avg Electricity Prices ($/MWh)	$41.61	$42.88	$44.18	$45.48	$46.85
Henry Hub Natural Gas Prices ($/mmBtu)	$5.01	$5.16	$5.31	$5.47	$5.64
IP Rate ($/MWh)	**$44.12**	**$44.12**	**$42.58**	**$42.58**	**$46.10**
7b3 Surcharge ($/MWh)	$9.31	$9.30	$7.34	$7.39	$7.75
Net Margin ($/MWh)	($0.26)	($0.26)	($0.26)	($0.26)	($0.26)
Flat PF Rate ($/MWh)	$35.49	$35.49	$35.80	$35.80	$38.92
Surplus Energy Revenues including Slice Secondary ($000)	$555,127	$571,780	$590,547	$606,602	$624,800
Balancing Power Purchase Expenses ($000)	$28,475	$29,329	$30,292	$31,115	$32,049
Augmentation Expenses ($000)	$111,181	$190,118	$115,011	$184,598	$123,031
Net ($000)	$415,470	$352,333	$445,244	$390,888	$469,720
4h10c Credits ($000)	$111,277	$115,583	$120,068	$124,678	$129,341
Surplus energy revenues after Slice is removed	**$406,053**	**$418,234**	**$431,961**	**$443,705**	**$457,016**

See Revenue at Proposed Rates, BP-12-FS-BPA-01A at 136, tbl.4.2 (regarding secondary energy revenues, balancing power purchase expenses, augmentation expenses, and 4h10c credits for FY 2013). *See* Market Price Inputs and Secondary Energy, REP-12-FS-BPA-01A at 203–04, tbl.10.4.2.3.1 (regarding secondary energy revenues, balancing power purchase expenses, and augmentation expenses for FY 2014 – FY 2022).
See Cost of Service Analysis, General and Other Revenue Credits, REP-12-FS-BPA-01A at 202, tbl.10.4.2.2.1 (regarding 4(h)(10)(c) credits for FY 2014 – FY 2017); *see also* REP-12-FS-BPA-01 at 69 (regarding escalation of 4(h)(10)(c) credits for FY 2018 – FY 2022).

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TABLE 3 - Usage and Rates

Month	Alcoa Ferndale Usage Demand (kW)	HLH (MWh)	LLH (MWh)	Projected IP Rates Demand ($ / kW)	HLH ($ / MWh)	LLH ($ / MWh)
Jan-13	300,000	124,800	98,400	$9.70	$40.68	$32.35
Feb-13	300,000	115,200	86,400	$9.92	$41.58	$33.82
Mar-13	300,000	124,800	98,100	$9.60	$40.22	$32.98
Apr-13	300,000	124,800	91,200	$9.10	$38.18	$31.06
May-13	300,000	124,800	98,400	$8.50	$35.71	$25.05
Jun-13	300,000	120,000	96,000	$8.72	$36.62	$23.67
Jul-13	300,000	124,800	98,400	$10.20	$42.72	$30.56
Aug-13	300,000	129,600	93,600	$10.75	$45.00	$32.80
Sep-13	300,000	115,200	100,800	$10.53	$44.10	$34.24
Oct-13	300,000	129,600	93,600	$9.18	$42.50	$35.10
Nov-13	300,000	120,000	96,300	$9.31	$43.06	$35.32
Dec-13	300,000	120,000	103,200	$9.97	$46.10	$37.53
Jan-14	300,000	124,800	98,400	$9.70	$44.91	$35.65
Feb-14	300,000	115,200	86,400	$9.92	$45.91	$37.29
Mar-14	300,000	124,800	98,100	$9.60	$44.40	$36.35
Apr-14	300,000	124,800	91,200	$9.10	$42.13	$34.22
May-14	300,000	124,800	98,400	$8.50	$39.39	$27.54
Jun-14	300,000	120,000	96,000	$8.72	$40.40	$26.01
Jul-14	300,000	124,800	98,400	$10.20	$47.18	$33.66
Aug-14	300,000	124,800	98,400	$10.75	$49.71	$36.15
Sep-14	300,000	120,000	96,000	$10.53	$48.71	$37.75
Oct-14	300,000	129,600	93,600	$9.18	$42.61	$35.21
Nov-14	300,000	115,200	101,100	$9.31	$43.18	$35.43
Dec-14	300,000	124,800	98,400	$9.97	$46.21	$37.64
Jan-15	300,000	124,800	98,400	$9.70	$45.02	$35.77

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TABLE 3 - Usage and Rates

Month	Alcoa Ferndale Usage Demand (kW)	HLH (MWh)	LLH (MWh)	Projected IP Rates Demand ($ / kW)	HLH ($ / MWh)	LLH ($ / MWh)
Feb-15	300,000	115,200	86,400	$9.92	$46.02	$37.40
Mar-15	300,000	124,800	98,100	$9.60	$44.51	$36.47
Apr-15	300,000	124,800	91,200	$9.10	$42.24	$34.33
May-15	300,000	120,000	103,200	$8.50	$39.50	$27.66
Jun-15	300,000	124,800	91,200	$8.72	$40.51	$26.12
Jul-15	300,000	124,800	98,400	$10.20	$47.29	$33.78
Aug-15	300,000	124,800	98,400	$10.75	$49.82	$36.27
Sep-15	300,000	120,000	96,000	$10.53	$48.82	$37.87
Oct-15	300,000	129,600	93,600	$9.18	$44.83	$37.05
Nov-15	300,000	115,200	101,100	$9.31	$45.43	$37.28
Dec-15	300,000	124,800	98,400	$9.97	$48.62	$39.61
Jan-16	300,000	120,000	103,200	$9.70	$47.37	$37.63
Feb-16	300,000	120,000	88,800	$9.92	$48.42	$39.35
Mar-16	300,000	129,600	93,300	$9.60	$46.83	$38.37
Apr-16	300,000	124,800	91,200	$9.10	$44.44	$36.13
May-16	300,000	120,000	103,200	$8.50	$41.56	$29.10
Jun-16	300,000	124,800	91,200	$8.72	$42.62	$27.49
Jul-16	300,000	120,000	103,200	$10.20	$49.75	$35.54
Aug-16	300,000	129,600	93,600	$10.75	$52.41	$38.16
Sep-16	300,000	120,000	96,000	$10.53	$51.36	$39.84
Oct-16	300,000	124,800	98,400	$9.18	$44.88	$37.10
Nov-16	300,000	120,000	96,300	$9.31	$45.48	$37.33
Dec-16	300,000	124,800	98,400	$9.97	$48.66	$39.66
Jan-17	300,000	120,000	103,200	$9.70	$47.41	$37.68
Feb-17	300,000	115,200	86,400	$9.92	$48.47	$39.40

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TABLE 3 - Usage and Rates

	Alcoa Ferndale Usage			Projected IP Rates		
Month	Demand (kW)	HLH (MWh)	LLH (MWh)	Demand ($ / kW)	HLH ($ / MWh)	LLH ($ / MWh)
Mar-17	300,000	129,600	93,300	$9.60	$46.88	$38.42
Apr-17	300,000	120,000	96,000	$9.10	$44.49	$36.18
May-17	300,000	124,800	98,400	$8.50	$41.61	$29.15
Jun-17	300,000	124,800	91,200	$8.72	$42.67	$27.54
Jul-17	300,000	120,000	103,200	$10.20	$49.80	$35.59
Aug-17	300,000	129,600	93,600	$10.75	$52.46	$38.21
Sep-17	300,000	120,000	96,000	$10.53	$51.41	$39.89
Oct-17	300,000	124,800	98,400	$9.18	$46.77	$38.68
Nov-17	300,000	120,000	96,300	$9.31	$47.39	$38.92
Dec-17	300,000	120,000	103,200	$9.97	$50.70	$41.34
Jan-18	300,000	124,800	98,400	$9.70	$49.40	$39.28
Feb-18	300,000	115,200	86,400	$9.92	$50.50	$41.07
Mar-18	300,000	129,600	93,300	$9.60	$48.85	$40.05
Apr-18	300,000	120,000	96,000	$9.10	$46.37	$37.72
May-18	300,000	124,800	98,400	$8.50	$43.37	$30.41
Jun-18	300,000	124,800	91,200	$8.72	$44.47	$28.74
Jul-18	300,000	120,000	103,200	$10.20	$51.88	$37.11
Aug-18	300,000	129,600	93,600	$10.75	$54.65	$39.83
Sep-18	300,000	115,200	100,800	$10.53	$53.56	$41.58
Oct-18	300,000	129,600	93,600	$9.18	$46.75	$38.66
Nov-18	300,000	120,000	96,300	$9.31	$47.37	$38.90
Dec-18	300,000	120,000	103,200	$9.97	$50.69	$41.32
Jan-19	300,000	124,800	98,400	$9.70	$49.39	$39.27
Feb-19	300,000	115,200	86,400	$9.92	$50.48	$41.06
Mar-19	300,000	124,800	98,100	$9.60	$48.83	$40.03

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TABLE 3 - Usage and Rates

Month	Alcoa Ferndale Usage Demand (kW)	Alcoa Ferndale Usage HLH (MWh)	Alcoa Ferndale Usage LLH (MWh)	Projected IP Rates Demand ($ / kW)	Projected IP Rates HLH ($ / MWh)	Projected IP Rates LLH ($ / MWh)
Apr-19	300,000	124,800	91,200	$9.10	$46.35	$37.70
May-19	300,000	124,800	98,400	$8.50	$43.35	$30.40
Jun-19	300,000	120,000	96,000	$8.72	$44.46	$28.72
Jul-19	300,000	124,800	98,400	$10.20	$51.87	$37.09
Aug-19	300,000	129,600	93,600	$10.75	$54.64	$39.82
Sep-19	300,000	115,200	100,800	$10.53	$53.55	$41.57
Oct-19	300,000	129,600	93,600	$9.18	$45.13	$36.96
Nov-19	300,000	120,000	96,300	$9.31	$45.75	$37.21
Dec-19	300,000	120,000	103,200	$9.97	$49.10	$39.65
Jan-20	300,000	124,800	98,400	$9.70	$47.78	$37.58
Feb-20	300,000	120,000	88,800	$9.92	$48.89	$39.38
Mar-20	300,000	124,800	98,100	$9.60	$47.22	$38.35
Apr-20	300,000	124,800	91,200	$9.10	$44.72	$36.00
May-20	300,000	120,000	103,200	$8.50	$41.69	$28.63
Jun-20	300,000	124,800	91,200	$8.72	$42.81	$26.94
Jul-20	300,000	124,800	98,400	$10.20	$50.28	$35.38
Aug-20	300,000	124,800	98,400	$10.75	$53.08	$38.13
Sep-20	300,000	120,000	96,000	$10.53	$51.98	$39.89
Oct-20	300,000	129,600	93,600	$9.18	$45.17	$37.01
Nov-20	300,000	115,200	101,100	$9.31	$45.79	$37.25
Dec-20	300,000	124,800	98,400	$9.97	$49.14	$39.69
Jan-21	300,000	120,000	103,200	$9.70	$47.83	$37.62
Feb-21	300,000	115,200	86,400	$9.92	$48.93	$39.42
Mar-21	300,000	129,600	93,300	$9.60	$47.26	$38.39
Apr-21	300,000	124,800	91,200	$9.10	$44.76	$36.04

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TABLE 3 - Usage and Rates

	Alcoa Ferndale Usage			Projected IP Rates		
Month	Demand (kW)	HLH (MWh)	LLH (MWh)	Demand ($ / kW)	HLH ($ / MWh)	LLH ($ / MWh)
May-21	300,000	120,000	103,200	$8.50	$41.74	$28.67
Jun-21	300,000	124,800	91,200	$8.72	$42.85	$26.98
Jul-21	300,000	124,800	98,400	$10.20	$50.33	$35.43
Aug-21	300,000	124,800	98,400	$10.75	$53.12	$38.17
Sep-21	300,000	120,000	96,000	$10.53	$52.02	$39.94
Oct-21	300,000	124,800	98,400	$9.18	$48.85	$39.98
Nov-21	300,000	120,000	96,300	$9.31	$49.53	$40.24
Dec-21	300,000	124,800	98,400	$9.97	$53.17	$42.89
Jan-22	300,000	120,000	103,200	$9.70	$51.74	$40.64
Feb-22	300,000	115,200	86,400	$9.92	$52.94	$42.60
Mar-22	300,000	129,600	93,300	$9.60	$51.13	$41.48
Apr-22	300,000	124,800	91,200	$9.10	$48.41	$38.92
May-22	300,000	120,000	103,200	$8.50	$45.12	$30.92
Jun-22	300,000	124,800	91,200	$8.72	$46.33	$29.08
Jul-22	300,000	120,000	103,200	$10.20	$54.46	$38.26
Aug-22	300,000	129,600	93,600	$10.75	$57.50	$41.24
Sep-22	300,000	120,000	96,000	$10.53	$56.30	$43.16

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TABLE 4 - BPA's Projected Revenue

	Revenues by Rate Determinant			Projected IP Revenue	
Month	Demand ($)	HLH ($)	LLH ($)	Month ($)	Cumulative Total Contract-to-Date ($)
Jan-13	$0	$5,076,552	$3,182,994	$8,259,546	$8,259,546
Feb-13	$0	$4,789,728	$2,921,832	$7,711,560	$15,971,106
Mar-13	$0	$5,019,144	$3,235,093	$8,254,237	$24,225,343
Apr-13	$0	$4,764,552	$2,832,444	$7,596,996	$31,822,339
May-13	$0	$4,456,296	$2,464,674	$6,920,970	$38,743,309
Jun-13	$0	$4,394,100	$2,272,080	$6,666,180	$45,409,489
Jul-13	$0	$5,331,144	$3,006,858	$8,338,002	$53,747,491
Aug-13	$0	$5,831,676	$3,069,846	$8,901,522	$62,649,013
Sep-13	$0	$5,080,032	$3,451,140	$8,531,172	$71,180,185
Oct-13	$0	$5,507,636	$3,285,085	$8,792,721	$79,972,905
Nov-13	$0	$5,167,664	$3,401,247	$8,568,911	$88,541,817
Dec-13	$0	$5,531,670	$3,873,141	$9,404,811	$97,946,628
Jan-14	$0	$5,604,561	$3,508,219	$9,112,779	$107,059,407
Feb-14	$0	$5,288,643	$3,221,509	$8,510,152	$115,569,560
Mar-14	$0	$5,540,773	$3,566,194	$9,106,967	$124,676,527
Apr-14	$0	$5,257,888	$3,120,797	$8,378,686	$133,055,212
May-14	$0	$4,915,376	$2,710,072	$7,625,447	$140,680,660
Jun-14	$0	$4,847,658	$2,496,770	$7,344,428	$148,025,088
Jul-14	$0	$5,887,446	$3,312,508	$9,199,954	$157,225,042
Aug-14	$0	$6,203,611	$3,557,419	$9,761,031	$166,986,073
Sep-14	$0	$5,845,009	$3,624,256	$9,469,264	$176,455,337
Oct-14	$0	$5,522,436	$3,295,774	$8,818,210	$185,273,547
Nov-14	$0	$4,974,113	$3,582,326	$8,556,439	$193,829,986
Dec-14	$0	$5,767,189	$3,704,232	$9,471,421	$203,301,407
Jan-15	$0	$5,618,813	$3,519,456	$9,138,269	$212,439,676
Feb-15	$0	$5,301,799	$3,231,376	$8,533,175	$220,972,851
Mar-15	$0	$5,555,025	$3,577,397	$9,132,422	$230,105,273
Apr-15	$0	$5,272,141	$3,131,212	$8,403,353	$238,508,626
May-15	$0	$4,740,027	$2,854,056	$7,594,082	$246,102,709
Jun-15	$0	$5,055,817	$2,382,346	$7,438,163	$253,540,872
Jul-15	$0	$5,901,698	$3,323,746	$9,225,444	$262,766,315
Aug-15	$0	$6,217,863	$3,568,657	$9,786,520	$272,552,835
Sep-15	$0	$5,858,713	$3,635,219	$9,493,932	$282,046,767
Oct-15	$0	$5,809,988	$3,467,795	$9,277,783	$291,324,550
Nov-15	$0	$5,233,075	$3,769,287	$9,002,362	$300,326,912
Dec-15	$0	$6,067,219	$3,897,401	$9,964,619	$310,291,532
Jan-16	$0	$5,683,851	$3,883,752	$9,567,603	$319,859,135
Feb-16	$0	$5,810,030	$3,494,342	$9,304,372	$329,163,507
Mar-16	$0	$6,068,908	$3,579,856	$9,648,764	$338,812,271
Apr-16	$0	$5,546,687	$3,294,702	$8,841,389	$347,653,659
May-16	$0	$4,987,060	$3,003,581	$7,990,642	$355,644,301
Jun-16	$0	$5,319,227	$2,507,286	$7,826,514	$363,470,815
Jul-16	$0	$5,969,857	$3,667,929	$9,637,787	$373,108,602
Aug-16	$0	$6,792,673	$3,571,683	$10,364,356	$383,472,957

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TABLE 4 - BPA's Projected Revenue

Month	Revenues by Rate Determinant: Demand ($)	HLH ($)	LLH ($)	Projected IP Revenue: Month ($)	Cumulative Total Contract-to-Date ($)
Sep-16	$0	$6,163,332	$3,824,774	$9,988,106	$393,461,064
Oct-16	$0	$5,600,933	$3,650,464	$9,251,397	$402,712,461
Nov-16	$0	$5,457,014	$3,595,060	$9,052,074	$411,764,535
Dec-16	$0	$6,073,349	$3,902,234	$9,975,583	$421,740,118
Jan-17	$0	$5,689,745	$3,888,821	$9,578,566	$431,318,684
Feb-17	$0	$5,583,287	$3,404,144	$8,987,432	$440,306,116
Mar-17	$0	$6,075,274	$3,584,439	$9,659,712	$449,965,828
Apr-17	$0	$5,339,247	$3,472,822	$8,812,069	$458,777,898
May-17	$0	$5,192,673	$2,868,713	$8,061,386	$466,839,283
Jun-17	$0	$5,325,357	$2,511,766	$7,837,123	$474,676,407
Jul-17	$0	$5,975,752	$3,672,998	$9,648,750	$484,325,157
Aug-17	$0	$6,799,039	$3,576,280	$10,375,319	$494,700,476
Sep-17	$0	$6,169,227	$3,829,489	$9,998,716	$504,699,192
Oct-17	$0	$5,836,618	$3,805,705	$9,642,323	$514,341,515
Nov-17	$0	$5,686,491	$3,747,886	$9,434,377	$523,775,892
Dec-17	$0	$6,084,526	$4,265,949	$10,350,475	$534,126,367
Jan-18	$0	$6,165,660	$3,865,483	$10,031,143	$544,157,510
Feb-18	$0	$5,817,350	$3,548,397	$9,365,747	$553,523,257
Mar-18	$0	$6,330,367	$3,736,554	$10,066,922	$563,590,179
Apr-18	$0	$5,564,019	$3,620,737	$9,184,756	$572,774,934
May-18	$0	$5,412,048	$2,992,723	$8,404,770	$581,179,705
Jun-18	$0	$5,550,033	$2,620,828	$8,170,861	$589,350,566
Jul-18	$0	$6,225,952	$3,829,598	$10,055,550	$599,406,116
Aug-18	$0	$7,083,047	$3,728,099	$10,811,145	$610,217,261
Sep-18	$0	$6,170,070	$4,191,235	$10,361,305	$620,578,566
Oct-18	$0	$6,059,299	$3,618,757	$9,678,056	$630,256,622
Nov-18	$0	$5,684,820	$3,746,545	$9,431,366	$639,687,988
Dec-18	$0	$6,082,855	$4,264,512	$10,347,367	$650,035,355
Jan-19	$0	$6,163,922	$3,864,113	$10,028,035	$660,063,390
Feb-19	$0	$5,815,746	$3,547,194	$9,362,940	$669,426,330
Mar-19	$0	$6,094,172	$3,927,423	$10,021,594	$679,447,924
Apr-19	$0	$5,784,842	$3,438,430	$9,223,272	$688,671,196
May-19	$0	$5,410,310	$2,991,352	$8,401,663	$697,072,859
Jun-19	$0	$5,334,900	$2,757,429	$8,092,329	$705,165,188
Jul-19	$0	$6,473,252	$3,650,107	$10,123,359	$715,288,547
Aug-19	$0	$7,081,242	$3,726,795	$10,808,037	$726,096,584
Sep-19	$0	$6,168,466	$4,189,832	$10,358,298	$736,454,882
Oct-19	$0	$5,848,281	$3,459,836	$9,308,118	$745,763,000
Nov-19	$0	$5,490,073	$3,583,242	$9,073,315	$754,836,315
Dec-19	$0	$5,891,534	$4,091,655	$9,983,189	$764,819,504
Jan-20	$0	$5,963,552	$3,697,557	$9,661,109	$774,480,612
Feb-20	$0	$5,866,535	$3,496,786	$9,363,320	$783,843,933
Mar-20	$0	$5,893,201	$3,762,021	$9,655,222	$793,499,154
Apr-20	$0	$5,581,209	$3,282,831	$8,864,040	$802,363,194

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TABLE 4 - BPA's Projected Revenue

	Revenues by Rate Determinant			Projected IP Revenue	
Month	Demand ($)	HLH ($)	LLH ($)	Month ($)	Cumulative Total Contract-to-Date ($)
May-20	$0	$5,003,321	$2,954,713	$7,958,033	$810,321,227
Jun-20	$0	$5,342,626	$2,456,910	$7,799,537	$818,120,764
Jul-20	$0	$6,275,545	$3,481,709	$9,757,253	$827,878,017
Aug-20	$0	$6,624,242	$3,751,820	$10,376,062	$838,254,079
Sep-20	$0	$6,237,114	$3,829,720	$10,066,833	$848,320,912
Oct-20	$0	$5,853,816	$3,463,834	$9,317,649	$857,638,561
Nov-20	$0	$5,275,390	$3,766,163	$9,041,553	$866,680,114
Dec-20	$0	$6,132,525	$3,905,548	$10,038,073	$876,718,187
Jan-21	$0	$5,739,309	$3,882,332	$9,621,642	$886,339,829
Feb-21	$0	$5,636,793	$3,405,968	$9,042,761	$895,382,589
Mar-21	$0	$6,125,397	$3,581,931	$9,707,328	$905,089,917
Apr-21	$0	$5,586,538	$3,286,725	$8,873,264	$913,963,181
May-21	$0	$5,008,445	$2,959,120	$7,967,565	$921,930,746
Jun-21	$0	$5,347,956	$2,460,805	$7,808,761	$929,739,507
Jul-21	$0	$6,280,874	$3,485,911	$9,766,785	$939,506,292
Aug-21	$0	$6,629,571	$3,756,022	$10,385,593	$949,891,885
Sep-21	$0	$6,242,238	$3,833,819	$10,076,057	$959,967,943
Oct-21	$0	$6,096,437	$3,933,606	$10,030,043	$969,997,986
Nov-21	$0	$5,943,503	$3,875,320	$9,818,823	$979,816,808
Dec-21	$0	$6,635,207	$4,220,739	$10,855,946	$990,672,755
Jan-22	$0	$6,208,923	$4,194,243	$10,403,166	$1,001,075,920
Feb-22	$0	$6,098,712	$3,680,688	$9,779,400	$1,010,855,321
Mar-22	$0	$6,626,202	$3,870,207	$10,496,409	$1,021,351,730
Apr-22	$0	$6,041,562	$3,549,783	$9,591,344	$1,030,943,075
May-22	$0	$5,414,262	$3,190,444	$8,604,706	$1,039,547,781
Jun-22	$0	$5,782,154	$2,651,768	$8,433,922	$1,047,981,703
Jul-22	$0	$6,535,101	$3,948,106	$10,483,207	$1,058,464,910
Aug-22	$0	$7,451,626	$3,860,203	$11,311,829	$1,069,776,739
Sep-22	$0	$6,755,752	$4,143,377	$10,899,129	$1,080,675,868

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TABLE 5 - BPA's Forecasted Revenues Obtained from the Market

	Forecasted Market Price		**Forecasted Revenues Obtained from the Market**			
Month	HLH Price ($ / MWh)	LLH Price ($ / MWh)	HLH ($)	LLH ($)	Month ($) (HLH + LLH)	Cumulative Total Contract-to-Date ($)
Jan-13	$31.81	$25.26	$3,970,382	$2,485,730	$6,456,112	$6,456,112
Feb-13	$33.57	$26.81	$3,867,510	$2,316,219	$6,183,729	$12,639,841
Mar-13	$32.44	$26.08	$4,048,504	$2,558,317	$6,606,821	$19,246,663
Apr-13	$29.49	$23.94	$3,680,527	$2,183,663	$5,864,190	$25,110,853
May-13	$28.80	$21.06	$3,593,642	$2,072,413	$5,666,056	$30,776,909
Jun-13	$29.48	$20.06	$3,537,629	$1,925,985	$5,463,614	$36,240,523
Jul-13	$33.36	$24.79	$4,162,734	$2,439,629	$6,602,363	$42,842,886
Aug-13	$38.39	$28.02	$4,974,807	$2,622,983	$7,597,789	$50,440,675
Sep-13	$37.70	$29.29	$4,342,933	$2,952,460	$7,295,393	$57,736,067
Oct-13	$37.70	$30.82	$4,886,074	$2,884,795	$7,770,869	$65,506,936
Nov-13	$36.79	$29.45	$4,414,332	$2,835,739	$7,250,072	$72,757,008
Dec-13	$39.24	$31.11	$4,709,368	$3,210,897	$7,920,265	$80,677,273
Jan-14	$40.26	$31.18	$5,024,878	$3,067,812	$8,092,689	$88,769,962
Feb-14	$42.03	$33.12	$4,841,727	$2,861,261	$7,702,987	$96,472,950
Mar-14	$40.16	$31.97	$5,012,304	$3,135,966	$8,148,271	$104,621,221
Apr-14	$35.96	$27.54	$4,487,375	$2,511,986	$6,999,361	$111,620,582
May-14	$31.35	$20.24	$3,912,664	$1,991,541	$5,904,205	$117,524,786
Jun-14	$32.04	$19.43	$3,845,218	$1,864,976	$5,710,194	$123,234,980
Jul-14	$38.80	$27.16	$4,842,832	$2,672,933	$7,515,766	$130,750,746
Aug-14	$43.55	$30.95	$5,435,123	$3,045,640	$8,480,763	$139,231,508
Sep-14	$42.50	$32.82	$5,099,896	$3,150,602	$8,250,498	$147,482,006
Oct-14	$42.82	$35.03	$5,549,698	$3,279,024	$8,828,723	$156,310,729
Nov-14	$42.38	$34.12	$4,882,448	$3,449,990	$8,332,438	$164,643,167
Dec-14	$44.99	$35.34	$5,615,335	$3,476,998	$9,092,333	$173,735,500
Jan-15	$43.86	$33.44	$5,473,120	$3,290,073	$8,763,194	$182,498,694
Feb-15	$44.79	$35.12	$5,159,431	$3,034,494	$8,193,926	$190,692,619
Mar-15	$44.53	$35.20	$5,557,891	$3,453,028	$9,010,919	$199,703,538
Apr-15	$39.93	$29.94	$4,983,448	$2,730,957	$7,714,405	$207,417,944
May-15	$36.07	$22.26	$4,328,406	$2,297,302	$6,625,708	$214,043,652
Jun-15	$37.05	$22.20	$4,624,448	$2,024,562	$6,649,010	$220,692,662
Jul-15	$44.29	$29.78	$5,527,597	$2,930,633	$8,458,230	$229,150,892
Aug-15	$47.72	$33.00	$5,955,764	$3,247,231	$9,202,995	$238,353,887
Sep-15	$46.60	$35.14	$5,592,563	$3,373,060	$8,965,622	$247,319,509
Oct-15	$46.38	$37.33	$6,011,282	$3,494,210	$9,505,492	$256,825,001
Nov-15	$45.60	$36.00	$5,252,848	$3,639,261	$8,892,109	$265,717,110
Dec-15	$46.43	$36.33	$5,794,873	$3,574,626	$9,369,499	$275,086,609
Jan-16	$46.08	$34.64	$5,529,818	$3,574,529	$9,104,346	$284,190,956
Feb-16	$47.93	$37.60	$5,752,068	$3,338,459	$9,090,527	$293,281,483
Mar-16	$45.14	$35.22	$5,849,993	$3,286,077	$9,136,070	$302,417,553
Apr-16	$41.49	$31.71	$5,177,404	$2,892,174	$8,069,578	$310,487,131
May-16	$37.09	$23.64	$4,451,099	$2,439,230	$6,890,329	$317,377,460
Jun-16	$36.20	$20.69	$4,517,432	$1,886,578	$6,404,010	$323,781,470
Jul-16	$45.20	$29.80	$5,423,518	$3,075,190	$8,498,709	$332,280,178
Aug-16	$48.27	$33.09	$6,255,374	$3,096,867	$9,352,241	$341,632,420

TABLE 5 - BPA's Forecasted Revenues Obtained from the Market

	Forecasted Market Price		Forecasted Revenues Obtained from the Market			
Month	HLH Price ($ / MWh)	LLH Price ($ / MWh)	HLH ($)	LLH ($)	Month ($) (HLH + LLH)	Cumulative Total Contract-to-Date ($)
Sep-16	$48.73	$35.81	$5,847,213	$3,438,173	$9,285,385	$350,917,805
Oct-16	$49.33	$39.06	$6,156,120	$3,843,117	$9,999,237	$360,917,042
Nov-16	$46.46	$36.55	$5,574,863	$3,519,899	$9,094,763	$370,011,804
Dec-16	$48.83	$38.47	$6,094,444	$3,785,427	$9,879,871	$379,891,675
Jan-17	$48.43	$36.69	$5,811,396	$3,786,488	$9,597,884	$389,489,560
Feb-17	$49.36	$38.93	$5,686,487	$3,363,617	$9,050,103	$398,539,663
Mar-17	$46.72	$36.75	$6,055,416	$3,429,155	$9,484,571	$408,024,234
Apr-17	$41.41	$30.78	$4,968,793	$2,954,487	$7,923,280	$415,947,514
May-17	$37.81	$23.26	$4,718,508	$2,288,840	$7,007,347	$422,954,861
Jun-17	$38.93	$23.12	$4,859,020	$2,108,871	$6,967,892	$429,922,753
Jul-17	$45.67	$30.23	$5,480,381	$3,120,208	$8,600,589	$438,523,342
Aug-17	$48.69	$33.06	$6,309,855	$3,094,093	$9,403,948	$447,927,290
Sep-17	$48.55	$35.38	$5,825,486	$3,396,410	$9,221,896	$457,149,186
Oct-17	$50.01	$40.00	$6,240,799	$3,936,442	$10,177,241	$467,326,427
Nov-17	$48.79	$38.30	$5,855,070	$3,688,645	$9,543,715	$476,870,142
Dec-17	$50.20	$39.15	$6,024,251	$4,039,859	$10,064,110	$486,934,252
Jan-18	$49.88	$37.79	$6,225,167	$3,718,684	$9,943,851	$496,878,103
Feb-18	$50.84	$40.10	$5,857,081	$3,464,525	$9,321,606	$506,199,709
Mar-18	$48.13	$37.86	$6,237,078	$3,532,030	$9,769,108	$515,968,818
Apr-18	$42.65	$31.70	$5,117,857	$3,043,121	$8,160,978	$524,129,796
May-18	$38.94	$23.96	$4,860,063	$2,357,505	$7,217,568	$531,347,364
Jun-18	$40.10	$23.82	$5,004,791	$2,172,138	$7,176,928	$538,524,292
Jul-18	$47.04	$31.14	$5,644,793	$3,213,814	$8,858,607	$547,382,899
Aug-18	$50.15	$34.05	$6,499,151	$3,186,915	$9,686,066	$557,068,965
Sep-18	$50.00	$36.44	$5,760,241	$3,673,218	$9,433,458	$566,502,424
Oct-18	$51.51	$41.20	$6,675,254	$3,856,753	$10,532,008	$577,034,431
Nov-18	$50.26	$39.45	$6,030,722	$3,799,304	$9,830,026	$586,864,457
Dec-18	$51.71	$40.32	$6,204,979	$4,161,054	$10,366,033	$597,230,491
Jan-19	$51.38	$38.93	$6,411,922	$3,830,244	$10,242,167	$607,472,657
Feb-19	$52.37	$41.30	$6,032,794	$3,568,461	$9,601,254	$617,073,912
Mar-19	$49.57	$38.99	$6,186,257	$3,825,155	$10,011,412	$627,085,324
Apr-19	$43.93	$32.65	$5,482,248	$2,977,694	$8,459,943	$635,545,266
May-19	$40.11	$24.68	$5,005,865	$2,428,230	$7,434,095	$642,979,361
Jun-19	$41.31	$24.53	$4,956,668	$2,355,054	$7,311,722	$650,291,084
Jul-19	$48.45	$32.08	$6,046,702	$3,156,264	$9,202,966	$659,494,050
Aug-19	$51.65	$35.07	$6,694,125	$3,282,523	$9,976,648	$669,470,698
Sep-19	$51.50	$37.53	$5,933,048	$3,783,414	$9,716,462	$679,187,160
Oct-19	$53.05	$42.44	$6,875,512	$3,972,456	$10,847,968	$690,035,128
Nov-19	$51.76	$40.64	$6,211,643	$3,913,284	$10,124,927	$700,160,055
Dec-19	$53.26	$41.53	$6,391,128	$4,285,886	$10,677,014	$710,837,069
Jan-20	$52.92	$40.09	$6,604,280	$3,945,152	$10,549,432	$721,386,501
Feb-20	$53.94	$42.54	$6,472,685	$3,777,612	$10,250,297	$731,636,798
Mar-20	$51.06	$40.16	$6,371,845	$3,939,909	$10,311,754	$741,948,552
Apr-20	$45.25	$33.63	$5,646,716	$3,067,025	$8,713,741	$750,662,293

ATTACHMENT A
EBT ANALYSIS

TABLE 5 - BPA's Forecasted Revenues Obtained from the Market

	Forecasted Market Price		Forecasted Revenues Obtained from the Market			
Month	HLH Price ($ / MWh)	LLH Price ($ / MWh)	HLH ($)	LLH ($)	Month ($) (HLH + LLH)	Cumulative Total Contract-to-Date ($)
May-20	$41.31	$25.42	$4,957,731	$2,623,081	$7,580,812	$758,243,106
Jun-20	$42.54	$25.27	$5,309,583	$2,304,421	$7,614,003	$765,857,109
Jul-20	$49.90	$33.04	$6,228,103	$3,250,952	$9,479,055	$775,336,165
Aug-20	$53.20	$36.12	$6,639,580	$3,554,383	$10,193,964	$785,530,128
Sep-20	$53.05	$38.66	$6,365,666	$3,711,349	$10,077,015	$795,607,143
Oct-20	$54.64	$43.71	$7,081,777	$4,091,630	$11,173,407	$806,780,550
Nov-20	$53.32	$41.86	$6,142,073	$4,231,588	$10,373,661	$817,154,211
Dec-20	$54.86	$42.78	$6,846,176	$4,209,139	$11,055,315	$828,209,527
Jan-21	$54.51	$41.30	$6,540,777	$4,261,726	$10,802,503	$839,012,030
Feb-21	$55.56	$43.82	$6,400,191	$3,785,780	$10,185,971	$849,198,001
Mar-21	$52.59	$41.37	$6,815,424	$3,859,545	$10,674,968	$859,872,969
Apr-21	$46.60	$34.64	$5,816,117	$3,159,036	$8,975,153	$868,848,122
May-21	$42.55	$26.18	$5,106,463	$2,701,773	$7,808,237	$876,656,359
Jun-21	$43.82	$26.03	$5,468,870	$2,373,553	$7,842,424	$884,498,783
Jul-21	$51.40	$34.03	$6,414,946	$3,348,481	$9,763,427	$894,262,210
Aug-21	$54.80	$37.21	$6,838,768	$3,661,015	$10,499,783	$904,761,992
Sep-21	$54.64	$39.82	$6,556,636	$3,822,690	$10,379,325	$915,141,318
Oct-21	$56.28	$45.03	$7,024,074	$4,430,500	$11,454,574	$926,595,892
Nov-21	$54.92	$43.11	$6,589,932	$4,151,602	$10,741,535	$937,337,427
Dec-21	$56.50	$44.06	$7,051,562	$4,335,413	$11,386,975	$948,724,402
Jan-22	$56.14	$42.53	$6,737,001	$4,389,578	$11,126,579	$959,850,980
Feb-22	$57.22	$45.13	$6,592,197	$3,899,353	$10,491,550	$970,342,530
Mar-22	$54.17	$42.61	$7,019,886	$3,975,331	$10,995,217	$981,337,748
Apr-22	$48.00	$35.68	$5,990,601	$3,253,807	$9,244,408	$990,582,155
May-22	$43.83	$26.97	$5,259,657	$2,782,827	$8,042,484	$998,624,639
Jun-22	$45.14	$26.81	$5,632,936	$2,444,760	$8,077,696	$1,006,702,335
Jul-22	$52.94	$35.05	$6,353,264	$3,617,176	$9,970,440	$1,016,672,775
Aug-22	$56.44	$38.32	$7,314,851	$3,586,901	$10,901,753	$1,027,574,528
Sep-22	$56.28	$41.01	$6,753,335	$3,937,370	$10,690,705	$1,038,265,233

TABLE 6 - BPA's Net Benefit before Adjustment

	Net Revenue or (Cost)	
Month	Month ($)	Cumulative Total Contract-to-Date ($)
Jan-13	$1,803,434	$1,803,434
Feb-13	$1,527,831	$3,331,265
Mar-13	$1,647,415	$4,978,680
Apr-13	$1,732,806	$6,711,486
May-13	$1,254,914	$7,966,400
Jun-13	$1,202,566	$9,168,966
Jul-13	$1,735,639	$10,904,605
Aug-13	$1,303,733	$12,208,338
Sep-13	$1,235,779	$13,444,117
Oct-13	$1,021,852	$14,465,969
Nov-13	$1,318,839	$15,784,808
Dec-13	$1,484,546	$17,269,355
Jan-14	$1,020,090	$18,289,445
Feb-14	$807,165	$19,096,610
Mar-14	$958,696	$20,055,306
Apr-14	$1,379,325	$21,434,631
May-14	$1,721,243	$23,155,874
Jun-14	$1,634,234	$24,790,108
Jul-14	$1,684,189	$26,474,297
Aug-14	$1,280,268	$27,754,564
Sep-14	$1,218,767	$28,973,331
Oct-14	($10,513)	$28,962,818
Nov-14	$224,001	$29,186,819
Dec-14	$379,089	$29,565,907
Jan-15	$375,075	$29,940,983
Feb-15	$339,249	$30,280,232
Mar-15	$121,503	$30,401,735
Apr-15	$688,948	$31,090,683
May-15	$968,374	$32,059,057
Jun-15	$789,153	$32,848,209
Jul-15	$767,214	$33,615,423
Aug-15	$583,525	$34,198,948
Sep-15	$528,309	$34,727,257
Oct-15	($227,709)	$34,499,549
Nov-15	$110,253	$34,609,802
Dec-15	$595,120	$35,204,922
Jan-16	$463,257	$35,668,179
Feb-16	$213,845	$35,882,024
Mar-16	$512,694	$36,394,718
Apr-16	$771,810	$37,166,529
May-16	$1,100,313	$38,266,841
Jun-16	$1,422,504	$39,689,345
Jul-16	$1,139,078	$40,828,423
Aug-16	$1,012,114	$41,840,538
Sep-16	$702,721	$42,543,259

TABLE 6 - BPA's Net Benefit before Adjustment

Net Revenue or (Cost)

Month	Month ($)	Cumulative Total Contract-to-Date ($)
Oct-16	($747,839)	$41,795,419
Nov-16	($42,688)	$41,752,731
Dec-16	$95,712	$41,848,442
Jan-17	($19,318)	$41,829,124
Feb-17	($62,671)	$41,766,453
Mar-17	$175,141	$41,941,594
Apr-17	$888,789	$42,830,384
May-17	$1,054,038	$43,884,422
Jun-17	$869,232	$44,753,654
Jul-17	$1,048,161	$45,801,814
Aug-17	$971,371	$46,773,186
Sep-17	$776,820	$47,550,005
Oct-17	($534,918)	$47,015,087
Nov-17	($109,337)	$46,905,750
Dec-17	$286,365	$47,192,115
Jan-18	$87,292	$47,279,407
Feb-18	$44,141	$47,323,548
Mar-18	$297,813	$47,621,361
Apr-18	$1,023,777	$48,645,138
May-18	$1,187,203	$49,832,341
Jun-18	$993,932	$50,826,273
Jul-18	$1,196,943	$52,023,216
Aug-18	$1,125,079	$53,148,295
Sep-18	$927,847	$54,076,143
Oct-18	($853,952)	$53,222,191
Nov-18	($398,660)	$52,823,531
Dec-18	($18,666)	$52,804,864
Jan-19	($214,132)	$52,590,732
Feb-19	($238,314)	$52,352,418
Mar-19	$10,182	$52,362,601
Apr-19	$763,329	$53,125,930
May-19	$967,568	$54,093,498
Jun-19	$780,606	$54,874,104
Jul-19	$920,393	$55,794,497
Aug-19	$831,389	$56,625,886
Sep-19	$641,836	$57,267,722
Oct-19	($1,539,850)	$55,727,871
Nov-19	($1,051,612)	$54,676,260
Dec-19	($693,825)	$53,982,434
Jan-20	($888,323)	$53,094,111
Feb-20	($886,977)	$52,207,135
Mar-20	($656,533)	$51,550,602
Apr-20	$150,299	$51,700,900
May-20	$377,221	$52,078,122
Jun-20	$185,533	$52,263,655

TABLE 6 - BPA's Net Benefit before Adjustment

Net Revenue or (Cost)

Month	Month ($)	Cumulative Total Contract-to-Date ($)
Jul-20	$278,198	$52,541,853
Aug-20	$182,098	$52,723,951
Sep-20	($10,182)	$52,713,769
Oct-20	($1,855,758)	$50,858,011
Nov-20	($1,332,108)	$49,525,903
Dec-20	($1,017,243)	$48,508,660
Jan-21	($1,180,862)	$47,327,799
Feb-21	($1,143,210)	$46,184,588
Mar-21	($967,641)	$45,216,948
Apr-21	($101,889)	$45,115,058
May-21	$159,329	$45,274,387
Jun-21	($33,663)	$45,240,724
Jul-21	$3,358	$45,244,082
Aug-21	($114,189)	$45,129,893
Sep-21	($303,268)	$44,826,625
Oct-21	($1,424,532)	$43,402,093
Nov-21	($922,712)	$42,479,381
Dec-21	($531,028)	$41,948,353
Jan-22	($723,413)	$41,224,940
Feb-22	($712,150)	$40,512,790
Mar-22	($498,808)	$40,013,983
Apr-22	$346,937	$40,360,919
May-22	$562,222	$40,923,142
Jun-22	$356,226	$41,279,367
Jul-22	$512,767	$41,792,134
Aug-22	$410,076	$42,202,211
Sep-22	$208,424	$42,410,634

TABLE 7a - BPA's Net Benefit Adjustments

Value of Reserves

Month	Month ($)	Cumulative Total Contract-to-Date ($)
Jan-13	$209,808	$209,808
Feb-13	$189,504	$399,312
Mar-13	$209,526	$608,838
Apr-13	$203,040	$811,878
May-13	$209,808	$1,021,686
Jun-13	$203,040	$1,224,726
Jul-13	$209,808	$1,434,534
Aug-13	$209,808	$1,644,342
Sep-13	$203,040	$1,847,382
Oct-13	$209,808	$2,057,190
Nov-13	$203,322	$2,260,512
Dec-13	$209,808	$2,470,320
Jan-14	$209,808	$2,680,128
Feb-14	$189,504	$2,869,632
Mar-14	$209,526	$3,079,158
Apr-14	$203,040	$3,282,198
May-14	$209,808	$3,492,006
Jun-14	$203,040	$3,695,046
Jul-14	$209,808	$3,904,854
Aug-14	$209,808	$4,114,662
Sep-14	$203,040	$4,317,702
Oct-14	$209,808	$4,527,510
Nov-14	$203,322	$4,730,832
Dec-14	$209,808	$4,940,640
Jan-15	$209,808	$5,150,448
Feb-15	$189,504	$5,339,952
Mar-15	$209,526	$5,549,478
Apr-15	$203,040	$5,752,518
May-15	$209,808	$5,962,326
Jun-15	$203,040	$6,165,366
Jul-15	$209,808	$6,375,174
Aug-15	$209,808	$6,584,982
Sep-15	$203,040	$6,788,022
Oct-15	$209,808	$6,997,830
Nov-15	$203,322	$7,201,152
Dec-15	$209,808	$7,410,960
Jan-16	$209,808	$7,620,768
Feb-16	$196,272	$7,817,040
Mar-16	$209,526	$8,026,566
Apr-16	$203,040	$8,229,606
May-16	$209,808	$8,439,414
Jun-16	$203,040	$8,642,454
Jul-16	$209,808	$8,852,262
Aug-16	$209,808	$9,062,070
Sep-16	$203,040	$9,265,110

TABLE 7a - BPA's Net Benefit Adjustments
Value of Reserves

Month	Month ($)	Cumulative Total Contract-to-Date ($)
Oct-16	$209,808	$9,474,918
Nov-16	$203,322	$9,678,240
Dec-16	$209,808	$9,888,048
Jan-17	$209,808	$10,097,856
Feb-17	$189,504	$10,287,360
Mar-17	$209,526	$10,496,886
Apr-17	$203,040	$10,699,926
May-17	$209,808	$10,909,734
Jun-17	$203,040	$11,112,774
Jul-17	$209,808	$11,322,582
Aug-17	$209,808	$11,532,390
Sep-17	$203,040	$11,735,430
Oct-17	$209,808	$11,945,238
Nov-17	$203,322	$12,148,560
Dec-17	$209,808	$12,358,368
Jan-18	$209,808	$12,568,176
Feb-18	$189,504	$12,757,680
Mar-18	$209,526	$12,967,206
Apr-18	$203,040	$13,170,246
May-18	$209,808	$13,380,054
Jun-18	$203,040	$13,583,094
Jul-18	$209,808	$13,792,902
Aug-18	$209,808	$14,002,710
Sep-18	$203,040	$14,205,750
Oct-18	$209,808	$14,415,558
Nov-18	$203,322	$14,618,880
Dec-18	$209,808	$14,828,688
Jan-19	$209,808	$15,038,496
Feb-19	$189,504	$15,228,000
Mar-19	$209,526	$15,437,526
Apr-19	$203,040	$15,640,566
May-19	$209,808	$15,850,374
Jun-19	$203,040	$16,053,414
Jul-19	$209,808	$16,263,222
Aug-19	$209,808	$16,473,030
Sep-19	$203,040	$16,676,070
Oct-19	$209,808	$16,885,878
Nov-19	$203,322	$17,089,200
Dec-19	$209,808	$17,299,008
Jan-20	$209,808	$17,508,816
Feb-20	$196,272	$17,705,088
Mar-20	$209,526	$17,914,614
Apr-20	$203,040	$18,117,654
May-20	$209,808	$18,327,462
Jun-20	$203,040	$18,530,502

TABLE 7a - BPA's Net Benefit Adjustments

Value of Reserves

Month	Month ($)	Cumulative Total Contract-to-Date ($)
Jul-20	$209,808	$18,740,310
Aug-20	$209,808	$18,950,118
Sep-20	$203,040	$19,153,158
Oct-20	$209,808	$19,362,966
Nov-20	$203,322	$19,566,288
Dec-20	$209,808	$19,776,096
Jan-21	$209,808	$19,985,904
Feb-21	$189,504	$20,175,408
Mar-21	$209,526	$20,384,934
Apr-21	$203,040	$20,587,974
May-21	$209,808	$20,797,782
Jun-21	$203,040	$21,000,822
Jul-21	$209,808	$21,210,630
Aug-21	$209,808	$21,420,438
Sep-21	$203,040	$21,623,478
Oct-21	$209,808	$21,833,286
Nov-21	$203,322	$22,036,608
Dec-21	$209,808	$22,246,416
Jan-22	$209,808	$22,456,224
Feb-22	$189,504	$22,645,728
Mar-22	$209,526	$22,855,254
Apr-22	$203,040	$23,058,294
May-22	$209,808	$23,268,102
Jun-22	$203,040	$23,471,142
Jul-22	$209,808	$23,680,950
Aug-22	$209,808	$23,890,758
Sep-22	$203,040	$24,093,798

TABLE 7b - BPA's Net Benefit Adjustments

Avoided Tx and Ancillary Service Costs

Month	Month ($)	Proportional Month ($)	Cumulative Total Contract-to-Date ($)
Jan-13	$359,890	$224,931	$224,931
Feb-13	$305,454	$190,909	$415,840
Mar-13	$312,962	$195,601	$611,441
Apr-13	$624,506	$390,316	$1,001,758
May-13	$903,774	$564,859	$1,566,617
Jun-13	$713,103	$445,689	$2,012,306
Jul-13	$402,631	$251,644	$2,263,950
Aug-13	$92,382	$57,739	$2,321,689
Sep-13	$29,385	$18,366	$2,340,054
Oct-13	$22,053	$13,783	$2,353,837
Nov-13	$39,072	$24,420	$2,378,257
Dec-13	$108,059	$67,537	$2,445,794
Jan-14	$355,084	$221,928	$2,667,722
Feb-14	$302,740	$189,212	$2,856,934
Mar-14	$311,639	$194,774	$3,051,708
Apr-14	$625,085	$390,678	$3,442,386
May-14	$953,527	$595,954	$4,038,340
Jun-14	$838,514	$524,071	$4,562,412
Jul-14	$375,118	$234,449	$4,796,861
Aug-14	$75,160	$46,975	$4,843,836
Sep-14	$26,102	$16,314	$4,860,150
Oct-14	$18,325	$11,453	$4,871,603
Nov-14	$23,560	$14,725	$4,886,328
Dec-14	$94,437	$59,023	$4,945,350
Jan-15	$334,966	$209,354	$5,154,705
Feb-15	$273,273	$170,796	$5,325,500
Mar-15	$289,318	$180,824	$5,506,324
Apr-15	$596,784	$372,990	$5,879,314
May-15	$893,002	$558,126	$6,437,440
Jun-15	$657,224	$410,765	$6,848,205
Jul-15	$346,939	$216,837	$7,065,042
Aug-15	$63,957	$39,973	$7,105,015
Sep-15	$21,579	$13,487	$7,118,502
Oct-15	$17,387	$10,867	$7,129,369
Nov-15	$17,495	$10,935	$7,140,304
Dec-15	$84,043	$52,527	$7,192,831
Jan-16	$320,500	$200,313	$7,393,143
Feb-16	$314,540	$196,588	$7,589,731
Mar-16	$281,957	$176,223	$7,765,954
Apr-16	$583,753	$364,846	$8,130,800
May-16	$948,318	$592,699	$8,723,499
Jun-16	$793,253	$495,783	$9,219,282
Jul-16	$385,512	$240,945	$9,460,227
Aug-16	$63,316	$39,572	$9,499,799
Sep-16	$19,624	$12,265	$9,512,065

TABLE 7b - BPA's Net Benefit Adjustments

Avoided Tx and Ancillary Service Costs

Month	Month ($)	Proportional Month ($)	Cumulative Total Contract-to-Date ($)
Oct-16	$17,047	$10,654	$9,522,719
Nov-16	$17,574	$10,984	$9,533,703
Dec-16	$81,706	$51,066	$9,584,769
Jan-17	$316,921	$198,076	$9,782,844
Feb-17	$263,464	$164,665	$9,947,510
Mar-17	$280,514	$175,321	$10,122,831
Apr-17	$582,452	$364,032	$10,486,863
May-17	$872,758	$545,474	$11,032,337
Jun-17	$683,776	$427,360	$11,459,697
Jul-17	$350,438	$219,024	$11,678,720
Aug-17	$53,553	$33,471	$11,712,191
Sep-17	$16,933	$10,583	$11,722,774
Oct-17	$20,315	$12,697	$11,735,471
Nov-17	$21,284	$13,303	$11,748,774
Dec-17	$89,679	$56,050	$11,804,824
Jan-18	$328,449	$205,281	$12,010,104
Feb-18	$295,387	$184,617	$12,194,721
Mar-18	$287,530	$179,706	$12,374,427
Apr-18	$593,861	$371,163	$12,745,590
May-18	$955,830	$597,394	$13,342,984
Jun-18	$806,210	$503,881	$13,846,865
Jul-18	$385,512	$240,945	$14,087,810
Aug-18	$63,316	$39,572	$14,127,382
Sep-18	$19,624	$12,265	$14,139,648
Oct-18	$17,047	$10,654	$14,150,302
Nov-18	$17,574	$10,984	$14,161,286
Dec-18	$81,706	$51,066	$14,212,352
Jan-19	$316,921	$198,076	$14,410,427
Feb-19	$263,464	$164,665	$14,575,093
Mar-19	$280,514	$175,321	$14,750,414
Apr-19	$582,452	$364,032	$15,114,446
May-19	$872,758	$545,474	$15,659,920
Jun-19	$683,776	$427,360	$16,087,280
Jul-19	$350,438	$219,024	$16,306,303
Aug-19	$53,553	$33,471	$16,339,774
Sep-19	$16,933	$10,583	$16,350,357
Oct-19	$20,315	$12,697	$16,363,054
Nov-19	$21,284	$13,303	$16,376,357
Dec-19	$89,679	$56,050	$16,432,406
Jan-20	$328,449	$205,281	$16,637,687
Feb-20	$304,772	$190,482	$16,828,170
Mar-20	$287,530	$179,706	$17,007,876
Apr-20	$593,861	$371,163	$17,379,039
May-20	$955,830	$597,394	$17,976,432
Jun-20	$806,210	$503,881	$18,480,313

TABLE 7b - BPA's Net Benefit Adjustments

Avoided Tx and Ancillary Service Costs

Month	Month ($)	Proportional Month ($)	Cumulative Total Contract-to-Date ($)
Jul-20	$385,512	$240,945	$18,721,258
Aug-20	$63,316	$39,572	$18,760,831
Sep-20	$19,624	$12,265	$18,773,096
Oct-20	$17,047	$10,654	$18,783,750
Nov-20	$17,574	$10,984	$18,794,734
Dec-20	$81,706	$51,066	$18,845,800
Jan-21	$316,921	$198,076	$19,043,876
Feb-21	$263,464	$164,665	$19,208,541
Mar-21	$280,514	$175,321	$19,383,862
Apr-21	$582,452	$364,032	$19,747,895
May-21	$872,758	$545,474	$20,293,368
Jun-21	$683,776	$427,360	$20,720,728
Jul-21	$350,438	$219,024	$20,939,751
Aug-21	$53,553	$33,471	$20,973,222
Sep-21	$16,933	$10,583	$20,983,806
Oct-21	$20,315	$12,697	$20,996,503
Nov-21	$21,284	$13,303	$21,009,805
Dec-21	$89,679	$56,050	$21,065,855
Jan-22	$328,449	$205,281	$21,271,136
Feb-22	$295,387	$184,617	$21,455,753
Mar-22	$287,530	$179,706	$21,635,459
Apr-22	$593,861	$371,163	$22,006,622
May-22	$955,830	$597,394	$22,604,015
Jun-22	$806,210	$503,881	$23,107,896
Jul-22	$385,512	$240,945	$23,348,841
Aug-22	$63,316	$39,572	$23,388,414
Sep-22	$19,624	$12,265	$23,400,679

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TABLE 8 - 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 ($)	Cumulative Total Contract-to-Date ($)
Jan-13	$1,803,434	$209,808	$224,931	$0	$2,238,173	$2,238,173
Feb-13	$1,527,831	$189,504	$190,909	$0	$1,908,244	$4,146,417
Mar-13	$1,647,415	$209,526	$195,601	$0	$2,052,543	$6,198,959
Apr-13	$1,732,806	$203,040	$390,316	$0	$2,326,162	$8,525,121
May-13	$1,254,914	$209,808	$564,859	$0	$2,029,581	$10,554,703
Jun-13	$1,202,566	$203,040	$445,689	$0	$1,851,295	$12,405,998
Jul-13	$1,735,639	$209,808	$251,644	$0	$2,197,091	$14,603,089
Aug-13	$1,303,733	$209,808	$57,739	$0	$1,571,280	$16,174,369
Sep-13	$1,235,779	$203,040	$18,366	$0	$1,457,185	$17,631,554
Oct-13	$1,021,852	$209,808	$13,783	$0	$1,245,442	$18,876,996
Nov-13	$1,318,839	$203,322	$24,420	$0	$1,546,582	$20,423,578
Dec-13	$1,484,546	$209,808	$67,537	$0	$1,761,891	$22,185,469
Jan-14	$1,020,090	$209,808	$221,928	$0	$1,451,826	$23,637,295
Feb-14	$807,165	$189,504	$189,212	$0	$1,185,881	$24,823,176
Mar-14	$958,696	$209,526	$194,774	$0	$1,362,997	$26,186,173
Apr-14	$1,379,325	$203,040	$390,678	$0	$1,973,043	$28,159,215
May-14	$1,721,243	$209,808	$595,954	$0	$2,527,005	$30,686,220
Jun-14	$1,634,234	$203,040	$524,071	$0	$2,361,346	$33,047,566
Jul-14	$1,684,189	$209,808	$234,449	$0	$2,128,446	$35,176,011
Aug-14	$1,280,268	$209,808	$46,975	$0	$1,537,051	$36,713,062
Sep-14	$1,218,767	$203,040	$16,314	$0	$1,438,120	$38,151,182
Oct-14	($10,513)	$209,808	$11,453	$0	$210,748	$38,361,931
Nov-14	$224,001	$203,322	$14,725	$0	$442,047	$38,803,978
Dec-14	$379,089	$209,808	$59,023	$0	$647,920	$39,451,898
Jan-15	$375,075	$209,808	$209,354	$0	$794,237	$40,246,135
Feb-15	$339,249	$189,504	$170,796	$0	$699,549	$40,945,684
Mar-15	$121,503	$209,526	$180,824	$0	$511,853	$41,457,537
Apr-15	$688,948	$203,040	$372,990	$0	$1,264,978	$42,722,515
May-15	$968,374	$209,808	$558,126	$0	$1,736,308	$44,458,823
Jun-15	$789,153	$203,040	$410,765	$0	$1,402,958	$45,861,781
Jul-15	$767,214	$209,808	$216,837	$0	$1,193,859	$47,055,640
Aug-15	$583,525	$209,808	$39,973	$0	$833,306	$47,888,945
Sep-15	$528,309	$203,040	$13,487	$0	$744,836	$48,633,782
Oct-15	($227,709)	$209,808	$10,867	$0	($7,034)	$48,626,748
Nov-15	$110,253	$203,322	$10,935	$0	$324,510	$48,951,258
Dec-15	$595,120	$209,808	$52,527	$0	$857,455	$49,808,713
Jan-16	$463,257	$209,808	$200,313	$0	$873,377	$50,682,090
Feb-16	$213,845	$196,272	$196,588	$0	$606,705	$51,288,795
Mar-16	$512,694	$209,526	$176,223	$0	$898,443	$52,187,238
Apr-16	$771,810	$203,040	$364,846	$0	$1,339,696	$53,526,935
May-16	$1,100,313	$209,808	$592,699	$0	$1,902,819	$55,429,754
Jun-16	$1,422,504	$203,040	$495,783	$0	$2,121,327	$57,551,081
Jul-16	$1,139,078	$209,808	$240,945	$0	$1,589,831	$59,140,912
Aug-16	$1,012,114	$209,808	$39,572	$0	$1,261,494	$60,402,407
Sep-16	$702,721	$203,040	$12,265	$0	$918,026	$61,320,433

ATTACHMENT A
EBT ANALYSIS

TABLE 8 - 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 ($)	Cumulative Total Contract-to-Date ($)
Oct-16	($747,839)	$209,808	$10,654	$0	($527,377)	$60,793,056
Nov-16	($42,688)	$203,322	$10,984	$0	$171,618	$60,964,674
Dec-16	$95,712	$209,808	$51,066	$0	$356,586	$61,321,259
Jan-17	($19,318)	$209,808	$198,076	$0	$388,566	$61,709,825
Feb-17	($62,671)	$189,504	$164,665	$0	$291,498	$62,001,322
Mar-17	$175,141	$209,526	$175,321	$0	$559,989	$62,561,311
Apr-17	$888,789	$203,040	$364,032	$0	$1,455,862	$64,017,173
May-17	$1,054,038	$209,808	$545,474	$0	$1,809,320	$65,826,493
Jun-17	$869,232	$203,040	$427,360	$0	$1,499,632	$67,326,124
Jul-17	$1,048,161	$209,808	$219,024	$0	$1,476,992	$68,803,117
Aug-17	$971,371	$209,808	$33,471	$0	$1,214,650	$70,017,767
Sep-17	$776,820	$203,040	$10,583	$0	$990,443	$71,008,210
Oct-17	($534,918)	$209,808	$12,697	$0	($312,413)	$70,695,797
Nov-17	($109,337)	$203,322	$13,303	$0	$107,287	$70,803,084
Dec-17	$286,365	$209,808	$56,050	$0	$552,222	$71,355,306
Jan-18	$87,292	$209,808	$205,281	$0	$502,381	$71,857,687
Feb-18	$44,141	$189,504	$184,617	$0	$418,262	$72,275,949
Mar-18	$297,813	$209,526	$179,706	$0	$687,046	$72,962,995
Apr-18	$1,023,777	$203,040	$371,163	$0	$1,597,980	$74,560,975
May-18	$1,187,203	$209,808	$597,394	$0	$1,994,404	$76,555,379
Jun-18	$993,932	$203,040	$503,881	$0	$1,700,853	$78,256,232
Jul-18	$1,196,943	$209,808	$240,945	$0	$1,647,696	$79,903,928
Aug-18	$1,125,079	$209,808	$39,572	$0	$1,374,459	$81,278,388
Sep-18	$927,847	$203,040	$12,265	$0	$1,143,152	$82,421,540
Oct-18	($853,952)	$209,808	$10,654	$0	($633,489)	$81,788,051
Nov-18	($398,660)	$203,322	$10,984	$0	($184,354)	$81,603,696
Dec-18	($18,666)	$209,808	$51,066	$0	$242,208	$81,845,904
Jan-19	($214,132)	$209,808	$198,076	$0	$193,752	$82,039,656
Feb-19	($238,314)	$189,504	$164,665	$0	$115,855	$82,155,511
Mar-19	$10,182	$209,526	$175,321	$0	$395,030	$82,550,541
Apr-19	$763,329	$203,040	$364,032	$0	$1,330,402	$83,880,942
May-19	$967,568	$209,808	$545,474	$0	$1,722,849	$85,603,792
Jun-19	$780,606	$203,040	$427,360	$0	$1,411,006	$87,014,798
Jul-19	$920,393	$209,808	$219,024	$0	$1,349,224	$88,364,022
Aug-19	$831,389	$209,808	$33,471	$0	$1,074,668	$89,438,690
Sep-19	$641,836	$203,040	$10,583	$0	$855,459	$90,294,149
Oct-19	($1,539,850)	$209,808	$12,697	$0	($1,317,345)	$88,976,804
Nov-19	($1,051,612)	$203,322	$13,303	$0	($834,987)	$88,141,816
Dec-19	($693,825)	$209,808	$56,050	$0	($427,968)	$87,713,849
Jan-20	($888,323)	$209,808	$205,281	$0	($473,234)	$87,240,615
Feb-20	($886,977)	$196,272	$190,482	$0	($500,222)	$86,740,392
Mar-20	($656,533)	$209,526	$179,706	$0	($267,301)	$86,473,092
Apr-20	$150,299	$203,040	$371,163	$0	$724,501	$87,197,593
May-20	$377,221	$209,808	$597,394	$0	$1,184,423	$88,382,016
Jun-20	$185,533	$203,040	$503,881	$0	$892,454	$89,274,470
Jul-20	$278,198	$209,808	$240,945	$0	$728,951	$90,003,421

TABLE 8 - 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 ($)	Cumulative Total Contract-to-Date ($)
Aug-20	$182,098	$209,808	$39,572	$0	$431,478	$90,434,899
Sep-20	($10,182)	$203,040	$12,265	$0	$205,123	$90,640,023
Oct-20	($1,855,758)	$209,808	$10,654	$0	($1,635,296)	$89,004,727
Nov-20	($1,332,108)	$203,322	$10,984	$0	($1,117,802)	$87,886,925
Dec-20	($1,017,243)	$209,808	$51,066	$0	($756,369)	$87,130,557
Jan-21	($1,180,862)	$209,808	$198,076	$0	($772,978)	$86,357,578
Feb-21	($1,143,210)	$189,504	$164,665	$0	($789,041)	$85,568,537
Mar-21	($967,641)	$209,526	$175,321	$0	($582,793)	$84,985,744
Apr-21	($101,889)	$203,040	$364,032	$0	$465,183	$85,450,927
May-21	$159,329	$209,808	$545,474	$0	$914,610	$86,365,537
Jun-21	($33,663)	$203,040	$427,360	$0	$596,737	$86,962,274
Jul-21	$3,358	$209,808	$219,024	$0	$432,190	$87,394,464
Aug-21	($114,189)	$209,808	$33,471	$0	$129,090	$87,523,553
Sep-21	($303,268)	$203,040	$10,583	$0	($89,645)	$87,433,909
Oct-21	($1,424,532)	$209,808	$12,697	$0	($1,202,027)	$86,231,882
Nov-21	($922,712)	$203,322	$13,303	$0	($706,087)	$85,525,795
Dec-21	($531,028)	$209,808	$56,050	$0	($265,171)	$85,260,624
Jan-22	($723,413)	$209,808	$205,281	$0	($308,324)	$84,952,300
Feb-22	($712,150)	$189,504	$184,617	$0	($338,029)	$84,614,271
Mar-22	($498,808)	$209,526	$179,706	$0	($109,576)	$84,504,695
Apr-22	$346,937	$203,040	$371,163	$0	$921,139	$85,425,835
May-22	$562,222	$209,808	$597,394	$0	$1,369,424	$86,795,259
Jun-22	$356,226	$203,040	$503,881	$0	$1,063,147	$87,858,406
Jul-22	$512,767	$209,808	$240,945	$0	$963,520	$88,821,926
Aug-22	$410,076	$209,808	$39,572	$0	$659,456	$89,481,382
Sep-22	$208,424	$203,040	$12,265	$0	$423,729	$89,905,111

ATTACHMENT B
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 at 15. That natural gas price forecast was released July 26, 2011. BPA has updated its forecast of natural gas prices for use in this analysis of the Agreement in FY 2013 and all subsequent periods. BPA's updated natural gas price forecast was completed at the end of February 2012, during BPA's fiscal second quarter.

BPA has compared its updated forecast of spot market natural gas prices at the Henry Hub to the recent forecasts produced by other forecasters in the industry. The comparison, shown in Figure 2 below, includes 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 – BPA's forecast of natural gas prices from the BP-12 Final Proposal, 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. With the exception of the EIA, each of these forecasters considers their information to be proprietary. The vintage of these forecasts is August 2012. 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 April 2012.

ATTACHMENT B
GAS PRICE FORECAST

Figure 1: Henry Hub Natural Gas Spot Price Forecast

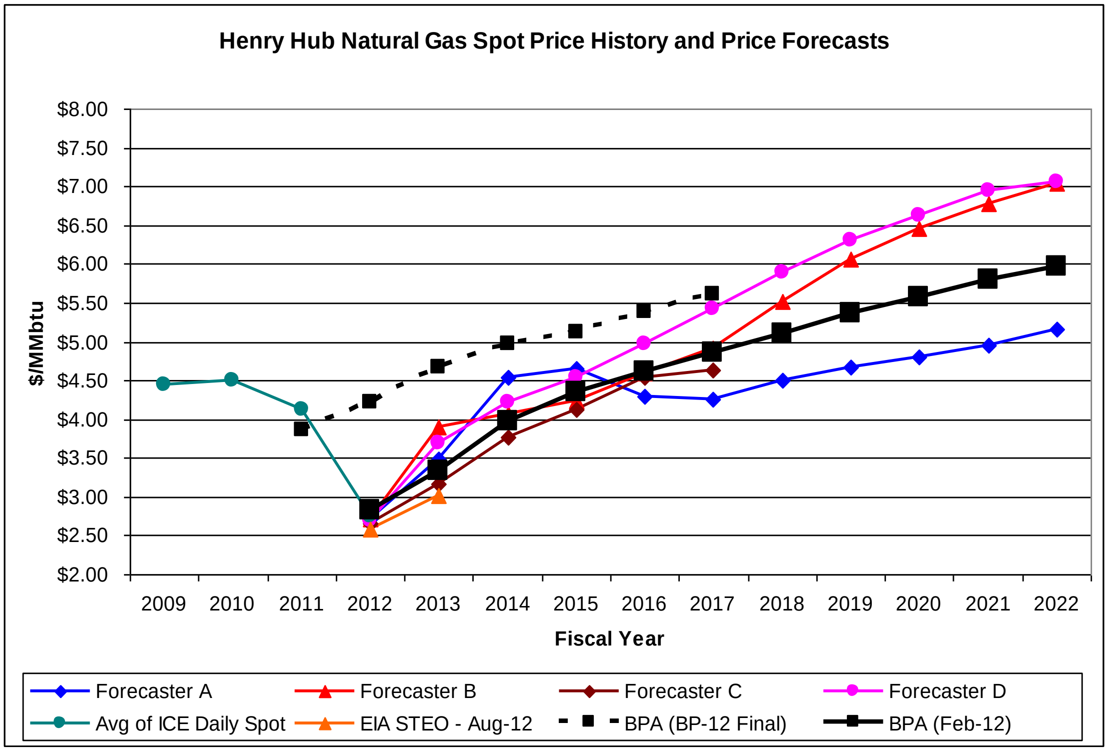

Figure 1 demonstrates that recent spot market prices for natural gas at the Henry Hub have been less than $5 per MMBtu on an annual average basis in FY 2009, FY 2010 and FY 2011, and has averaged less than $3 per MMBtu in FY 2012 through April 30, 2012. This illustration also demonstrates that the forecasts of five other industry experts are between $3.02 per MMBtu and $3.90 per MMBtu for FY 2013 – the starting fiscal years of BPA's evaluation of equivalent benefits for the Agreement – and the forecasts of all five (5) of the other industry forecasters remain lower than $5 per MMBtu through at least FY 2016. 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 updated natural gas price forecast is reasonable compared to a recent history of monthly average Henry Hub spot prices for natural gas and compared to the expectations of other industry experts. Figure 1 also depicts the extent to which BPA's updated natural gas price forecast has progressed downward since the Final Proposal in BP-12.