

**ADMINISTRATOR'S
DRAFT EQUIVALENT BENEFITS
ANALYSIS DETERMINATION FOR
CONTRACT OFFER TO ALCOA INC.**

October 9, 2012



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**ADMINISTRATOR'S DRAFT EQUIVALENT BENEFITS ANALYSIS
DETERMINATION FOR CONTRACT OFFER TO
ALCOA INC.**

October 9, 2012

I. INTRODUCTION

This draft Equivalent Benefits analysis was conducted in connection with a potential power sales agreement between the Bonneville Power Administration (BPA) and Alcoa, Inc. (Alcoa) ("Draft 2013 Contract"). The Draft 2013 Contract would provide 300 aMW of electric power to Alcoa's Intalco Works smelter in Ferndale, Washington. The power sold would be sufficient to operate two of the three potlines at Intalco Works. The term of the proposed contract would begin on January 1, 2013 and end on September 30, 2022 (a term of nine years, eight months). The Draft 2013 Contract would replace the existing power sales agreement, under which BPA is currently providing 320 aMW of industrial firm power to Alcoa's Intalco Works smelter.

As established in the Records of Decision on the Alcoa Contract ("Alcoa ROD") and on the Port Townsend Contract ("Port Townsend ROD"),¹ BPA developed the Equivalent Benefits Test in response to the U.S. Court of Appeals for the Ninth Circuit's opinions in *PNGC I* and *PNGC II* to determine whether a power sale to serve a Direct Service Industry (DSI) customer is consistent with sound business principles.² 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.³

Prior to making its final determination whether or not to offer the Draft 2013 Contract, BPA is providing an opportunity for public review and comment on the Draft 2013 Contract and BPA's draft evaluation of the economic value of the benefits and costs of serving Alcoa ("Equivalent Benefits Test" or "EBT"). The public review and comment

¹ Power Sale to Alcoa Inc. Commencing December 22, 2009 Administrator's Record of Decision, released December 21, 2009 (Alcoa ROD); 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 (Port Townsend ROD).

² See *Pacific Northwest Generating Cooperative v. Department of Energy (PNGC I)*, 550 F.3d 846 (9th Cir. 2008), amended on denial of reh'g, 580 F.3d 792 (9th Cir. 2009); *Pacific Northwest Generating Cooperative v. Bonneville Power Administration (PNGC II)*, 580 F.3d 828 (9th Cir. 2009), amended on denial of reh'g, 596 F.3d 1065 (9th Cir. 2010).

³ See Alcoa ROD at 8-9.

period begins on the date the Draft 2013 Contract and EBT evaluation are released for public comment and continues through November 7, 2012.

BPA notes that the Alcoa ROD is the subject of current Ninth Circuit litigation.⁴ BPA agrees that for the purpose of this comment period, issues raised in the litigation related to the current Alcoa contract, and arguments and responses thereto, are incorporated by reference into this administrative process and are not waived by virtue of their not being raised in this public comment period.

II. Draft 2013 Contract

BPA proposes to make available to Alcoa 300 aMW of Firm Power for the entire term of the contract, beginning January 1, 2013 and continuing through September 30, 2022. Alcoa will pay the Industrial Firm Power Rate (“IP rate”) for its purchase of Firm Power for the duration of the Draft 2013 Contract. Alcoa’s termination rights are stated in section 19 and its curtailment rights are outlined in section 5 of the Draft 2013 Contract. Both curtailment and termination are subject to the liquidated damages requirements of section 21. Under section 18 of this contract BPA may require Alcoa to provide a letter of credit in the amount of \$30,000,000. Also, Alcoa shall provide supplemental operating reserves in a manner consistent with the Minimum DSI Operating Reserve - Supplemental as specified in Exhibit E of the Draft 2013 Contract. As stated above, a copy of the draft contract will be available for public comment at the same time as this draft Equivalent Benefits Test.

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

As established in the Alcoa ROD, the Equivalent Benefits Test is a tool that BPA uses to demonstrate that a decision to serve a DSI customer is consistent with sound business principles. BPA’s initial evaluation of the Draft 2013 Contract shows that it can supply firm power to Alcoa for the proposed term and 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. Further, the EBT analysis includes thorough consideration of market fundamentals and other factors that ensure the integrity of the results.

⁴ *Alcoa, Inc. v. Bonneville Power Admin.*, Nos. 10-70211, 10-70707, 10-70743, 10-70782, 10-70813, 10-70843 (9th Cir. argued May 5, 2011).

a. Models and Data Used in EBT for 2013 Draft Contract

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. However, 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.

b. IP Rate Forecast Used in EBT for 2013 Draft Contract

In prior analyses of equivalent benefits, BPA has assumed that IP rates remain unchanged for the entire term of the contract.⁵ 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 forecast price 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 Draft 2013 Contract, BPA used an IP rate forecast. The IP rate forecast used in this EBT 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 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 III(c) below.

c. BPA expects to be surplus during the Draft 2013 Contract Period

BPA does not forecast the need to make purchases specifically to serve Alcoa during the Draft 2013 Contract under most water conditions. BPA has forecast a need to make some power purchases, including some normal "balancing" purchases in some months, to meet its total load obligations during the remainder of FY 2013 through September 30, 2022, particularly under critical water conditions.⁶

⁵ 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, October 29, 2010 (Alcoa Extension ROD) at 7-9.

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

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 as illustrated in Figure 1 below.⁷ 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 and 1,090, 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

See 2011 White Book, Table 8 at 39, and Exhibits 11-12 at 104-111.

The term of the Draft 2013 Contract includes: 7 months in OY 2013, the entire period OY 2014 through OY 2022; and 2 months in OY 2023. The 300 aMW of power that would be sold to Alcoa under the Draft 2013 Contract 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 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, 2017.⁸

⁷ 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.

⁸ 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 4h10c credits for the same period were set based on average values for the 70 water years.⁹ BPA has used this approach – using critical water for one component of its rate setting and average values for the 70 water years for other portions of its rate setting – for some time.

This analysis of the Equivalent Benefits Test is based on BPA’s forecasts of average water 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 Draft 2013 Contract. This means BPA may have to make short term purchases during certain times of the year to balance BPA’s total loads, including Alcoa, and resources.

d. Benefits to BPA will equal or exceed costs for the period of the Draft 2013 Contract

BPA forecasts that the benefits it will accrue from the sale of 300 aMW of firm power to Alcoa at the IP rate, under the Draft 2013 Contract, would exceed by approximately \$89,905,111.00 the forecast benefits BPA could otherwise obtain from selling that power into the market.¹⁰ More than half of these benefits (\$48,633,782) are projected to accrue from the beginning of the contract through BPA's next rate period which ends September 30, 2015, providing a hedge against low natural gas and electricity prices and a stable revenue source. It is also important to note that under this EBT analysis BPA forecasts it will accrue \$42,410,634.00 in additional revenues selling power to Alcoa at the IP rate as opposed to selling the same power into the market.¹¹ Therefore, BPA’s preliminary finding is that the sale of power to Alcoa under the Draft 2013 Contract satisfies the Equivalent Benefits Test.

Consistent with BPA’s EBT methodology established in the Alcoa ROD and the Port Townsend ROD, BPA’s projected monthly revenues are determined by multiplying the heavy load hour (HLH) and light load hour (LLH) energy entitlements and demand entitlement by their respective IP rate components for each month. 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 contained in the REP-12 rate proceeding (“REP-12”). Forecasted IP rates from FY 2014 – FY 2022 were recalculated in the Long-Term Rates Model (LTRM) using the inputs for REP-12 and

⁹ See BP-12-FS-BPA-03A at 138-139 (regarding Critical Water Conditions), Tables 19 and 20, BP-12-FS-BPA-04A at 45-46 (regarding Secondary Sales revenues and Balancing Purchase costs), and Table 16, BP-12-FS-BPA-04A at 40 (regarding 4h10c credits).

¹⁰ See attached Tables 3-8.

¹¹ See attached Table 6.

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 section IV. Surplus energy revenues, balancing purchase expenses, augmentation expenses, and 4(h)(10)(c) credits for FY 2018 – FY 2022 were derived by escalating the FY 2017 values using the Common Agency Assumption¹² forecast for inflation, plus 2%, as was done in the REP-12 proceeding.¹³ 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. The IP rate forecast adopted in REP-12 and the IP rate forecast used in this EBT analysis of the Draft 2013 Contract are reported in Tables 1 and 2 attached to the end of this document.

BPA has calculated revenues under the Draft 2013 Contract based on a sale of 300 aMW, as outlined in Table 3, of firm power each hour to Alcoa under the IP rate schedule beginning January 1, 2013, and ending September 30, 2022. The energy and demand entitlements are the projected amounts to be sold by diurnal period each month in the Draft 2013 Contract. Since under the Draft 2013 Contract BPA expects to make 300 aMW available each 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. Tables 3 and 4 are attached to the end of this document.

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.¹⁴ 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.¹⁵

¹² 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.

¹³ See REP-12-FS-BPA-01 at 69.

¹⁴ Refer generally to the *Power Risk and Market Price Study* in the BP-12 rate proceeding; and specifically to section 2.5.2 for a more complete description of the operating risk factors BPA faces in the course of doing business and section 2.6.3 for surplus energy sales and revenue. See BP-12-FS-BPA-04 at 37–39; 47–49.

¹⁵ 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.

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 Table 5, BPA has forecast the revenues it would otherwise obtain from the market for the term of the Draft 2013 Contract 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, 2022.¹⁶

Net Benefit (IP – Market)

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 Table 5 from the projected IP revenues described in Table 4. BPA's net benefit, before accounting for the benefits associated with adjustments described in section III(e) below, is illustrated in Table 6. Tables 5 and 6 are attached to the end of this document.

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

Consistent with the methodology described in the Alcoa ROD and the Port Townsend ROD, BPA has identified a number of tangible benefits to BPA that would not be achieved by a market sale of power compared to selling the same power to Alcoa at the IP rate during the period of the Draft 2013 Contract. BPA conducted an economic analysis to determine the net value of those benefits.

As described in the Alcoa ROD, BPA believes that the sales to DSIs provide certain intangible and qualitative benefits to BPA's operations such as rate stability, advantages to regional economics, waivers of claims, demand response capabilities, and other benefits.¹⁷ Adjustments for these intangible benefits to BPA are not included or relied upon in the EBT analysis for the Draft 2013 Contract because BPA has elected to take a more conservative approach and include only quantitative benefits at this time. Although these intangible benefits will not affect BPA's decision to offer the Draft 2013 Contract, the Administrator is not precluded from considering such benefits in the future.

Value of Reserves

Like Alcoa's previous contracts, the Draft 2013 Contract 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

¹⁶ Figure 2 on page 11 illustrates BPA's updated natural gas price forecast as compared to other recent forecasts of natural gas prices.

¹⁷ See Alcoa ROD at 72–82.

reserves.¹⁸ 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. Therefore, BPA’s net benefit above compares a surplus power sale to a sale of power at the IP rate with reserves. We have adjusted for this in 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.¹⁹ In other words, BPA has increased the IP rate by the value of reserves credit for purposes of this analysis so that the comparison to a surplus sale into the market is on an “apples to apples” basis. As illustrated by Table 7a, this is done for every megawatt hour not sold to Alcoa. Table 7a is attached to the end of this document.

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) is the organization within BPA that is responsible for the marketing of Federal power. PS must pay the transmission and ancillary services costs to move surplus power to the Mid-C delivery point in order to realize the full market value for its surplus sales. PS maintains an inventory of transmission products and services to deliver the surplus power it intends to sell. However, this transmission product inventory is not sufficient to deliver all of the surplus power PS would sell under all load and resource conditions, especially 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, if PS did not sign contracts to serve the DSI loads. The incremental transmission and ancillary services costs are avoided when BPA makes IP sales to the DSIs because DSIs contract for their own transmission and ancillary services. The planned transmission and ancillary services expenses to address both the expected expenses and their uncertainty were addressed in the WP-10 and BP-12 rate proceedings and are expected to be addressed in each subsequent BPA rate proceeding.²⁰

¹⁸ Sales at the IP rate require the provision of the DSI Minimum Operating Reserve – Supplemental. The Draft 2013 Contract 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 implemented by Exhibit E to the Draft 2013 Contract.

¹⁹ 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.

PS valued these avoided transmission and ancillary services costs for the period of the Draft 2013 Contract using the same methodology employed in the BP-12 rate proceeding to establish the total costs and risks associated with PS's inventory of transmission products and services.²¹ In these computations, both fixed, take-or-pay costs and variable incremental transmission and ancillary service costs were computed under 3,500 load and resource conditions for each month. Incremental transmission and ancillary services costs were computed by comparing the amount of surplus energy available to the monthly excess amount of firm transmission products in the PS inventory.

BPA continues to value avoided transmission and ancillary services costs for the entire period of the Draft 2013 Contract using the tariff costs adopted by BPA's Transmission Services organization in the BP-12 rate proceeding.²² 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, 2022.²³ 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 Table 7b. This percent allotment is the result of the proportion of the megawatt amounts during the period of the Draft 2013 Contract. Table 7b is attached to the end of this document.

²⁰ See *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. BPA expects to continue the methodology for addressing planned transmission and ancillary service expenses in future rate proceedings.

²¹ 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.

²² For the purposes of this EBT analysis, BPA has not forecast a change in the tariff costs that may be adopted in future Transmission Services rate proceedings even though there is a likelihood of a transmission rate increase sometime in the next nine-and-a-half years, especially given recent BPA transmission business line workshop materials indicating potential rate increases. BPA believes that this approach will produce the most conservative results under the EBT analysis.

²³ The current assumptions for DSI service of 480 aMW are comprised of 320 aMW for Alcoa, 20 aMW for Port Townsend Paper Company, and 140 aMW for Columbia Falls Aluminum Company. In reality, these amounts are variable depending on the amount defined in the individual DSI power sales contracts.

Demand Shift

The Demand Shift, as used in previous EBT analyses, assumes that the DSIs would not operate in the absence of BPA service.²⁴ In this analysis of equivalent benefits, BPA has reduced the benefits of the Demand Shift to zero because Alcoa has yet to indicate that they would shut down in the absence of a contract offer from BPA. Moreover, current market conditions suggest that it might be possible for Alcoa to maintain operations through another supplier if BPA was unable to supply Alcoa's Intalco smelter. If this were true, the demand shift would not materialize because the Intalco load could not be considered incremental based solely on BPA's ability to provide service. At this time, BPA believes such an outcome is likely enough to warrant setting the value of benefits from the demand shift at zero in this analysis of equivalent benefits for the Draft 2013 Contract.

Conclusion of Equivalent Benefits Test

Table 8, attached, illustrates that the financial benefits BPA expects to receive from making an IP sale to Alcoa during the period of the Draft 2013 Contract (from January 1, 2013 through September 30, 2022) exceed the forecasted revenues that BPA would otherwise obtain from selling this power on the wholesale electricity market by approximately \$89,905,111.00.

IV. GAS PRICE FORECAST

The gas price forecast component of BPA's electricity price forecast is important because natural gas price movements contribute to price movements in electric power markets in the Pacific Northwest, as a preponderance of the generating resources establishing marginal prices for electric power are fueled by natural gas. BPA's natural gas price forecast used in the BP-12 rate proceeding, the methodology for its development and its use as an input to BPA's electricity price forecasts, are outlined in section 2.3.1 of the Power Risk and Market Price Study.²⁵ 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 Draft 2013 Contract 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

²⁴ See Alcoa ROD at 44 and 68-70.

²⁵ See BP-12-FS-BPA-04 at 15.

(Bentek), Cambridge Energy Research Associates (CERA), the United States Department of Energy’s Energy Information Administration (EIA), PIRA Energy Group, and Wood Mackenzie.²⁶ 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.

Figure 2: Henry Hub Natural Gas Spot Price Forecast

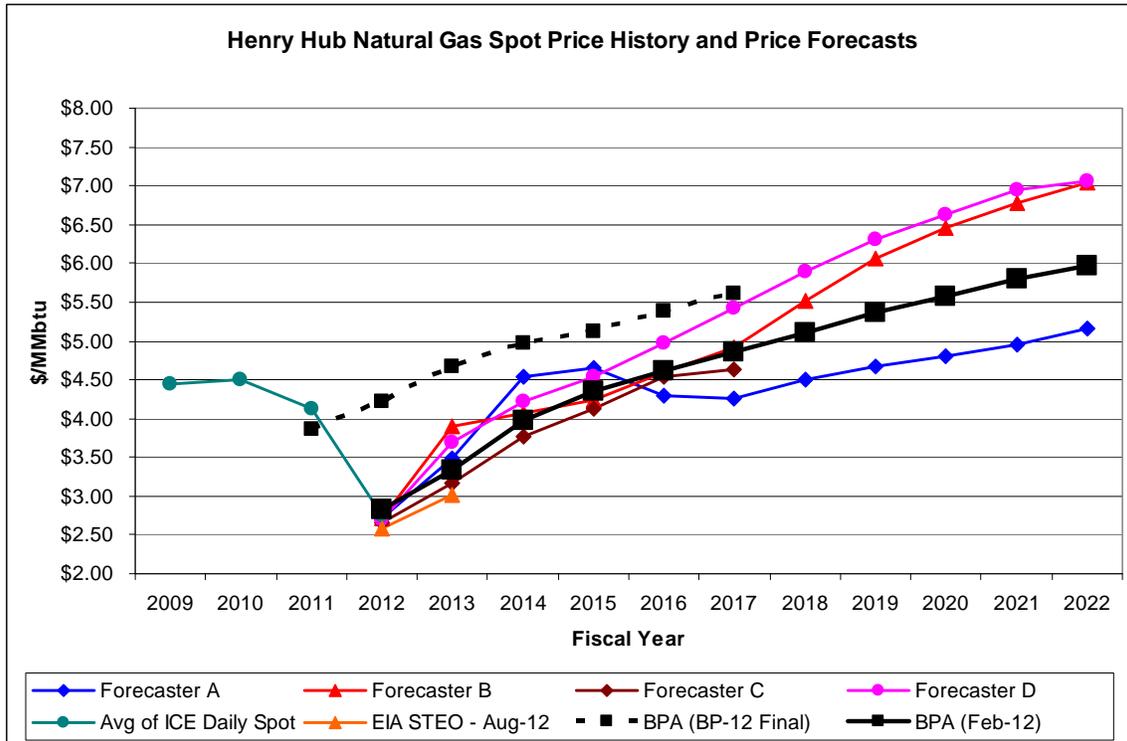


Figure 2 demonstrates that recent spot market prices for natural gas at the Henry Hub have been less than \$5 per MMBtu on an annual average basis in FY 2009, FY 2010 and FY 2011, and less than \$3 per MMBtu in FY 2012 to date (7 months through April 30, 2012). This illustration also demonstrates that 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 Draft 2013 Contract – and the forecasts of four (4) out of five (5) of the 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. Figure 2 also depicts the extent to which BPA’s updated natural gas price forecast has progressed downward since the Final Proposal in BP-12.

²⁶ With the exception of the EIA, each of these forecasters considers their information to be proprietary. The vintage of these forecasts is August 2012. .

V. DRAFT DETERMINATION

Based on the above application of the Equivalent Benefits Test, BPA's preliminary determination is that it would be consistent with sound business principles for BPA to sell 300 aMW at the IP rate to Alcoa for the term of the Draft 2013 Contract. The public review and comment period begins on the date of the issuance of this draft determination and continues through November 7, 2012.

Table 1 – IP Rate Forecast from REP-12

IP Rate Forecast used in 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	\$38,887	\$37,554	\$42,536	\$29,805
Augmentation Expenses (\$000)	\$66,155	\$52,864	\$130,704	\$93,396	\$174,463
Net (\$000)	\$487,552	\$521,255	\$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
IP Rate Forecast used in 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

Table 2 – IP Rate Forecast used in this EBT Analysis

IP Rate Forecast used in 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	\$30,636	\$31,209	\$36,292	\$27,646
Augmentation Expenses (\$000)	\$66,155	\$45,191	\$123,549	\$87,015	\$162,587
Net (\$000)	\$487,552	\$431,512	\$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
IP Rate Forecast used in 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 Table 4.2 – Revenue at Proposed Rates, BP-12-FS-BPA-01A at 136 regarding secondary energy revenues, balancing power purchase expenses, augmentation expenses, and 4h10c credits for FY 2013. See Table 10.4.2.3.1 – Market Price Inputs and Secondary Energy, REP-12-FS-BPA-01A at 203-4 regarding secondary energy revenues, balancing power purchase expenses, and augmentation expenses for FY 2014 – FY 2022. See Table 10.4.2.2.1 – Cost of Service Analysis, General and Other Revenue Credits, REP-12-FS-BPA-01A at 202 regarding 4h10c credits for FY 2014 – FY 2017 and see REP-12-FS-BPA-01 at 69 regarding escalation of 4h10c credits for FY 2018 – FY 2022.

TABLE 3 - Usage and Rates

Month	Alcoa Ferndale Usage			Projected IP Rates		
	Demand (kW)	HLH (MWh)	LLH (MWh)	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

TABLE 3 - Usage and Rates

Month	Alcoa Ferndale Usage			Projected IP Rates		
	Demand (kW)	HLH (MWh)	LLH (MWh)	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

TABLE 3 - Usage and Rates

Month	Alcoa Ferndale Usage			Projected IP Rates		
	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

TABLE 3 - Usage and Rates

Month	Alcoa Ferndale Usage			Projected IP Rates		
	Demand (kW)	HLH (MWh)	LLH (MWh)	Demand (\$ / kW)	HLH (\$ / MWh)	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

TABLE 3 - Usage and Rates

Month	Alcoa Ferndale Usage			Projected IP Rates		
	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

TABLE 4 - BPA's Projected Revenue

Month	Revenues by Rate Determinant			Projected IP Revenue	
	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

TABLE 4 - BPA's Projected Revenue

Month	Revenues by Rate Determinant			Projected IP Revenue	
	Demand (\$)	HLH (\$)	LLH (\$)	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

TABLE 4 - BPA's Projected Revenue

Month	Revenues by Rate Determinant			Projected IP Revenue	
	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

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

Month	Forecasted Market Price		Forecasted Revenues Obtained from the Market			Cumulative Total Contract-to-Date (\$)
	HLH Price (\$ / MWh)	LLH Price (\$ / MWh)	HLH (\$)	LLH (\$)	Month (\$) (HLH + LLH)	
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

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

Month	Forecasted Market Price		Forecasted Revenues Obtained from the Market			Cumulative Total Contract-to-Date (\$)
	HLH Price (\$ / MWh)	LLH Price (\$ / MWh)	HLH (\$)	LLH (\$)	Month (\$) (HLH + LLH)	
Aug-16	\$48.27	\$33.09	\$6,255,374	\$3,096,867	\$9,352,241	\$341,632,420
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

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

Month	Forecasted Market Price		Forecasted Revenues Obtained from the Market			Cumulative Total Contract-to-Date (\$)
	HLH Price (\$ / MWh)	LLH Price (\$ / MWh)	HLH (\$)	LLH (\$)	Month (\$) (HLH + LLH)	
Apr-20	\$45.25	\$33.63	\$5,646,716	\$3,067,025	\$8,713,741	\$750,662,293
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

Month	Net Revenue or (Cost)	
	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

TABLE 6 - BPA's Net Benefit before Adjustment

Month	Net Revenue or (Cost)	
	Month (\$)	Cumulative Total Contract-to-Date (\$)
Sep-16	\$702,721	\$42,543,259
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

TABLE 6 - BPA's Net Benefit before Adjustment

Month	Net Revenue or (Cost)	
	Month (\$)	Cumulative Total Contract-to-Date (\$)
Jun-20	\$185,533	\$52,263,655
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

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

Month	Month (\$)	Cumulative Total Contract-to-Date (\$)
Sep-16	\$203,040	\$9,265,110
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

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

Month	Month (\$)	Cumulative Total Contract-to-Date (\$)
Jun-20	\$203,040	\$18,530,502
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

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
Oct-16	(\$747,839)	\$209,808	\$10,654	\$0	(\$527,377)	\$60,793,056

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 (\$)
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
Aug-20	\$182,098	\$209,808	\$39,572	\$0	\$431,478	\$90,434,899

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 (\$)
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