

**AUTHENTICATED**

**EXTENSION AMENDMENT TO PORT  
TOWNSEND PAPER CORPORATION'S  
POWER SALES AGREEMENT**

**ADMINISTRATOR'S  
RECORD OF DECISION**

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November 2, 2012

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**EXTENSION AMENDMENT TO PORT TOWNSEND PAPER  
CORPORATION’S POWER SALES AGREEMENT  
ADMINISTRATOR’S RECORD OF DECISION  
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**I. INTRODUCTION**

On November 2, 2012 BPA decided to offer Amendment No. 2 (Extension Amendment) to Port Townsend Paper Corporation’s (Port Townsend) power sales agreement, Contract No. 11PB-12330 (Agreement). The Agreement was set to expire August 31, 2013. The Extension Amendment lengthens the term of the agreement through September 30, 2022. This extended term is supported by BPA’s Equivalent Benefits analysis.

As established in the Records of Decision on the Alcoa Contract (“Alcoa ROD”) and on the Port Townsend Contract (“Port Townsend ROD”),<sup>1</sup> BPA developed the Equivalent Benefits Test (EBT) in response to the U.S. Court of Appeals for the Ninth Circuit’s opinions in *PNGC I* and *PNGC II* to help determine whether a power sale to serve a Direct Service Industry (DSI) customer is consistent with sound business principles.<sup>2</sup> 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.<sup>3</sup> On October 16, 2012, the Ninth Circuit issued an opinion reviewing the December 22, 2009, contract between Alcoa and BPA and the Court upheld BPA’s use of the EBT in connection with offering DSI sales. *Alcoa, Inc. v. Bonneville Power Administration*, No. 10-70843 (9th Cir. Oct. 16, 2012). This extension of Port Townsend’s contract is also based on an EBT analysis which BPA believes is consistent with and supported by the Court’s opinion.

Prior to making a final decision, both the Extension Amendment and the accompanying EBT were made available for public review and comment. The public review and comment period began on August 17, 2012, and ended on September 14, 2012. BPA

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<sup>1</sup> 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 Corporation for the Period November 15, 2009 through December 31, 2009 Administrator’s Record of Decision, released November 13, 2009 (Port Townsend ROD).

<sup>2</sup> 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).

<sup>3</sup> See Alcoa ROD at 8-9.

received comments from the Public Power Council (PPC), Springfield Utility Board (SUB), and the Industrial Customers of Northwest Utilities (ICNU).

## **II. BACKGROUND**

Port Townsend's power sales agreement contains a recurring option to request that BPA conduct an Equivalent Benefits Test to determine if the Agreement can be extended and, if so, for what period of time.<sup>4</sup> Pursuant to the terms of the Agreement, BPA conducted an Equivalent Benefits analysis and, as described below, BPA determined that it may extend the term of the Agreement.

The Extension Amendment: (1) extends the term of the Agreement to September 30, 2022; and (2) revises section 1.2 to give Port Townsend the option to submit another request for BPA to conduct an Equivalent Benefits analysis to extend the Agreement beyond September 30, 2020.

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

As established in the Alcoa ROD, the Equivalent Benefits Test is a tool BPA uses to demonstrate that a decision to serve a DSI customer is consistent with sound business principles. BPA's evaluation of the Extension Amendment shows that it can supply firm power to Port Townsend for the term of the Extension Amendment under most water conditions. In determining its forecast of positive net benefits from providing service to Port Townsend for the full term of the Extension Amendment, 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. Further, the EBT analysis includes thorough consideration of market fundamentals and other factors that reinforce the integrity of the results.

### **a. Models and Data Used in EBT for the Extension Amendment**

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. In current market conditions 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.

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<sup>4</sup> See Agreement at section 1.2. Port Townsend submitted its written request to BPA on June 29, 2012.

**b. IP Rate Forecast Used in EBT for the Extension Amendment**

In prior analyses of equivalent benefits BPA has assumed that IP rates remain unchanged for the entire term of the contract.<sup>5</sup> BPA does not believe that this assumption is reasonable for a nine-plus 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 Extension Amendment, 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(d) below.

**c. BPA expects to be surplus during the Extension Amendment Period**

BPA does not forecast the need to make purchases specifically to serve Port Townsend during the Extension Amendment under most water conditions. BPA has forecast a need to make some power purchases, including some normal “balancing” purchases in some months, to meet its total load obligations during the remainder of FY 2012 through September 30, 2022, particularly under critical water conditions.<sup>6</sup>

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.<sup>7</sup> 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.

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<sup>5</sup> 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.

<sup>6</sup> 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.

<sup>7</sup> 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.

**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 Extension Amendment includes: 7 months in OY 2014, all months in OY 2015 through OY 2022; and 2 months in OY 2023. The 12 to 20.5 aMW<sup>8</sup> of power that would be sold to Port Townsend under the Extension Amendment represents less than five 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.<sup>9</sup>

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

<sup>8</sup> Under the Agreement, BPA is required to make 20.5 aMW available to Port Townsend unless Port Townsend's OCC and Wheel Turning Load are being served by Jefferson PUD. See Agency Record of Decision: Amendment No. 1 to Firm Power Sales Agreement with Port Townsend Paper Corporation, Contract No. 11PB-12330, June 28, 2012 (Port Townsend Wheel Turning Load ROD). For the purposes of this EBT analysis, BPA has assumed that Jefferson will serve these loads; therefore, the EBT analysis is based on a Port Townsend load of 12 aMW. Alternatively, assuming BPA supplies 20.5 aMW, inclusive of the OCC and Wheel Turning Load, the EBT analysis shows a net benefit to BPA of \$5,038,267.00 at the end of the Extension Amendment term. Graphs documenting this analysis are attached to the EBT analysis for reference.

<sup>9</sup> 2011 White Book at 39.

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.<sup>10</sup> BPA has used 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 foregoing forecasts of average water for OY 2014 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 Port Townsend during the term of the Extension Amendment. This means BPA may have to make short term purchases during certain times of the year to balance BPA's total loads, including Port Townsend, and resources.

**d. Benefits to BPA will equal or exceed costs for the period of the Extension Amendment**

BPA forecasts that the revenues it will accrue from the sale of 12 aMW of firm power to Port Townsend at the IP rate, under the Extension Amendment, will exceed by approximately \$2,949,230.00 the forecast revenues BPA could otherwise obtain from selling that power into the market.<sup>11</sup> Therefore, BPA's determination is that the sale of power to Port Townsend under the Extension Amendment satisfies the Equivalent Benefits Test.

It is important to note that almost a million dollars (\$900,757.00) of these benefits are projected to accrue from the beginning of the Extension Amendment through BPA's next rate period which ends September 30, 2015, providing a stable revenue stream to hedge against low natural gas prices and any associated low secondary revenues throughout the next rate period.<sup>12</sup> This revenue stream continues throughout the entirety of this amendment further hedging against variability in BPA's secondary revenues by fixing a guaranteed revenue stream and helping to stabilize BPA's power rates through September of 2022.

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

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<sup>10</sup> 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 4(h)(10)(c) credits).

<sup>11</sup> See attached Tables 3-8.

<sup>12</sup> See attached Table 6.

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 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 Assumption forecast for inflation, plus 2%, as was done in the REP-12 proceeding.<sup>13</sup> The monthly–diurnal shape computed for FY2012-13 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 FY2012-13 from BP-12. The IP rate forecast adopted in REP-12 and the IP rate forecast used in this EBT analysis of the Extension Amendment are reported in Tables 1 and 2 attached to the end of this document.

BPA has calculated revenues under the Extension Amendment based on a sale of 12 aMW, as outlined in Table 3, of firm power each hour to Port Townsend under the IP rate schedule beginning September 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 Extension Amendment. Since under the Extension Amendment BPA expects to make 12 aMW available each month, 12 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.<sup>14</sup> 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.<sup>15</sup>

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<sup>13</sup> See REP-12-FS-BPA-01 at 69.

<sup>14</sup> 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.

<sup>15</sup> 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 12 MW of firm power to Port Townsend 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 12 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 Extension Amendment 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.<sup>16</sup>

### **Net Benefit (IP – Market)**

BPA determined its net benefit of serving Port Townsend 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(f) 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 Port Townsend 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 Port Townsend at the IP rate during the period of the Extension Amendment. 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 and other benefits.<sup>17</sup> BPA has once again elected to take a conservative approach and so adjustments for these intangible benefits to BPA are not included or relied upon in the EBT analysis. The EBT analysis includes only tangible financial benefits that can be reasonably measured and reduced to a forecast dollar amount.

Although intangible benefits have not provided a basis for this decision, identifying them at this time serves to underscore the cautious approach adopted by the Administrator. Taking such an approach at this time, however, does not foreclose the possibility of considering such benefits in the future more directly as part of the decision making

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<sup>16</sup> Figure 2 illustrates BPA's updated natural gas price forecast as compared to other recent forecasts of natural gas prices, as well as the recent pattern of forecasts of natural gas prices progressing downward (since the BP-12 rate proceeding) with the expectation of prices leveling off followed by a slow increase with the passage of time.

<sup>17</sup> See Alcoa ROD at 72–82.

process, or depending upon future events, reducing them to a tangible value and including them in the EBT analysis.

### **Value of Reserves**

The Agreement requires Port Townsend 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.<sup>18</sup> 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 through September 30, 2013, and thereafter, used the value of reserves credit from the REP-12 rate proceeding. 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.<sup>19</sup> 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. As illustrated by Table 7a, this is done for every megawatt hour not sold to Port Townsend. 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), the organization within BPA 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 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

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<sup>18</sup> Sales at the IP rate require the provision of the DSI Minimum Operating Reserve – Supplemental. Port Townsend's Agreement is a sale at the IP rate and, accordingly, Port Townsend is required to make such supplemental operating reserves available to BPA, as specified in section 6.1 and implemented by Exhibit E to the Agreement.

<sup>19</sup> 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.

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.<sup>20</sup>

PS valued these avoided transmission and ancillary services costs for the period of the Extension Amendment 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. 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 of 2022, especially in light of materials provided in recent BPA transmission business line workshops, which show that potential rate increases are possible. 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 Extension Amendment using the tariff costs adopted by BPA's Transmission Services organization in the BP-12 rate proceeding.<sup>21</sup> 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 October 1, 2013 through September 30, 2022.<sup>22</sup> The average total monthly expense values of the 3,500 games were computed with and without service to the DSIs and the differences were taken to determine the avoided PS transmission and ancillary services costs when PS makes these IP sale(s) to the DSIs. For purposes of this analysis, Port Townsend has

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<sup>20</sup> 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.

<sup>21</sup> 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. If an increase were to occur, it would increase the avoided transmission and ancillary service costs and thereby increase the benefits to BPA of the Extension Amendment.

<sup>22</sup> 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.

been allotted 2.5% 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 Extension Amendment. Table 7b is attached to the end of this document.

### **Demand Shift**

The Demand Shift, as discussed in previous EBT analyses, assumes that the DSIs would not operate in the absence of BPA service.<sup>23</sup> In this analysis of equivalent benefits, BPA has reduced the benefits of the Demand Shift to zero because Port Townsend has not indicated that it would shut down in the absence of a contract offer from BPA. Moreover, current and expected wholesale power market conditions suggest Port Townsend would be able to maintain operations through another supplier if BPA was unable to supply them. In such circumstances, the demand shift would not materialize because the Port Townsend 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 Extension Amendment.

### **Conclusion of Equivalent Benefits Test**

Table 8, attached, illustrates that the financial benefits BPA expects to receive from making an IP sale to Port Townsend during the period of the Extension Amendment (from September 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 \$2,949,230.

## **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.<sup>24</sup> 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 Extension Amendment 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 –

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<sup>23</sup> See Alcoa ROD at 44 and 68-70.

<sup>24</sup> See BP-12-FS-BPA-04 at 15.

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.<sup>25</sup> 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**

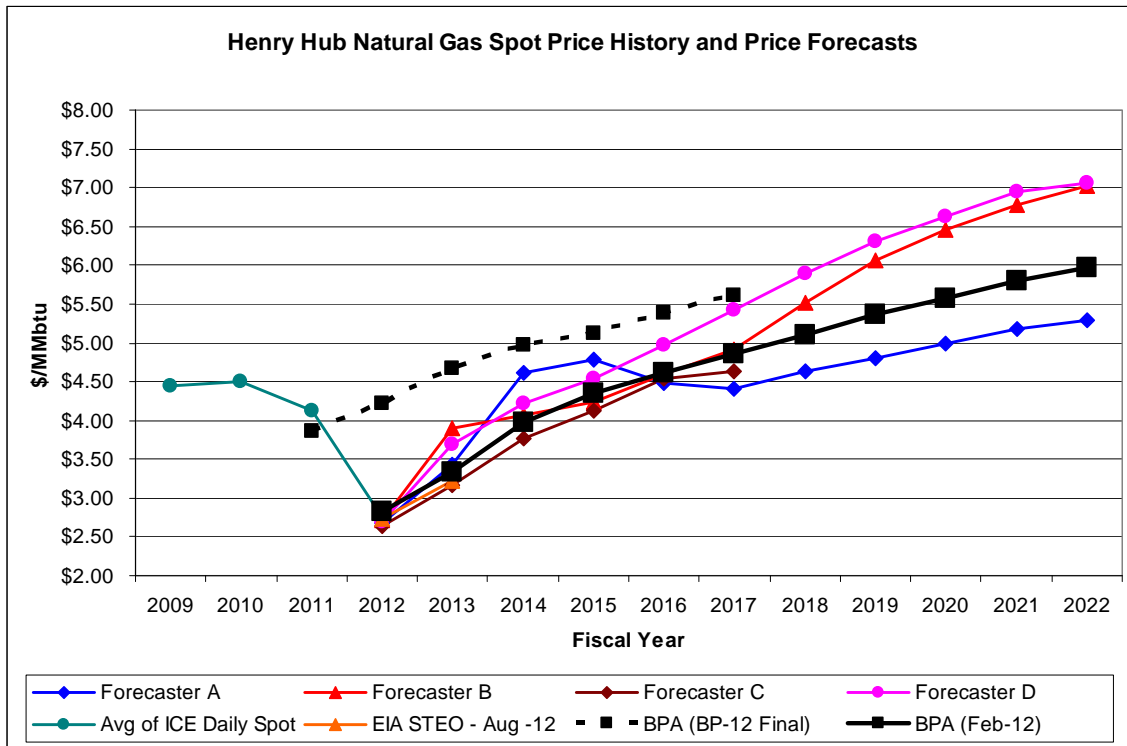


Figure 2 demonstrates that recent spot market prices for natural gas at the Henry Hub have been less than \$5 per MMBtu on an annual average basis in FY 2009, FY 2010 and FY 2011, and has averaged less than \$3 per MMBtu in FY 2012 to date. This illustration also demonstrates that the forecasts of five other industry experts are between \$3.23 per MMBtu and \$3.90 per MMBtu for FY 2013 – the starting fiscal year of BPA’s evaluation of equivalent benefits for the Extension Amendment – and the forecasts of all five 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

<sup>25</sup> With the exception of the EIA, each of these forecasters considers their information to be proprietary. The vintage of these forecasts is August 2012.

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

## V. RESPONSE TO COMMENTS

### a. Public Power Council

PPC commented that it focused on the EBT analysis used for Port Townsend’s amendment extension because “the equivalent benefits test will likely be the centerpiece of BPA’s efforts to justify future long-term sales of power to aluminum DSIs.” PPC at 1. First, PPC questions the reasonableness of the length of the contract term that is supported by the current EBT analysis, stating that there is “inherent variability in potential market prices.” PPC at 2. As outlined in the sections above, the EBT is a conservative analysis designed to demonstrate that a given DSI sale is consistent with sound business principles. BPA has taken additional steps to assure that the Extension Amendment does not pose an unreasonable risk to BPA. BPA has limited the EBT test to the period before September 30, 2022, even though the EBT could support an even longer contract term. PPC was critical of the long-term nature of the forecast and stated it may “turn out to be significantly in error.” PPC’s comments assume a negative outcome; however, it is just as likely that an error could be positive, meaning that BPA will achieve even greater benefits than shown by the EBT. For example, during the past year the price of natural gas has driven market energy prices below the IP rate to the benefit of BPA and its preference customers, resulting in greater benefits to BPA than were forecast.

Second, PPC notes that there is “substantial variability” in resource acquisition and load growth and argues that BPA “cannot supply Port Townsend with firm power, since the definition of firm power is power that can be supplied over the entire historical range of water conditions.” PPC at 2. BPA, however, generally defines firm power as power that BPA will continuously make available to a customer.<sup>26</sup> PPC cites no source for its definition of firm power. As described above, BPA’s assumptions regarding the availability of surplus are based on BPA’s rate case study and the 2011 White Book, and BPA does not anticipate the need to alter its purchasing strategy for the power sold to Port Townsend during the term of the Extension Amendment.

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<sup>26</sup> See, e.g., 2012 Power Rates Schedules and General Rate Schedule Provisions (FY2012-2013), Oct. 2011 (definitions of Firm Requirements Power, New Resource Firm Power, Priority Firm Power, and Industrial Firm Power); BPA Regional Dialogue Load Following Template (definition of Firm Requirements Power); Port Townsend Agreement at 3 (definition of Firm Power).

Lastly, PPC asserts that BPA has not shown the range of possible financial outcomes of the Extension Amendment and thus has not accounted for potential errors in the forecast. In response, BPA notes that the forecast cumulative benefits of the Extension Amendment are \$2,949,230. This provides a substantial margin of error within which the benefits of this transaction will still equal or exceed the costs. Moreover, this figure does not account for the additional cushion provided by “intangible” benefits that BPA does not include in its EBT forecast.

**b. Springfield Utility Board**

Springfield Utility Board (SUB) raises two issues in its comments. First, SUB asserts that BPA has not accounted for the impact associated with the demand shift. SUB at 1. As noted earlier in this ROD, BPA determined there is no reason to include the demand shift in this EBT analysis based on current and expected conditions which make it more likely the plant could continue to operate in the absence of a BPA power sale. *See supra* p. 9. Thus, SUB’s concerns regarding the demand shift need not be addressed in this proceeding.

Second, SUB asserts that “BPA has provided insufficient information regarding Avoided Transmission and Ancillary Services Expense to adequately support this issue.” SUB at 2. SUB raised this issue in the prior public comment process regarding PTPC’s Agreement. BPA’s response continues to be the same: BPA has provided all of the information that it considered in the EBT analysis, either in this ROD or in the cited materials, and believes that the level of detail is sufficient to justify BPA’s position. SUB further states that it does not have access to AURORA. *Id.* AURORA is commercially available and is widely used by many utilities in the Pacific Northwest but is the proprietary software of the vendor and therefore BPA is restricted by the terms of its license. SUB has the ability to acquire AURORA on its own. Thus, BPA does not believe that a party’s professed inability to access the AURORA model means that BPA’s analysis is “unsupported.” SUB provides no basis upon which to conclude that use of the AURORA model is inappropriate or that the model itself is inherently flawed. Nor does SUB suggest an alternative approach or model that would perform the same function as the AURORA model, as effectively as the AURORA model, and which, at the same time, would be immediately accessible to all interested parties.

**c. Industrial Customers of Northwest Utilities**

ICNU notes that, as with previous DSI contracts, the Port Townsend amendment extending the term of the contract includes the “damage waiver” provision without amendment or modification. ICNU states it “has challenged both the equivalent benefits test and the legality of the damage waiver provision in two separate appeals at the Ninth Circuit Court of Appeals.”<sup>27</sup> ICNU at 2. ICNU then goes on to submit that it “is not

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<sup>27</sup> As noted earlier, the Ninth Circuit has now issued an opinion on one of these appeals. *See Alcoa, Inc. v. Bonneville Power Admin.*, No. 10-70843 (9th Cir. Oct. 16, 2012) (reviewing contract between Alcoa and BPA on December 22, 2009). The second case has not yet been resolved and is pending before the Court.

repeating the arguments it has raised in those administrative processes and appeals, and expressly adopts and incorporates all of the factual and legal arguments ICNU has previously raised.” *Id.*

BPA reiterates that, just as with the damage waiver provision in the Alcoa contract that was the subject of the recent Ninth Circuit opinion, the damage waiver provision in this instance is a fair allocation of the legal risk facing both BPA and Port Townsend in that it protects both parties to the contract equally in the event of an adverse legal outcome. BPA believes that the Court’s determination regarding the validity of the damage waiver provision in the *Alcoa* decision applies with equal force to the damage waiver in the Extension Agreement.

ICNU further argues that BPA “should not enter into a new long-term contract with Port Townsend prior to the Ninth Circuit’s resolution of these appeals.” ICNU at 2. ICNU asserts that the EBT and the assumptions underlying it are “controversial and potentially illegal” and that BPA should not rush into a long term contract until all of the legal issues are fully and finally resolved and BPA “is certain that it has the legal authority to sell power to Port Townsend under these terms and conditions.” *Id.* As noted earlier, BPA believes the EBT analysis is well-founded and supported by the recent *Alcoa* decision. BPA has no reason to believe a Court will ultimately find that BPA’s reliance on the EBT as applied to the Extension Agreement is flawed. *See Alcoa, Inc. v. Bonneville Power Administration*, No. 10-70843 (9th Cir. Oct. 16, 2012) at 12408 -12410.

Furthermore, from a legal, policy, and business perspective, it would be unwise to establish the precedent of following the course suggested by ICNU and deferring any action until all legal matters are fully resolved. Such a practice would allow prospective litigants to essentially hold the agency hostage simply by filing a petition in the Ninth Circuit challenging the Administrator’s actions. Such a course of action would be equally unacceptable whether as a business practice or a matter of government policy for the simple reason that court review of BPA’s actions is intended to resolve legitimate legal challenges to disputed matters, not to interfere with BPA’s continuing business operations.

Finally, it is not clear what harm ICNU believes would be avoided by deferring action on DSI contracts. This amendment can be challenged in the Ninth Circuit by any party with proper standing the same as any other final agency action. Any decisions rendered in other cases prior to a ruling will serve as precedent, including the newly issued *Alcoa, Inc. v. Bonneville Power Administration* and provide further guidance with respect to how pending and future cases, in they event they arise, should be resolved. Thus, it is unclear how any legal principles are jeopardized by extending Port Townsend’s power sales agreement at this time rather than waiting for resolution of legal issues that remain outstanding.

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*See Industrial Customers of Nw. Util. v. Bonneville Power Admin.*, Case Nos. 11-71368, 11-71396, 11-71401, and 11-71419 (collectively, the “DSI Lookback”). Thus, BPA still believes it is appropriate to address ICNU’s concerns regarding legal uncertainty.



ICNU also urges BPA “to revise its equivalent benefits test and recover all past illegally [*sic*] subsidies paid to the DSIs before executing any additional contracts with any DSI, including Port Townsend.” ICNU at 2. BPA addressed the questions of whether it made any authorized payments and the appropriateness of any collection activities in the “DSI Lookback ROD.”<sup>28</sup> As ICNU itself notes, that final decision is currently being reviewed by Ninth Circuit in Case Nos. 11-71368, 11-71396, 11-71401, 11-71419. Since the Court has not completed its review of the remanded issues, ICNU’s request that BPA initiate collection activities is premature.

## VI. ENVIRONMENTAL EFFECTS

BPA has reviewed the Extension Amendment 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. This Extension Amendment would further extend the provision of service to an already existing and currently operating facility, with no change in operation, at the same level already being provided under an existing power sales contract for the facility. BPA expects that under this Extension Amendment, BPA would continue to provide power from existing generation sources that would continue to operate within their normal operating limits. These Agreement changes are administrative in nature and would not be expected to result in reasonably foreseeable environmental effects. For these reasons, BPA has determined that the Extension Amendment 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 contract falls within Categorical Exclusion A2, found at 10 CFR 1021, Subpart D, Appendix A, which provides for the categorical exclusion from NEPA of actions involving “[c]ontract interpretations, amendments, and modifications that are clarifying or administrative in nature.” 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/categorialexclusions.aspx](http://efw.bpa.gov/environmental_services/categorialexclusions.aspx).

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<sup>28</sup> See Administrator’s Record of Decision: Issues Remanded to Bonneville Power Administration in PNGC I and PNGC II, available at [http://www.bpa.gov/corporate/pubs/RODS/2011/PTPC\\_Final\\_ROD-2011-04-18.pdf](http://www.bpa.gov/corporate/pubs/RODS/2011/PTPC_Final_ROD-2011-04-18.pdf) (BPA determined that there were no payments owing to either the preference customers or to the DSIs as a result of the contracts that prompted the Court to remand issues related to those questions).

## VII. CONCLUSION

Based on the above application of the Equivalent Benefits Test, BPA has determined that it is consistent with sound business principles for BPA to sell 12 aMW or 20.5 aMW at the IP rate to Port Townsend for the term of the Extension Amendment.

Issued at Portland, Oregon.

/S/ STEPHEN J. WRIGHT  
Stephen J. Wright  
Administrator and Chief Executive Officer

11/2/12  
Date

**Table 1 – IP Rate Forecast from REP-12**

<b>IP Rate Forecast used in REP-12</b>					
	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
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
<b>IP Rate (\$/MWh)</b>	<b>\$36.31</b>	<b>\$38.87</b>	<b>\$38.87</b>	<b>\$41.28</b>	<b>\$41.28</b>
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
<b>Surplus energy revenues after Slice is removed</b>	<b>\$458,141</b>	<b>\$448,389</b>	<b>\$433,683</b>	<b>\$440,365</b>	<b>\$449,438</b>
<b>IP Rate Forecast used in REP-12 (continued)</b>					
	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>
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
<b>IP Rate (\$/MWh)</b>	<b>\$42.96</b>	<b>\$42.96</b>	<b>\$41.45</b>	<b>\$41.45</b>	<b>\$43.49</b>
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
<b>Surplus energy revenues after Slice is removed</b>	<b>\$462,922</b>	<b>\$476,809</b>	<b>\$492,459</b>	<b>\$505,847</b>	<b>\$521,022</b>

**Table 2 – IP Rate Forecast used in this EBT Analysis**

<b>IP Rate Forecast used in EBT Analysis</b>					
	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
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
<b>IP Rate (\$/MWh)</b>	<b>\$36.31</b>	<b>\$40.14</b>	<b>\$40.14</b>	<b>\$42.32</b>	<b>\$42.32</b>
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
<b>Surplus energy revenues after Slice is removed</b>	<b>\$458,141</b>	<b>\$371,098</b>	<b>\$388,613</b>	<b>\$397,331</b>	<b>\$394,226</b>
<b>IP Rate Forecast used in EBT Analysis (continued)</b>					
	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>
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
<b>IP Rate (\$/MWh)</b>	<b>\$44.12</b>	<b>\$44.12</b>	<b>\$42.58</b>	<b>\$42.58</b>	<b>\$46.10</b>
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
<b>Surplus energy revenues after Slice is removed</b>	<b>\$406,053</b>	<b>\$418,234</b>	<b>\$431,961</b>	<b>\$443,705</b>	<b>\$457,016</b>

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	Port Townsend Paper Usage			Projected IP Rates		
	Demand (kW)	HLH (MWh)	LLH (MWh)	Demand (\$ / kW)	HLH (\$ / MWh)	LLH (\$ / MWh)
Sep-13	12,000	4,608	4,032	\$10.53	\$44.10	\$34.24
Oct-13	12,000	5,184	3,744	\$9.18	\$42.50	\$35.10
Nov-13	12,000	4,800	3,852	\$9.31	\$43.06	\$35.32
Dec-13	12,000	4,800	4,128	\$9.97	\$46.10	\$37.53
Jan-14	12,000	4,992	3,936	\$9.70	\$44.91	\$35.65
Feb-14	12,000	4,608	3,456	\$9.92	\$45.91	\$37.29
Mar-14	12,000	4,992	3,924	\$9.60	\$44.40	\$36.35
Apr-14	12,000	4,992	3,648	\$9.10	\$42.13	\$34.22
May-14	12,000	4,992	3,936	\$8.50	\$39.39	\$27.54
Jun-14	12,000	4,800	3,840	\$8.72	\$40.40	\$26.01
Jul-14	12,000	4,992	3,936	\$10.20	\$47.18	\$33.66
Aug-14	12,000	4,992	3,936	\$10.75	\$49.71	\$36.15
Sep-14	12,000	4,800	3,840	\$10.53	\$48.71	\$37.75
Oct-14	12,000	5,184	3,744	\$9.18	\$42.61	\$35.21
Nov-14	12,000	4,608	4,044	\$9.31	\$43.18	\$35.43
Dec-14	12,000	4,992	3,936	\$9.97	\$46.21	\$37.64
Jan-15	12,000	4,992	3,936	\$9.70	\$45.02	\$35.77
Feb-15	12,000	4,608	3,456	\$9.92	\$46.02	\$37.40
Mar-15	12,000	4,992	3,924	\$9.60	\$44.51	\$36.47
Apr-15	12,000	4,992	3,648	\$9.10	\$42.24	\$34.33
May-15	12,000	4,800	4,128	\$8.50	\$39.50	\$27.66
Jun-15	12,000	4,992	3,648	\$8.72	\$40.51	\$26.12
Jul-15	12,000	4,992	3,936	\$10.20	\$47.29	\$33.78
Aug-15	12,000	4,992	3,936	\$10.75	\$49.82	\$36.27
Sep-15	12,000	4,800	3,840	\$10.53	\$48.82	\$37.87
Oct-15	12,000	5,184	3,744	\$9.18	\$44.83	\$37.05
Nov-15	12,000	4,608	4,044	\$9.31	\$45.43	\$37.28
Dec-15	12,000	4,992	3,936	\$9.97	\$48.62	\$39.61
Jan-16	12,000	4,800	4,128	\$9.70	\$47.37	\$37.63
Feb-16	12,000	4,800	3,552	\$9.92	\$48.42	\$39.35
Mar-16	12,000	5,184	3,732	\$9.60	\$46.83	\$38.37
Apr-16	12,000	4,992	3,648	\$9.10	\$44.44	\$36.13
May-16	12,000	4,800	4,128	\$8.50	\$41.56	\$29.10
Jun-16	12,000	4,992	3,648	\$8.72	\$42.62	\$27.49
Jul-16	12,000	4,800	4,128	\$10.20	\$49.75	\$35.54
Aug-16	12,000	5,184	3,744	\$10.75	\$52.41	\$38.16
Sep-16	12,000	4,800	3,840	\$10.53	\$51.36	\$39.84
Oct-16	12,000	4,992	3,936	\$9.18	\$44.88	\$37.10
Nov-16	12,000	4,800	3,852	\$9.31	\$45.48	\$37.33
Dec-16	12,000	4,992	3,936	\$9.97	\$48.66	\$39.66
Jan-17	12,000	4,800	4,128	\$9.70	\$47.41	\$37.68
Feb-17	12,000	4,608	3,456	\$9.92	\$48.47	\$39.40
Mar-17	12,000	5,184	3,732	\$9.60	\$46.88	\$38.42
Apr-17	12,000	4,800	3,840	\$9.10	\$44.49	\$36.18
May-17	12,000	4,992	3,936	\$8.50	\$41.61	\$29.15
Jun-17	12,000	4,992	3,648	\$8.72	\$42.67	\$27.54

**TABLE 3 - Usage and Rates**

Month	Port Townsend Paper Usage			Projected IP Rates		
	Demand (kW)	HLH (MWh)	LLH (MWh)	Demand (\$ / kW)	HLH (\$ / MWh)	LLH (\$ / MWh)
Jul-17	12,000	4,800	4,128	\$10.20	\$49.80	\$35.59
Aug-17	12,000	5,184	3,744	\$10.75	\$52.46	\$38.21
Sep-17	12,000	4,800	3,840	\$10.53	\$51.41	\$39.89
Oct-17	12,000	4,992	3,936	\$9.18	\$46.77	\$38.68
Nov-17	12,000	4,800	3,852	\$9.31	\$47.39	\$38.92
Dec-17	12,000	4,800	4,128	\$9.97	\$50.70	\$41.34
Jan-18	12,000	4,992	3,936	\$9.70	\$49.40	\$39.28
Feb-18	12,000	4,608	3,456	\$9.92	\$50.50	\$41.07
Mar-18	12,000	5,184	3,732	\$9.60	\$48.85	\$40.05
Apr-18	12,000	4,800	3,840	\$9.10	\$46.37	\$37.72
May-18	12,000	4,992	3,936	\$8.50	\$43.37	\$30.41
Jun-18	12,000	4,992	3,648	\$8.72	\$44.47	\$28.74
Jul-18	12,000	4,800	4,128	\$10.20	\$51.88	\$37.11
Aug-18	12,000	5,184	3,744	\$10.75	\$54.65	\$39.83
Sep-18	12,000	4,608	4,032	\$10.53	\$53.56	\$41.58
Oct-18	12,000	5,184	3,744	\$9.18	\$46.75	\$38.66
Nov-18	12,000	4,800	3,852	\$9.31	\$47.37	\$38.90
Dec-18	12,000	4,800	4,128	\$9.97	\$50.69	\$41.32
Jan-19	12,000	4,992	3,936	\$9.70	\$49.39	\$39.27
Feb-19	12,000	4,608	3,456	\$9.92	\$50.48	\$41.06
Mar-19	12,000	4,992	3,924	\$9.60	\$48.83	\$40.03
Apr-19	12,000	4,992	3,648	\$9.10	\$46.35	\$37.70
May-19	12,000	4,992	3,936	\$8.50	\$43.35	\$30.40
Jun-19	12,000	4,800	3,840	\$8.72	\$44.46	\$28.72
Jul-19	12,000	4,992	3,936	\$10.20	\$51.87	\$37.09
Aug-19	12,000	5,184	3,744	\$10.75	\$54.64	\$39.82
Sep-19	12,000	4,608	4,032	\$10.53	\$53.55	\$41.57
Oct-19	12,000	5,184	3,744	\$9.18	\$45.13	\$36.96
Nov-19	12,000	4,800	3,852	\$9.31	\$45.75	\$37.21
Dec-19	12,000	4,800	4,128	\$9.97	\$49.10	\$39.65
Jan-20	12,000	4,992	3,936	\$9.70	\$47.78	\$37.58
Feb-20	12,000	4,800	3,552	\$9.92	\$48.89	\$39.38
Mar-20	12,000	4,992	3,924	\$9.60	\$47.22	\$38.35
Apr-20	12,000	4,992	3,648	\$9.10	\$44.72	\$36.00
May-20	12,000	4,800	4,128	\$8.50	\$41.69	\$28.63
Jun-20	12,000	4,992	3,648	\$8.72	\$42.81	\$26.94
Jul-20	12,000	4,992	3,936	\$10.20	\$50.28	\$35.38
Aug-20	12,000	4,992	3,936	\$10.75	\$53.08	\$38.13
Sep-20	12,000	4,800	3,840	\$10.53	\$51.98	\$39.89
Oct-20	12,000	5,184	3,744	\$9.18	\$45.17	\$37.01
Nov-20	12,000	4,608	4,044	\$9.31	\$45.79	\$37.25
Dec-20	12,000	4,992	3,936	\$9.97	\$49.14	\$39.69
Jan-21	12,000	4,800	4,128	\$9.70	\$47.83	\$37.62
Feb-21	12,000	4,608	3,456	\$9.92	\$48.93	\$39.42
Mar-21	12,000	5,184	3,732	\$9.60	\$47.26	\$38.39
Apr-21	12,000	4,992	3,648	\$9.10	\$44.76	\$36.04

**TABLE 3 - Usage and Rates**

Month	Port Townsend Paper Usage			Projected IP Rates		
	Demand (kW)	HLH (MWh)	LLH (MWh)	Demand (\$ / kW)	HLH (\$ / MWh)	LLH (\$ / MWh)
May-21	12,000	4,800	4,128	\$8.50	\$41.74	\$28.67
Jun-21	12,000	4,992	3,648	\$8.72	\$42.85	\$26.98
Jul-21	12,000	4,992	3,936	\$10.20	\$50.33	\$35.43
Aug-21	12,000	4,992	3,936	\$10.75	\$53.12	\$38.17
Sep-21	12,000	4,800	3,840	\$10.53	\$52.02	\$39.94
Oct-21	12,000	4,992	3,936	\$9.18	\$48.85	\$39.98
Nov-21	12,000	4,800	3,852	\$9.31	\$49.53	\$40.24
Dec-21	12,000	4,992	3,936	\$9.97	\$53.17	\$42.89
Jan-22	12,000	4,800	4,128	\$9.70	\$51.74	\$40.64
Feb-22	12,000	4,608	3,456	\$9.92	\$52.94	\$42.60
Mar-22	12,000	5,184	3,732	\$9.60	\$51.13	\$41.48
Apr-22	12,000	4,992	3,648	\$9.10	\$48.41	\$38.92
May-22	12,000	4,800	4,128	\$8.50	\$45.12	\$30.92
Jun-22	12,000	4,992	3,648	\$8.72	\$46.33	\$29.08
Jul-22	12,000	4,800	4,128	\$10.20	\$54.46	\$38.26
Aug-22	12,000	5,184	3,744	\$10.75	\$57.50	\$41.24
Sep-22	12,000	4,800	3,840	\$10.53	\$56.30	\$43.16

**TABLE 4 - BPA's Projected Revenue**

Revenues by Rate Determinant				Projected IP Revenue	
Month	Demand (\$)	HLH (\$)	LLH (\$)	Month(\$)	Cumulative Total Contract-to-Date (\$)
Sep-13	\$0	\$203,201	\$138,046	\$341,247	\$341,247
Oct-13	\$0	\$220,305	\$131,403	\$351,709	\$692,956
Nov-13	\$0	\$206,707	\$136,050	\$342,756	\$1,035,712
Dec-13	\$0	\$221,267	\$154,926	\$376,192	\$1,411,905
Jan-14	\$0	\$224,182	\$140,329	\$364,511	\$1,776,416
Feb-14	\$0	\$211,546	\$128,860	\$340,406	\$2,116,822
Mar-14	\$0	\$221,631	\$142,648	\$364,279	\$2,481,101
Apr-14	\$0	\$210,316	\$124,832	\$335,147	\$2,816,248
May-14	\$0	\$196,615	\$108,403	\$305,018	\$3,121,266
Jun-14	\$0	\$193,906	\$99,871	\$293,777	\$3,415,043
Jul-14	\$0	\$235,498	\$132,500	\$367,998	\$3,783,041
Aug-14	\$0	\$248,144	\$142,297	\$390,441	\$4,173,482
Sep-14	\$0	\$233,800	\$144,970	\$378,771	\$4,552,253
Oct-14	\$0	\$220,897	\$131,831	\$352,728	\$4,904,981
Nov-14	\$0	\$198,965	\$143,293	\$342,258	\$5,247,239
Dec-14	\$0	\$230,688	\$148,169	\$378,857	\$5,626,096
Jan-15	\$0	\$224,753	\$140,778	\$365,531	\$5,991,627
Feb-15	\$0	\$212,072	\$129,255	\$341,327	\$6,332,954
Mar-15	\$0	\$222,201	\$143,096	\$365,297	\$6,698,250
Apr-15	\$0	\$210,886	\$125,248	\$336,134	\$7,034,385
May-15	\$0	\$189,601	\$114,162	\$303,763	\$7,338,148
Jun-15	\$0	\$202,233	\$95,294	\$297,527	\$7,635,674
Jul-15	\$0	\$236,068	\$132,950	\$369,018	\$8,004,692
Aug-15	\$0	\$248,715	\$142,746	\$391,461	\$8,396,153
Sep-15	\$0	\$234,349	\$145,409	\$379,757	\$8,775,910
Oct-15	\$0	\$232,400	\$138,712	\$371,111	\$9,147,021
Nov-15	\$0	\$209,323	\$150,771	\$360,094	\$9,507,116
Dec-15	\$0	\$242,689	\$155,896	\$398,585	\$9,905,701
Jan-16	\$0	\$227,354	\$155,350	\$382,704	\$10,288,405
Feb-16	\$0	\$232,401	\$139,774	\$372,175	\$10,660,580
Mar-16	\$0	\$242,756	\$143,194	\$385,951	\$11,046,530
Apr-16	\$0	\$221,867	\$131,788	\$353,656	\$11,400,186
May-16	\$0	\$199,482	\$120,143	\$319,626	\$11,719,812
Jun-16	\$0	\$212,769	\$100,291	\$313,061	\$12,032,872
Jul-16	\$0	\$238,794	\$146,717	\$385,511	\$12,418,384



**TABLE 4 - BPA's Projected Revenue**

Revenues by Rate Determinant				Projected IP Revenue	
Month	Demand (\$)	HLH (\$)	LLH (\$)	Month(\$)	Cumulative Total Contract-to-Date (\$)
Aug-16	\$0	\$271,707	\$142,867	\$414,574	\$12,832,958
Sep-16	\$0	\$246,533	\$152,991	\$399,524	\$13,232,482
Oct-16	\$0	\$224,037	\$146,019	\$370,056	\$13,602,538
Nov-16	\$0	\$218,281	\$143,802	\$362,083	\$13,964,621
Dec-16	\$0	\$242,934	\$156,089	\$399,023	\$14,363,644
Jan-17	\$0	\$227,590	\$155,553	\$383,143	\$14,746,787
Feb-17	\$0	\$223,331	\$136,166	\$359,497	\$15,106,284
Mar-17	\$0	\$243,011	\$143,378	\$386,388	\$15,492,673
Apr-17	\$0	\$213,570	\$138,913	\$352,483	\$15,845,155
May-17	\$0	\$207,707	\$114,749	\$322,455	\$16,167,611
Jun-17	\$0	\$213,014	\$100,471	\$313,485	\$16,481,096
Jul-17	\$0	\$239,030	\$146,920	\$385,950	\$16,867,046
Aug-17	\$0	\$271,962	\$143,051	\$415,013	\$17,282,059
Sep-17	\$0	\$246,769	\$153,180	\$399,949	\$17,682,007
Oct-17	\$0	\$233,465	\$152,228	\$385,693	\$18,067,700
Nov-17	\$0	\$227,460	\$149,915	\$377,375	\$18,445,075
Dec-17	\$0	\$243,381	\$170,638	\$414,019	\$18,859,094
Jan-18	\$0	\$246,626	\$154,619	\$401,246	\$19,260,340
Feb-18	\$0	\$232,694	\$141,936	\$374,630	\$19,634,970
Mar-18	\$0	\$253,215	\$149,462	\$402,677	\$20,037,647
Apr-18	\$0	\$222,561	\$144,829	\$367,390	\$20,405,037
May-18	\$0	\$216,482	\$119,709	\$336,191	\$20,741,228
Jun-18	\$0	\$222,001	\$104,833	\$326,834	\$21,068,062
Jul-18	\$0	\$249,038	\$153,184	\$402,222	\$21,470,284
Aug-18	\$0	\$283,322	\$149,124	\$432,446	\$21,902,730
Sep-18	\$0	\$246,803	\$167,649	\$414,452	\$22,317,182
Oct-18	\$0	\$242,372	\$144,750	\$387,122	\$22,704,304
Nov-18	\$0	\$227,393	\$149,862	\$377,255	\$23,081,559
Dec-18	\$0	\$243,314	\$170,580	\$413,895	\$23,495,454
Jan-19	\$0	\$246,557	\$154,565	\$401,121	\$23,896,575
Feb-19	\$0	\$232,630	\$141,888	\$374,518	\$24,271,093
Mar-19	\$0	\$243,767	\$157,097	\$400,864	\$24,671,956
Apr-19	\$0	\$231,394	\$137,537	\$368,931	\$25,040,887
May-19	\$0	\$216,412	\$119,654	\$336,067	\$25,376,954
Jun-19	\$0	\$213,396	\$110,297	\$323,693	\$25,700,647

**TABLE 4 - BPA's Projected Revenue**

Revenues by Rate Determinant				Projected IP Revenue	
Month	Demand (\$)	HLH (\$)	LLH (\$)	Month(\$)	Cumulative Total Contract-to-Date (\$)
Jul-19	\$0	\$258,930	\$146,004	\$404,934	\$26,105,581
Aug-19	\$0	\$283,250	\$149,072	\$432,321	\$26,537,903
Sep-19	\$0	\$246,739	\$167,593	\$414,332	\$26,952,235
Oct-19	\$0	\$233,931	\$138,393	\$372,325	\$27,324,559
Nov-19	\$0	\$219,603	\$143,330	\$362,933	\$27,687,492
Dec-19	\$0	\$235,661	\$163,666	\$399,328	\$28,086,820
Jan-20	\$0	\$238,542	\$147,902	\$386,444	\$28,473,264
Feb-20	\$0	\$234,661	\$139,871	\$374,533	\$28,847,797
Mar-20	\$0	\$235,728	\$150,481	\$386,209	\$29,234,006
Apr-20	\$0	\$223,248	\$131,313	\$354,562	\$29,588,567
May-20	\$0	\$200,133	\$118,189	\$318,321	\$29,906,889
Jun-20	\$0	\$213,705	\$98,276	\$311,981	\$30,218,870
Jul-20	\$0	\$251,022	\$139,268	\$390,290	\$30,609,160
Aug-20	\$0	\$264,970	\$150,073	\$415,042	\$31,024,203
Sep-20	\$0	\$249,485	\$153,189	\$402,673	\$31,426,876
Oct-20	\$0	\$234,153	\$138,553	\$372,706	\$31,799,582
Nov-20	\$0	\$211,016	\$150,647	\$361,662	\$32,161,244
Dec-20	\$0	\$245,301	\$156,222	\$401,523	\$32,562,767
Jan-21	\$0	\$229,572	\$155,293	\$384,866	\$32,947,633
Feb-21	\$0	\$225,472	\$136,239	\$361,710	\$33,309,343
Mar-21	\$0	\$245,016	\$143,277	\$388,293	\$33,697,636
Apr-21	\$0	\$223,462	\$131,469	\$354,931	\$34,052,567
May-21	\$0	\$200,338	\$118,365	\$318,703	\$34,371,269
Jun-21	\$0	\$213,918	\$98,432	\$312,350	\$34,683,620
Jul-21	\$0	\$251,235	\$139,436	\$390,671	\$35,074,291
Aug-21	\$0	\$265,183	\$150,241	\$415,424	\$35,489,715
Sep-21	\$0	\$249,690	\$153,353	\$403,042	\$35,892,757
Oct-21	\$0	\$243,857	\$157,344	\$401,202	\$36,293,959
Nov-21	\$0	\$237,740	\$155,013	\$392,753	\$36,686,712
Dec-21	\$0	\$265,408	\$168,830	\$434,238	\$37,120,950
Jan-22	\$0	\$248,357	\$167,770	\$416,127	\$37,537,076
Feb-22	\$0	\$243,948	\$147,228	\$391,176	\$37,928,252
Mar-22	\$0	\$265,048	\$154,808	\$419,856	\$38,348,109
Apr-22	\$0	\$241,662	\$141,991	\$383,654	\$38,731,762
May-22	\$0	\$216,570	\$127,618	\$344,188	\$39,075,951

**TABLE 4 - BPA's Projected Revenue**

<b>Revenues by Rate Determinant</b>				<b>Projected IP Revenue</b>	
Month	Demand (\$)	HLH (\$)	LLH (\$)	Month(\$)	Cumulative Total Contract-to-Date (\$)
Jun-22	\$0	\$231,286	\$106,071	\$337,357	\$39,413,308
Jul-22	\$0	\$261,404	\$157,924	\$419,328	\$39,832,636
Aug-22	\$0	\$298,065	\$154,408	\$452,473	\$40,285,109
Sep-22	\$0	\$270,230	\$165,735	\$435,965	\$40,721,074

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

Month	Forecasted Market Price		Forecasted Revenues Obtained from the Market			
	HLH Price (\$ / MWh)	LLH Price (\$ / MWh)	HLH (\$)	LLH (\$)	Month (\$) (HLH + LLH)	Cumulative Total Contract-to-Date (\$)
Sep-13	\$37.70	\$29.29	\$173,717	\$118,098	\$291,816	\$291,816
Oct-13	\$37.70	\$30.82	\$195,443	\$115,392	\$310,835	\$602,650
Nov-13	\$36.79	\$29.45	\$176,573	\$113,430	\$290,003	\$892,653
Dec-13	\$39.24	\$31.11	\$188,375	\$128,436	\$316,811	\$1,209,464
Jan-14	\$40.26	\$31.18	\$200,995	\$122,712	\$323,708	\$1,533,172
Feb-14	\$42.03	\$33.12	\$193,669	\$114,450	\$308,119	\$1,841,291
Mar-14	\$40.16	\$31.97	\$200,492	\$125,439	\$325,931	\$2,167,222
Apr-14	\$35.96	\$27.54	\$179,495	\$100,479	\$279,974	\$2,447,196
May-14	\$31.35	\$20.24	\$156,507	\$79,662	\$236,168	\$2,683,364
Jun-14	\$32.04	\$19.43	\$153,809	\$74,599	\$228,408	\$2,911,772
Jul-14	\$38.80	\$27.16	\$193,713	\$106,917	\$300,631	\$3,212,403
Aug-14	\$43.55	\$30.95	\$217,405	\$121,826	\$339,231	\$3,551,633
Sep-14	\$42.50	\$32.82	\$203,996	\$126,024	\$330,020	\$3,881,653
Oct-14	\$42.82	\$35.03	\$221,988	\$131,161	\$353,149	\$4,234,802
Nov-14	\$42.38	\$34.12	\$195,298	\$138,000	\$333,298	\$4,568,100
Dec-14	\$44.99	\$35.34	\$224,613	\$139,080	\$363,693	\$4,931,793
Jan-15	\$43.86	\$33.44	\$218,925	\$131,603	\$350,528	\$5,282,321
Feb-15	\$44.79	\$35.12	\$206,377	\$121,380	\$327,757	\$5,610,078
Mar-15	\$44.53	\$35.20	\$222,316	\$138,121	\$360,437	\$5,970,515
Apr-15	\$39.93	\$29.94	\$199,338	\$109,238	\$308,576	\$6,279,091
May-15	\$36.07	\$22.26	\$173,136	\$91,892	\$265,028	\$6,544,119
Jun-15	\$37.05	\$22.20	\$184,978	\$80,982	\$265,960	\$6,810,079
Jul-15	\$44.29	\$29.78	\$221,104	\$117,225	\$338,329	\$7,148,409
Aug-15	\$47.72	\$33.00	\$238,231	\$129,889	\$368,120	\$7,516,528
Sep-15	\$46.60	\$35.14	\$223,703	\$134,922	\$358,625	\$7,875,153
Oct-15	\$46.38	\$37.33	\$240,451	\$139,768	\$380,220	\$8,255,373
Nov-15	\$45.60	\$36.00	\$210,114	\$145,570	\$355,684	\$8,611,057
Dec-15	\$46.43	\$36.33	\$231,795	\$142,985	\$374,780	\$8,985,837
Jan-16	\$46.08	\$34.64	\$221,193	\$142,981	\$364,174	\$9,350,011
Feb-16	\$47.93	\$37.60	\$230,083	\$133,538	\$363,621	\$9,713,632
Mar-16	\$45.14	\$35.22	\$234,000	\$131,443	\$365,443	\$10,079,075
Apr-16	\$41.49	\$31.71	\$207,096	\$115,687	\$322,783	\$10,401,858
May-16	\$37.09	\$23.64	\$178,044	\$97,569	\$275,613	\$10,677,471
Jun-16	\$36.20	\$20.69	\$180,697	\$75,463	\$256,160	\$10,933,632
Jul-16	\$45.20	\$29.80	\$216,941	\$123,008	\$339,948	\$11,273,580
Aug-16	\$48.27	\$33.09	\$250,215	\$123,875	\$374,090	\$11,647,670
Sep-16	\$48.73	\$35.81	\$233,889	\$137,527	\$371,415	\$12,019,085
Oct-16	\$49.33	\$39.06	\$246,245	\$153,725	\$399,969	\$12,419,055
Nov-16	\$46.46	\$36.55	\$222,995	\$140,796	\$363,791	\$12,782,845
Dec-16	\$48.83	\$38.47	\$243,778	\$151,417	\$395,195	\$13,178,040
Jan-17	\$48.43	\$36.69	\$232,456	\$151,460	\$383,915	\$13,561,955
Feb-17	\$49.36	\$38.93	\$227,459	\$134,545	\$362,004	\$13,923,960

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

Month	Forecasted Market Price		Forecasted Revenues Obtained from the Market			
	HLH Price (\$ / MWh)	LLH Price (\$ / MWh)	HLH (\$)	LLH (\$)	Month (\$) (HLH + LLH)	Cumulative Total Contract-to-Date (\$)
Mar-17	\$46.72	\$36.75	\$242,217	\$137,166	\$379,383	\$14,303,342
Apr-17	\$41.41	\$30.78	\$198,752	\$118,179	\$316,931	\$14,620,274
May-17	\$37.81	\$23.26	\$188,740	\$91,554	\$280,294	\$14,900,567
Jun-17	\$38.93	\$23.12	\$194,361	\$84,355	\$278,716	\$15,179,283
Jul-17	\$45.67	\$30.23	\$219,215	\$124,808	\$344,024	\$15,523,307
Aug-17	\$48.69	\$33.06	\$252,394	\$123,764	\$376,158	\$15,899,465
Sep-17	\$48.55	\$35.38	\$233,019	\$135,856	\$368,876	\$16,268,340
Oct-17	\$50.01	\$40.00	\$249,632	\$157,458	\$407,090	\$16,675,430
Nov-17	\$48.79	\$38.30	\$234,203	\$147,546	\$381,749	\$17,057,179
Dec-17	\$50.20	\$39.15	\$240,970	\$161,594	\$402,564	\$17,459,743
Jan-18	\$49.88	\$37.79	\$249,007	\$148,747	\$397,754	\$17,857,497
Feb-18	\$50.84	\$40.10	\$234,283	\$138,581	\$372,864	\$18,230,361
Mar-18	\$48.13	\$37.86	\$249,483	\$141,281	\$390,764	\$18,621,126
Apr-18	\$42.65	\$31.70	\$204,714	\$121,725	\$326,439	\$18,947,565
May-18	\$38.94	\$23.96	\$194,403	\$94,300	\$288,703	\$19,236,268
Jun-18	\$40.10	\$23.82	\$200,192	\$86,886	\$287,077	\$19,523,345
Jul-18	\$47.04	\$31.14	\$225,792	\$128,553	\$354,344	\$19,877,689
Aug-18	\$50.15	\$34.05	\$259,966	\$127,477	\$387,443	\$20,265,132
Sep-18	\$50.00	\$36.44	\$230,410	\$146,929	\$377,338	\$20,642,470
Oct-18	\$51.51	\$41.20	\$267,010	\$154,270	\$421,280	\$21,063,750
Nov-18	\$50.26	\$39.45	\$241,229	\$151,972	\$393,201	\$21,456,951
Dec-18	\$51.71	\$40.32	\$248,199	\$166,442	\$414,641	\$21,871,593
Jan-19	\$51.38	\$38.93	\$256,477	\$153,210	\$409,687	\$22,281,279
Feb-19	\$52.37	\$41.30	\$241,312	\$142,738	\$384,050	\$22,665,329
Mar-19	\$49.57	\$38.99	\$247,450	\$153,006	\$400,456	\$23,065,786
Apr-19	\$43.93	\$32.65	\$219,290	\$119,108	\$338,398	\$23,404,184
May-19	\$40.11	\$24.68	\$200,235	\$97,129	\$297,364	\$23,701,547
Jun-19	\$41.31	\$24.53	\$198,267	\$94,202	\$292,469	\$23,994,016
Jul-19	\$48.45	\$32.08	\$241,868	\$126,251	\$368,119	\$24,362,135
Aug-19	\$51.65	\$35.07	\$267,765	\$131,301	\$399,066	\$24,761,201
Sep-19	\$51.50	\$37.53	\$237,322	\$151,337	\$388,658	\$25,149,859
Oct-19	\$53.05	\$42.44	\$275,020	\$158,898	\$433,919	\$25,583,778
Nov-19	\$51.76	\$40.64	\$248,466	\$156,531	\$404,997	\$25,988,775
Dec-19	\$53.26	\$41.53	\$255,645	\$171,435	\$427,081	\$26,415,856
Jan-20	\$52.92	\$40.09	\$264,171	\$157,806	\$421,977	\$26,837,833
Feb-20	\$53.94	\$42.54	\$258,907	\$151,104	\$410,012	\$27,247,845
Mar-20	\$51.06	\$40.16	\$254,874	\$157,596	\$412,470	\$27,660,315
Apr-20	\$45.25	\$33.63	\$225,869	\$122,681	\$348,550	\$28,008,865
May-20	\$41.31	\$25.42	\$198,309	\$104,923	\$303,232	\$28,312,097
Jun-20	\$42.54	\$25.27	\$212,383	\$92,177	\$304,560	\$28,616,657
Jul-20	\$49.90	\$33.04	\$249,124	\$130,038	\$379,162	\$28,995,820
Aug-20	\$53.20	\$36.12	\$265,583	\$142,175	\$407,759	\$29,403,578
Sep-20	\$53.05	\$38.66	\$254,627	\$148,454	\$403,081	\$29,806,659

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

Month	Forecasted Market Price		Forecasted Revenues Obtained from the Market			
	HLH Price (\$ / MWh)	LLH Price (\$ / MWh)	HLH (\$)	LLH (\$)	Month (\$) (HLH + LLH)	Cumulative Total Contract-to-Date (\$)
Oct-20	\$54.64	\$43.71	\$283,271	\$163,665	\$446,936	\$30,253,595
Nov-20	\$53.32	\$41.86	\$245,683	\$169,264	\$414,946	\$30,668,541
Dec-20	\$54.86	\$42.78	\$273,847	\$168,366	\$442,213	\$31,110,754
Jan-21	\$54.51	\$41.30	\$261,631	\$170,469	\$432,100	\$31,542,854
Feb-21	\$55.56	\$43.82	\$256,008	\$151,431	\$407,439	\$31,950,293
Mar-21	\$52.59	\$41.37	\$272,617	\$154,382	\$426,999	\$32,377,292
Apr-21	\$46.60	\$34.64	\$232,645	\$126,361	\$359,006	\$32,736,298
May-21	\$42.55	\$26.18	\$204,259	\$108,071	\$312,329	\$33,048,627
Jun-21	\$43.82	\$26.03	\$218,755	\$94,942	\$313,697	\$33,362,324
Jul-21	\$51.40	\$34.03	\$256,598	\$133,939	\$390,537	\$33,752,861
Aug-21	\$54.80	\$37.21	\$273,551	\$146,441	\$419,991	\$34,172,853
Sep-21	\$54.64	\$39.82	\$262,265	\$152,908	\$415,173	\$34,588,026
Oct-21	\$56.28	\$45.03	\$280,963	\$177,220	\$458,183	\$35,046,209
Nov-21	\$54.92	\$43.11	\$263,597	\$166,064	\$429,661	\$35,475,870
Dec-21	\$56.50	\$44.06	\$282,062	\$173,417	\$455,479	\$35,931,349
Jan-22	\$56.14	\$42.53	\$269,480	\$175,583	\$445,063	\$36,376,412
Feb-22	\$57.22	\$45.13	\$263,688	\$155,974	\$419,662	\$36,796,074
Mar-22	\$54.17	\$42.61	\$280,795	\$159,013	\$439,809	\$37,235,883
Apr-22	\$48.00	\$35.68	\$239,624	\$130,152	\$369,776	\$37,605,659
May-22	\$43.83	\$26.97	\$210,386	\$111,313	\$321,699	\$37,927,359
Jun-22	\$45.14	\$26.81	\$225,317	\$97,790	\$323,108	\$38,250,466
Jul-22	\$52.94	\$35.05	\$254,131	\$144,687	\$398,818	\$38,649,284
Aug-22	\$56.44	\$38.32	\$292,594	\$143,476	\$436,070	\$39,085,354
Sep-22	\$56.28	\$41.01	\$270,133	\$157,495	\$427,628	\$39,512,982

**TABLE 6 - BPA's Net Benefit before Adjustment**

Month	Net Revenue or (Cost)	
	Month (\$)	Cumulative Total Contract-to-Date (\$)
Sep-13	\$49,431	\$49,431
Oct-13	\$40,874	\$90,305
Nov-13	\$52,754	\$143,059
Dec-13	\$59,382	\$202,441
Jan-14	\$40,804	\$243,244
Feb-14	\$32,287	\$275,531
Mar-14	\$38,348	\$313,879
Apr-14	\$55,173	\$369,052
May-14	\$68,850	\$437,901
Jun-14	\$65,369	\$503,271
Jul-14	\$67,368	\$570,638
Aug-14	\$51,211	\$621,849
Sep-14	\$48,751	\$670,600
Oct-14	(\$421)	\$670,179
Nov-14	\$8,960	\$679,139
Dec-14	\$15,164	\$694,303
Jan-15	\$15,003	\$709,306
Feb-15	\$13,570	\$722,876
Mar-15	\$4,860	\$727,736
Apr-15	\$27,558	\$755,294
May-15	\$38,735	\$794,029
Jun-15	\$31,566	\$825,595
Jul-15	\$30,689	\$856,283
Aug-15	\$23,341	\$879,624
Sep-15	\$21,132	\$900,757
Oct-15	(\$9,108)	\$891,648
Nov-15	\$4,410	\$896,059
Dec-15	\$23,805	\$919,863
Jan-16	\$18,530	\$938,394
Feb-16	\$8,554	\$946,947
Mar-16	\$20,508	\$967,455
Apr-16	\$30,872	\$998,328
May-16	\$44,013	\$1,042,340
Jun-16	\$56,900	\$1,099,240
Jul-16	\$45,563	\$1,144,803
Aug-16	\$40,485	\$1,185,288
Sep-16	\$28,109	\$1,213,397
Oct-16	(\$29,914)	\$1,183,483
Nov-16	(\$1,708)	\$1,181,776
Dec-16	\$3,828	\$1,185,604
Jan-17	(\$773)	\$1,184,831
Feb-17	(\$2,507)	\$1,182,325

**TABLE 6 - BPA's Net Benefit before Adjustment**

	<b>Net Revenue or (Cost)</b>	
Month	Month (\$)	Cumulative Total Contract-to-Date (\$)
Mar-17	\$7,006	\$1,189,330
Apr-17	\$35,552	\$1,224,882
May-17	\$42,162	\$1,267,043
Jun-17	\$34,769	\$1,301,813
Jul-17	\$41,926	\$1,343,739
Aug-17	\$38,855	\$1,382,594
Sep-17	\$31,073	\$1,413,667
Oct-17	(\$21,397)	\$1,392,270
Nov-17	(\$4,373)	\$1,387,896
Dec-17	\$11,455	\$1,399,351
Jan-18	\$3,492	\$1,402,843
Feb-18	\$1,766	\$1,404,608
Mar-18	\$11,913	\$1,416,521
Apr-18	\$40,951	\$1,457,472
May-18	\$47,488	\$1,504,960
Jun-18	\$39,757	\$1,544,717
Jul-18	\$47,878	\$1,592,595
Aug-18	\$45,003	\$1,637,598
Sep-18	\$37,114	\$1,674,712
Oct-18	(\$34,158)	\$1,640,554
Nov-18	(\$15,946)	\$1,624,608
Dec-18	(\$747)	\$1,623,861
Jan-19	(\$8,565)	\$1,615,296
Feb-19	(\$9,533)	\$1,605,763
Mar-19	\$407	\$1,606,171
Apr-19	\$30,533	\$1,636,704
May-19	\$38,703	\$1,675,406
Jun-19	\$31,224	\$1,706,631
Jul-19	\$36,816	\$1,743,446
Aug-19	\$33,256	\$1,776,702
Sep-19	\$25,673	\$1,802,375
Oct-19	(\$61,594)	\$1,740,781
Nov-19	(\$42,064)	\$1,698,717
Dec-19	(\$27,753)	\$1,670,964
Jan-20	(\$35,533)	\$1,635,431
Feb-20	(\$35,479)	\$1,599,952
Mar-20	(\$26,261)	\$1,573,691
Apr-20	\$6,012	\$1,579,703
May-20	\$15,089	\$1,594,791
Jun-20	\$7,421	\$1,602,213
Jul-20	\$11,128	\$1,613,341
Aug-20	\$7,284	\$1,620,625
Sep-20	(\$407)	\$1,620,217



**TABLE 6 - BPA's Net Benefit before Adjustment**

	<b>Net Revenue or (Cost)</b>	
<b>Month</b>	<b>Month (\$)</b>	<b>Cumulative Total Contract-to-Date (\$)</b>
Oct-20	(\$74,230)	\$1,545,987
Nov-20	(\$53,284)	\$1,492,703
Dec-20	(\$40,690)	\$1,452,013
Jan-21	(\$47,234)	\$1,404,778
Feb-21	(\$45,728)	\$1,359,050
Mar-21	(\$38,706)	\$1,320,344
Apr-21	(\$4,076)	\$1,316,269
May-21	\$6,373	\$1,322,642
Jun-21	(\$1,347)	\$1,321,295
Jul-21	\$134	\$1,321,430
Aug-21	(\$4,568)	\$1,316,862
Sep-21	(\$12,131)	\$1,304,731
Oct-21	(\$56,981)	\$1,247,750
Nov-21	(\$36,908)	\$1,210,842
Dec-21	(\$21,241)	\$1,189,601
Jan-22	(\$28,937)	\$1,160,664
Feb-22	(\$28,486)	\$1,132,178
Mar-22	(\$19,952)	\$1,112,226
Apr-22	\$13,877	\$1,126,103
May-22	\$22,489	\$1,148,592
Jun-22	\$14,249	\$1,162,841
Jul-22	\$20,511	\$1,183,352
Aug-22	\$16,403	\$1,199,755
Sep-22	\$8,337	\$1,208,092

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

Month	Month (\$)	Cumulative Total Contract-to-Date (\$)
Sep-13	\$8,122	\$8,122
Oct-13	\$8,392	\$16,514
Nov-13	\$8,133	\$24,647
Dec-13	\$8,392	\$33,039
Jan-14	\$8,392	\$41,431
Feb-14	\$7,580	\$49,012
Mar-14	\$8,381	\$57,393
Apr-14	\$8,122	\$65,514
May-14	\$8,392	\$73,907
Jun-14	\$8,122	\$82,028
Jul-14	\$8,392	\$90,420
Aug-14	\$8,392	\$98,813
Sep-14	\$8,122	\$106,934
Oct-14	\$8,392	\$115,327
Nov-14	\$8,133	\$123,460
Dec-14	\$8,392	\$131,852
Jan-15	\$8,392	\$140,244
Feb-15	\$7,580	\$147,824
Mar-15	\$8,381	\$156,205
Apr-15	\$8,122	\$164,327
May-15	\$8,392	\$172,719
Jun-15	\$8,122	\$180,841
Jul-15	\$8,392	\$189,233
Aug-15	\$8,392	\$197,626
Sep-15	\$8,122	\$205,747
Oct-15	\$8,392	\$214,140
Nov-15	\$8,133	\$222,272
Dec-15	\$8,392	\$230,665
Jan-16	\$8,392	\$239,057
Feb-16	\$7,851	\$246,908
Mar-16	\$8,381	\$255,289
Apr-16	\$8,122	\$263,411
May-16	\$8,392	\$271,803
Jun-16	\$8,122	\$279,924
Jul-16	\$8,392	\$288,317
Aug-16	\$8,392	\$296,709
Sep-16	\$8,122	\$304,831
Oct-16	\$8,392	\$313,223
Nov-16	\$8,133	\$321,356
Dec-16	\$8,392	\$329,748
Jan-17	\$8,392	\$338,141
Feb-17	\$7,580	\$345,721

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

Month	Month (\$)	Cumulative Total Contract-to-Date (\$)
Mar-17	\$8,381	\$354,102
Apr-17	\$8,122	\$362,223
May-17	\$8,392	\$370,616
Jun-17	\$8,122	\$378,737
Jul-17	\$8,392	\$387,130
Aug-17	\$8,392	\$395,522
Sep-17	\$8,122	\$403,644
Oct-17	\$8,392	\$412,036
Nov-17	\$8,133	\$420,169
Dec-17	\$8,392	\$428,561
Jan-18	\$8,392	\$436,953
Feb-18	\$7,580	\$444,534
Mar-18	\$8,381	\$452,915
Apr-18	\$8,122	\$461,036
May-18	\$8,392	\$469,428
Jun-18	\$8,122	\$477,550
Jul-18	\$8,392	\$485,942
Aug-18	\$8,392	\$494,335
Sep-18	\$8,122	\$502,456
Oct-18	\$8,392	\$510,849
Nov-18	\$8,133	\$518,982
Dec-18	\$8,392	\$527,374
Jan-19	\$8,392	\$535,766
Feb-19	\$7,580	\$543,346
Mar-19	\$8,381	\$551,727
Apr-19	\$8,122	\$559,849
May-19	\$8,392	\$568,241
Jun-19	\$8,122	\$576,363
Jul-19	\$8,392	\$584,755
Aug-19	\$8,392	\$593,148
Sep-19	\$8,122	\$601,269
Oct-19	\$8,392	\$609,661
Nov-19	\$8,133	\$617,794
Dec-19	\$8,392	\$626,187
Jan-20	\$8,392	\$634,579
Feb-20	\$7,851	\$642,430
Mar-20	\$8,381	\$650,811
Apr-20	\$8,122	\$658,932
May-20	\$8,392	\$667,325
Jun-20	\$8,122	\$675,446
Jul-20	\$8,392	\$683,839
Aug-20	\$8,392	\$692,231
Sep-20	\$8,122	\$700,353

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

Month	Month (\$)	Cumulative Total Contract-to-Date (\$)
Oct-20	\$8,392	\$708,745
Nov-20	\$8,133	\$716,878
Dec-20	\$8,392	\$725,270
Jan-21	\$8,392	\$733,662
Feb-21	\$7,580	\$741,243
Mar-21	\$8,381	\$749,624
Apr-21	\$8,122	\$757,745
May-21	\$8,392	\$766,138
Jun-21	\$8,122	\$774,259
Jul-21	\$8,392	\$782,652
Aug-21	\$8,392	\$791,044
Sep-21	\$8,122	\$799,165
Oct-21	\$8,392	\$807,558
Nov-21	\$8,133	\$815,691
Dec-21	\$8,392	\$824,083
Jan-22	\$8,392	\$832,475
Feb-22	\$7,580	\$840,055
Mar-22	\$8,381	\$848,436
Apr-22	\$8,122	\$856,558
May-22	\$8,392	\$864,950
Jun-22	\$8,122	\$873,072
Jul-22	\$8,392	\$881,464
Aug-22	\$8,392	\$889,857
Sep-22	\$8,122	\$897,978

**TABLE 7b - BPA's Net Benefit Adjustments****Avoided Tx and Ancillary Service Costs**

Month	Month (\$)	Proportional Month (\$)	Cumulative Total Contract-to-Date (\$)
Sep-13	\$29,385	\$1,255	\$1,255
Oct-13	\$22,053	\$942	\$2,197
Nov-13	\$39,072	\$1,669	\$3,866
Dec-13	\$108,059	\$4,615	\$8,481
Jan-14	\$355,084	\$15,165	\$23,646
Feb-14	\$302,740	\$12,930	\$36,575
Mar-14	\$311,639	\$13,310	\$49,885
Apr-14	\$625,085	\$26,696	\$76,581
May-14	\$953,527	\$40,724	\$117,305
Jun-14	\$838,514	\$35,812	\$153,116
Jul-14	\$375,118	\$16,021	\$169,137
Aug-14	\$75,160	\$3,210	\$172,347
Sep-14	\$26,102	\$1,115	\$173,461
Oct-14	\$18,325	\$783	\$174,244
Nov-14	\$23,560	\$1,006	\$175,250
Dec-14	\$94,437	\$4,033	\$179,284
Jan-15	\$334,966	\$14,306	\$193,589
Feb-15	\$273,273	\$11,671	\$205,260
Mar-15	\$289,318	\$12,356	\$217,617
Apr-15	\$596,784	\$25,488	\$243,104
May-15	\$893,002	\$38,139	\$281,243
Jun-15	\$657,224	\$28,069	\$309,312
Jul-15	\$346,939	\$14,817	\$324,129
Aug-15	\$63,957	\$2,731	\$326,861
Sep-15	\$21,579	\$922	\$327,782
Oct-15	\$17,387	\$743	\$328,525
Nov-15	\$17,495	\$747	\$329,272
Dec-15	\$84,043	\$3,589	\$332,861
Jan-16	\$320,500	\$13,688	\$346,549
Feb-16	\$314,540	\$13,433	\$359,983
Mar-16	\$281,957	\$12,042	\$372,025
Apr-16	\$583,753	\$24,931	\$396,956
May-16	\$948,318	\$40,501	\$437,457
Jun-16	\$793,253	\$33,879	\$471,336
Jul-16	\$385,512	\$16,465	\$487,800
Aug-16	\$63,316	\$2,704	\$490,504
Sep-16	\$19,624	\$838	\$491,342
Oct-16	\$17,047	\$728	\$492,070
Nov-16	\$17,574	\$751	\$492,821
Dec-16	\$81,706	\$3,490	\$496,310
Jan-17	\$316,921	\$13,535	\$509,846
Feb-17	\$263,464	\$11,252	\$521,098
Mar-17	\$280,514	\$11,980	\$533,078

**TABLE 7b - BPA's Net Benefit Adjustments****Avoided Tx and Ancillary Service Costs**

Month	Month (\$)	Proportional Month (\$)	Cumulative Total Contract-to-Date (\$)
Apr-17	\$582,452	\$24,876	\$557,954
May-17	\$872,758	\$37,274	\$595,228
Jun-17	\$683,776	\$29,203	\$624,431
Jul-17	\$350,438	\$14,967	\$639,397
Aug-17	\$53,553	\$2,287	\$641,684
Sep-17	\$16,933	\$723	\$642,408
Oct-17	\$20,315	\$868	\$643,275
Nov-17	\$21,284	\$909	\$644,184
Dec-17	\$89,679	\$3,830	\$648,014
Jan-18	\$328,449	\$14,028	\$662,042
Feb-18	\$295,387	\$12,615	\$674,657
Mar-18	\$287,530	\$12,280	\$686,937
Apr-18	\$593,861	\$25,363	\$712,300
May-18	\$955,830	\$40,822	\$753,122
Jun-18	\$806,210	\$34,432	\$787,554
Jul-18	\$385,512	\$16,465	\$804,018
Aug-18	\$63,316	\$2,704	\$806,722
Sep-18	\$19,624	\$838	\$807,561
Oct-18	\$17,047	\$728	\$808,289
Nov-18	\$17,574	\$751	\$809,039
Dec-18	\$81,706	\$3,490	\$812,529
Jan-19	\$316,921	\$13,535	\$826,064
Feb-19	\$263,464	\$11,252	\$837,316
Mar-19	\$280,514	\$11,980	\$849,296
Apr-19	\$582,452	\$24,876	\$874,172
May-19	\$872,758	\$37,274	\$911,446
Jun-19	\$683,776	\$29,203	\$940,649
Jul-19	\$350,438	\$14,967	\$955,615
Aug-19	\$53,553	\$2,287	\$957,902
Sep-19	\$16,933	\$723	\$958,626
Oct-19	\$20,315	\$868	\$959,493
Nov-19	\$21,284	\$909	\$960,402
Dec-19	\$89,679	\$3,830	\$964,232
Jan-20	\$328,449	\$14,028	\$978,260
Feb-20	\$304,772	\$13,016	\$991,276
Mar-20	\$287,530	\$12,280	\$1,003,556
Apr-20	\$593,861	\$25,363	\$1,028,919
May-20	\$955,830	\$40,822	\$1,069,741
Jun-20	\$806,210	\$34,432	\$1,104,173
Jul-20	\$385,512	\$16,465	\$1,120,637
Aug-20	\$63,316	\$2,704	\$1,123,341
Sep-20	\$19,624	\$838	\$1,124,179
Oct-20	\$17,047	\$728	\$1,124,908
Nov-20	\$17,574	\$751	\$1,125,658
Dec-20	\$81,706	\$3,490	\$1,129,148

**TABLE 7b - BPA's Net Benefit Adjustments****Avoided Tx and Ancillary Service Costs**

Month	Month (\$)	Proportional Month (\$)	Cumulative Total Contract-to-Date (\$)
Jan-21	\$316,921	\$13,535	\$1,142,683
Feb-21	\$263,464	\$11,252	\$1,153,935
Mar-21	\$280,514	\$11,980	\$1,165,915
Apr-21	\$582,452	\$24,876	\$1,190,791
May-21	\$872,758	\$37,274	\$1,228,065
Jun-21	\$683,776	\$29,203	\$1,257,268
Jul-21	\$350,438	\$14,967	\$1,272,234
Aug-21	\$53,553	\$2,287	\$1,274,521
Sep-21	\$16,933	\$723	\$1,275,245
Oct-21	\$20,315	\$868	\$1,276,112
Nov-21	\$21,284	\$909	\$1,277,021
Dec-21	\$89,679	\$3,830	\$1,280,851
Jan-22	\$328,449	\$14,028	\$1,294,879
Feb-22	\$295,387	\$12,615	\$1,307,494
Mar-22	\$287,530	\$12,280	\$1,319,774
Apr-22	\$593,861	\$25,363	\$1,345,137
May-22	\$955,830	\$40,822	\$1,385,959
Jun-22	\$806,210	\$34,432	\$1,420,391
Jul-22	\$385,512	\$16,465	\$1,436,855
Aug-22	\$63,316	\$2,704	\$1,439,560
Sep-22	\$19,624	\$838	\$1,440,398

**TABLE 8 - BPA's Net Benefit after Adjustments**

Month	BPA's Adjusted Net Revenue or (Cost)					Cumulative Total Contract-to-Date (\$)
	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 (\$)	
Sep-13	\$49,431	\$8,122	\$735	\$0	\$58,287	\$58,287
Oct-13	\$40,874	\$8,392	\$551	\$0	\$49,818	\$108,105
Nov-13	\$52,754	\$8,133	\$977	\$0	\$61,863	\$169,968
Dec-13	\$59,382	\$8,392	\$2,701	\$0	\$70,476	\$240,444
Jan-14	\$40,804	\$8,392	\$8,877	\$0	\$58,073	\$298,517
Feb-14	\$32,287	\$7,580	\$7,568	\$0	\$47,435	\$345,952
Mar-14	\$38,348	\$8,381	\$7,791	\$0	\$54,520	\$400,472
Apr-14	\$55,173	\$8,122	\$15,627	\$0	\$78,922	\$479,394
May-14	\$68,850	\$8,392	\$23,838	\$0	\$101,080	\$580,474
Jun-14	\$65,369	\$8,122	\$20,963	\$0	\$94,454	\$674,928
Jul-14	\$67,368	\$8,392	\$9,378	\$0	\$85,138	\$760,066
Aug-14	\$51,211	\$8,392	\$1,879	\$0	\$61,482	\$821,548
Sep-14	\$48,751	\$8,122	\$653	\$0	\$57,525	\$879,073
Oct-14	(\$421)	\$8,392	\$458	\$0	\$8,430	\$887,502
Nov-14	\$8,960	\$8,133	\$589	\$0	\$17,682	\$905,184
Dec-14	\$15,164	\$8,392	\$2,361	\$0	\$25,917	\$931,101
Jan-15	\$15,003	\$8,392	\$8,374	\$0	\$31,769	\$962,871
Feb-15	\$13,570	\$7,580	\$6,832	\$0	\$27,982	\$990,853
Mar-15	\$4,860	\$8,381	\$7,233	\$0	\$20,474	\$1,011,327
Apr-15	\$27,558	\$8,122	\$14,920	\$0	\$50,599	\$1,061,926
May-15	\$38,735	\$8,392	\$22,325	\$0	\$69,452	\$1,131,378
Jun-15	\$31,566	\$8,122	\$16,431	\$0	\$56,118	\$1,187,496
Jul-15	\$30,689	\$8,392	\$8,673	\$0	\$47,754	\$1,235,251
Aug-15	\$23,341	\$8,392	\$1,599	\$0	\$33,332	\$1,268,583
Sep-15	\$21,132	\$8,122	\$539	\$0	\$29,793	\$1,298,377
Oct-15	(\$9,108)	\$8,392	\$435	\$0	(\$281)	\$1,298,095
Nov-15	\$4,410	\$8,133	\$437	\$0	\$12,980	\$1,311,076
Dec-15	\$23,805	\$8,392	\$2,101	\$0	\$34,298	\$1,345,374
Jan-16	\$18,530	\$8,392	\$8,013	\$0	\$34,935	\$1,380,309
Feb-16	\$8,554	\$7,851	\$7,864	\$0	\$24,268	\$1,404,577
Mar-16	\$20,508	\$8,381	\$7,049	\$0	\$35,938	\$1,440,515
Apr-16	\$30,872	\$8,122	\$14,594	\$0	\$53,588	\$1,494,103
May-16	\$44,013	\$8,392	\$23,708	\$0	\$76,113	\$1,570,215
Jun-16	\$56,900	\$8,122	\$19,831	\$0	\$84,853	\$1,655,069
Jul-16	\$45,563	\$8,392	\$9,638	\$0	\$63,593	\$1,718,662
Aug-16	\$40,485	\$8,392	\$1,583	\$0	\$50,460	\$1,769,122
Sep-16	\$28,109	\$8,122	\$491	\$0	\$36,721	\$1,805,843
Oct-16	(\$29,914)	\$8,392	\$426	\$0	(\$21,095)	\$1,784,748
Nov-16	(\$1,708)	\$8,133	\$439	\$0	\$6,865	\$1,791,612
Dec-16	\$3,828	\$8,392	\$2,043	\$0	\$14,263	\$1,805,876
Jan-17	(\$773)	\$8,392	\$7,923	\$0	\$15,543	\$1,821,418



**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 (\$)
Feb-17	(\$2,507)	\$7,580	\$6,587	\$0	\$11,660	\$1,833,078
Mar-17	\$7,006	\$8,381	\$7,013	\$0	\$22,400	\$1,855,478
Apr-17	\$35,552	\$8,122	\$14,561	\$0	\$58,234	\$1,913,712
May-17	\$42,162	\$8,392	\$21,819	\$0	\$72,373	\$1,986,085
Jun-17	\$34,769	\$8,122	\$17,094	\$0	\$59,985	\$2,046,070
Jul-17	\$41,926	\$8,392	\$8,761	\$0	\$59,080	\$2,105,150
Aug-17	\$38,855	\$8,392	\$1,339	\$0	\$48,586	\$2,153,736
Sep-17	\$31,073	\$8,122	\$423	\$0	\$39,618	\$2,193,354
Oct-17	(\$21,397)	\$8,392	\$508	\$0	(\$12,497)	\$2,180,857
Nov-17	(\$4,373)	\$8,133	\$532	\$0	\$4,291	\$2,185,149
Dec-17	\$11,455	\$8,392	\$2,242	\$0	\$22,089	\$2,207,238
Jan-18	\$3,492	\$8,392	\$8,211	\$0	\$20,095	\$2,227,333
Feb-18	\$1,766	\$7,580	\$7,385	\$0	\$16,730	\$2,244,063
Mar-18	\$11,913	\$8,381	\$7,188	\$0	\$27,482	\$2,271,545
Apr-18	\$40,951	\$8,122	\$14,847	\$0	\$63,919	\$2,335,464
May-18	\$47,488	\$8,392	\$23,896	\$0	\$79,776	\$2,415,240
Jun-18	\$39,757	\$8,122	\$20,155	\$0	\$68,034	\$2,483,275
Jul-18	\$47,878	\$8,392	\$9,638	\$0	\$65,908	\$2,549,182
Aug-18	\$45,003	\$8,392	\$1,583	\$0	\$54,978	\$2,604,161
Sep-18	\$37,114	\$8,122	\$491	\$0	\$45,726	\$2,649,887
Oct-18	(\$34,158)	\$8,392	\$426	\$0	(\$25,340)	\$2,624,547
Nov-18	(\$15,946)	\$8,133	\$439	\$0	(\$7,374)	\$2,617,173
Dec-18	(\$747)	\$8,392	\$2,043	\$0	\$9,688	\$2,626,861
Jan-19	(\$8,565)	\$8,392	\$7,923	\$0	\$7,750	\$2,634,611
Feb-19	(\$9,533)	\$7,580	\$6,587	\$0	\$4,634	\$2,639,246
Mar-19	\$407	\$8,381	\$7,013	\$0	\$15,801	\$2,655,047
Apr-19	\$30,533	\$8,122	\$14,561	\$0	\$53,216	\$2,708,263
May-19	\$38,703	\$8,392	\$21,819	\$0	\$68,914	\$2,777,177
Jun-19	\$31,224	\$8,122	\$17,094	\$0	\$56,440	\$2,833,617
Jul-19	\$36,816	\$8,392	\$8,761	\$0	\$53,969	\$2,887,586
Aug-19	\$33,256	\$8,392	\$1,339	\$0	\$42,987	\$2,930,573
Sep-19	\$25,673	\$8,122	\$423	\$0	\$34,218	\$2,964,791
Oct-19	(\$61,594)	\$8,392	\$508	\$0	(\$52,694)	\$2,912,097
Nov-19	(\$42,064)	\$8,133	\$532	\$0	(\$33,399)	\$2,878,698
Dec-19	(\$27,753)	\$8,392	\$2,242	\$0	(\$17,119)	\$2,861,579
Jan-20	(\$35,533)	\$8,392	\$8,211	\$0	(\$18,929)	\$2,842,650
Feb-20	(\$35,479)	\$7,851	\$7,619	\$0	(\$20,009)	\$2,822,641
Mar-20	(\$26,261)	\$8,381	\$7,188	\$0	(\$10,692)	\$2,811,949
Apr-20	\$6,012	\$8,122	\$14,847	\$0	\$28,980	\$2,840,929
May-20	\$15,089	\$8,392	\$23,896	\$0	\$47,377	\$2,888,306
Jun-20	\$7,421	\$8,122	\$20,155	\$0	\$35,698	\$2,924,004
Jul-20	\$11,128	\$8,392	\$9,638	\$0	\$29,158	\$2,953,162
Aug-20	\$7,284	\$8,392	\$1,583	\$0	\$17,259	\$2,970,421

**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 (\$)
Sep-20	(\$407)	\$8,122	\$491	\$0	\$8,205	\$2,978,626
Oct-20	(\$74,230)	\$8,392	\$426	\$0	(\$65,412)	\$2,913,214
Nov-20	(\$53,284)	\$8,133	\$439	\$0	(\$44,712)	\$2,868,502
Dec-20	(\$40,690)	\$8,392	\$2,043	\$0	(\$30,255)	\$2,838,248
Jan-21	(\$47,234)	\$8,392	\$7,923	\$0	(\$30,919)	\$2,807,328
Feb-21	(\$45,728)	\$7,580	\$6,587	\$0	(\$31,562)	\$2,775,767
Mar-21	(\$38,706)	\$8,381	\$7,013	\$0	(\$23,312)	\$2,752,455
Apr-21	(\$4,076)	\$8,122	\$14,561	\$0	\$18,607	\$2,771,062
May-21	\$6,373	\$8,392	\$21,819	\$0	\$36,584	\$2,807,647
Jun-21	(\$1,347)	\$8,122	\$17,094	\$0	\$23,869	\$2,831,516
Jul-21	\$134	\$8,392	\$8,761	\$0	\$17,288	\$2,848,804
Aug-21	(\$4,568)	\$8,392	\$1,339	\$0	\$5,164	\$2,853,967
Sep-21	(\$12,131)	\$8,122	\$423	\$0	(\$3,586)	\$2,850,382
Oct-21	(\$56,981)	\$8,392	\$508	\$0	(\$48,081)	\$2,802,301
Nov-21	(\$36,908)	\$8,133	\$532	\$0	(\$28,243)	\$2,774,057
Dec-21	(\$21,241)	\$8,392	\$2,242	\$0	(\$10,607)	\$2,763,450
Jan-22	(\$28,937)	\$8,392	\$8,211	\$0	(\$12,333)	\$2,751,117
Feb-22	(\$28,486)	\$7,580	\$7,385	\$0	(\$13,521)	\$2,737,596
Mar-22	(\$19,952)	\$8,381	\$7,188	\$0	(\$4,383)	\$2,733,213
Apr-22	\$13,877	\$8,122	\$14,847	\$0	\$36,846	\$2,770,059
May-22	\$22,489	\$8,392	\$23,896	\$0	\$54,777	\$2,824,836
Jun-22	\$14,249	\$8,122	\$20,155	\$0	\$42,526	\$2,867,361
Jul-22	\$20,511	\$8,392	\$9,638	\$0	\$38,541	\$2,905,902
Aug-22	\$16,403	\$8,392	\$1,583	\$0	\$26,378	\$2,932,281
Sep-22	\$8,337	\$8,122	\$491	\$0	\$16,949	\$2,949,230

**TABLE 3 - Usage and Rates assuming 20.5 aMW**

Month	Port Townsend Paper Usage			Projected IP Rates		
	Demand (kW)	HLH (MWh)	LLH (MWh)	Demand (\$ / kW)	HLH (\$ / MWh)	LLH (\$ / MWh)
Sep-13	20,500	7,872	6,888	\$10.53	\$44.10	\$34.24
Oct-13	20,500	8,856	6,396	\$9.18	\$42.50	\$35.10
Nov-13	20,500	8,200	6,581	\$9.31	\$43.06	\$35.32
Dec-13	20,500	8,200	7,052	\$9.97	\$46.10	\$37.53
Jan-14	20,500	8,528	6,724	\$9.70	\$44.91	\$35.65
Feb-14	20,500	7,872	5,904	\$9.92	\$45.91	\$37.29
Mar-14	20,500	8,528	6,704	\$9.60	\$44.40	\$36.35
Apr-14	20,500	8,528	6,232	\$9.10	\$42.13	\$34.22
May-14	20,500	8,528	6,724	\$8.50	\$39.39	\$27.54
Jun-14	20,500	8,200	6,560	\$8.72	\$40.40	\$26.01
Jul-14	20,500	8,528	6,724	\$10.20	\$47.18	\$33.66
Aug-14	20,500	8,528	6,724	\$10.75	\$49.71	\$36.15
Sep-14	20,500	8,200	6,560	\$10.53	\$48.71	\$37.75
Oct-14	20,500	8,856	6,396	\$9.18	\$42.61	\$35.21
Nov-14	20,500	7,872	6,909	\$9.31	\$43.18	\$35.43
Dec-14	20,500	8,528	6,724	\$9.97	\$46.21	\$37.64
Jan-15	20,500	8,528	6,724	\$9.70	\$45.02	\$35.77
Feb-15	20,500	7,872	5,904	\$9.92	\$46.02	\$37.40
Mar-15	20,500	8,528	6,704	\$9.60	\$44.51	\$36.47
Apr-15	20,500	8,528	6,232	\$9.10	\$42.24	\$34.33
May-15	20,500	8,200	7,052	\$8.50	\$39.50	\$27.66
Jun-15	20,500	8,528	6,232	\$8.72	\$40.51	\$26.12
Jul-15	20,500	8,528	6,724	\$10.20	\$47.29	\$33.78
Aug-15	20,500	8,528	6,724	\$10.75	\$49.82	\$36.27
Sep-15	20,500	8,200	6,560	\$10.53	\$48.82	\$37.87
Oct-15	20,500	8,856	6,396	\$9.18	\$44.83	\$37.05
Nov-15	20,500	7,872	6,909	\$9.31	\$45.43	\$37.28
Dec-15	20,500	8,528	6,724	\$9.97	\$48.62	\$39.61
Jan-16	20,500	8,200	7,052	\$9.70	\$47.37	\$37.63
Feb-16	20,500	8,200	6,068	\$9.92	\$48.42	\$39.35
Mar-16	20,500	8,856	6,376	\$9.60	\$46.83	\$38.37
Apr-16	20,500	8,528	6,232	\$9.10	\$44.44	\$36.13
May-16	20,500	8,200	7,052	\$8.50	\$41.56	\$29.10
Jun-16	20,500	8,528	6,232	\$8.72	\$42.62	\$27.49
Jul-16	20,500	8,200	7,052	\$10.20	\$49.75	\$35.54
Aug-16	20,500	8,856	6,396	\$10.75	\$52.41	\$38.16
Sep-16	20,500	8,200	6,560	\$10.53	\$51.36	\$39.84
Oct-16	20,500	8,528	6,724	\$9.18	\$44.88	\$37.10
Nov-16	20,500	8,200	6,581	\$9.31	\$45.48	\$37.33
Dec-16	20,500	8,528	6,724	\$9.97	\$48.66	\$39.66
Jan-17	20,500	8,200	7,052	\$9.70	\$47.41	\$37.68
Feb-17	20,500	7,872	5,904	\$9.92	\$48.47	\$39.40
Mar-17	20,500	8,856	6,376	\$9.60	\$46.88	\$38.42
Apr-17	20,500	8,200	6,560	\$9.10	\$44.49	\$36.18
May-17	20,500	8,528	6,724	\$8.50	\$41.61	\$29.15

**TABLE 3 - Usage and Rates assuming 20.5 aMW**

Month	Port Townsend Paper Usage			Projected IP Rates		
	Demand (kW)	HLH (MWh)	LLH (MWh)	Demand (\$ / kW)	HLH (\$ / MWh)	LLH (\$ / MWh)
Jun-17	20,500	8,528	6,232	\$8.72	\$42.67	\$27.54
Jul-17	20,500	8,200	7,052	\$10.20	\$49.80	\$35.59
Aug-17	20,500	8,856	6,396	\$10.75	\$52.46	\$38.21
Sep-17	20,500	8,200	6,560	\$10.53	\$51.41	\$39.89
Oct-17	20,500	8,528	6,724	\$9.18	\$46.77	\$38.68
Nov-17	20,500	8,200	6,581	\$9.31	\$47.39	\$38.92
Dec-17	20,500	8,200	7,052	\$9.97	\$50.70	\$41.34
Jan-18	20,500	8,528	6,724	\$9.70	\$49.40	\$39.28
Feb-18	20,500	7,872	5,904	\$9.92	\$50.50	\$41.07
Mar-18	20,500	8,856	6,376	\$9.60	\$48.85	\$40.05
Apr-18	20,500	8,200	6,560	\$9.10	\$46.37	\$37.72
May-18	20,500	8,528	6,724	\$8.50	\$43.37	\$30.41
Jun-18	20,500	8,528	6,232	\$8.72	\$44.47	\$28.74
Jul-18	20,500	8,200	7,052	\$10.20	\$51.88	\$37.11
Aug-18	20,500	8,856	6,396	\$10.75	\$54.65	\$39.83
Sep-18	20,500	7,872	6,888	\$10.53	\$53.56	\$41.58
Oct-18	20,500	8,856	6,396	\$9.18	\$46.75	\$38.66
Nov-18	20,500	8,200	6,581	\$9.31	\$47.37	\$38.90
Dec-18	20,500	8,200	7,052	\$9.97	\$50.69	\$41.32
Jan-19	20,500	8,528	6,724	\$9.70	\$49.39	\$39.27
Feb-19	20,500	7,872	5,904	\$9.92	\$50.48	\$41.06
Mar-19	20,500	8,528	6,704	\$9.60	\$48.83	\$40.03
Apr-19	20,500	8,528	6,232	\$9.10	\$46.35	\$37.70
May-19	20,500	8,528	6,724	\$8.50	\$43.35	\$30.40
Jun-19	20,500	8,200	6,560	\$8.72	\$44.46	\$28.72
Jul-19	20,500	8,528	6,724	\$10.20	\$51.87	\$37.09
Aug-19	20,500	8,856	6,396	\$10.75	\$54.64	\$39.82
Sep-19	20,500	7,872	6,888	\$10.53	\$53.55	\$41.57
Oct-19	20,500	8,856	6,396	\$9.18	\$45.13	\$36.96
Nov-19	20,500	8,200	6,581	\$9.31	\$45.75	\$37.21
Dec-19	20,500	8,200	7,052	\$9.97	\$49.10	\$39.65
Jan-20	20,500	8,528	6,724	\$9.70	\$47.78	\$37.58
Feb-20	20,500	8,200	6,068	\$9.92	\$48.89	\$39.38
Mar-20	20,500	8,528	6,704	\$9.60	\$47.22	\$38.35
Apr-20	20,500	8,528	6,232	\$9.10	\$44.72	\$36.00
May-20	20,500	8,200	7,052	\$8.50	\$41.69	\$28.63
Jun-20	20,500	8,528	6,232	\$8.72	\$42.81	\$26.94
Jul-20	20,500	8,528	6,724	\$10.20	\$50.28	\$35.38
Aug-20	20,500	8,528	6,724	\$10.75	\$53.08	\$38.13
Sep-20	20,500	8,200	6,560	\$10.53	\$51.98	\$39.89
Oct-20	20,500	8,856	6,396	\$9.18	\$45.17	\$37.01
Nov-20	20,500	7,872	6,909	\$9.31	\$45.79	\$37.25
Dec-20	20,500	8,528	6,724	\$9.97	\$49.14	\$39.69
Jan-21	20,500	8,200	7,052	\$9.70	\$47.83	\$37.62
Feb-21	20,500	7,872	5,904	\$9.92	\$48.93	\$39.42

**TABLE 3 - Usage and Rates assuming 20.5 aMW**

Month	Port Townsend Paper Usage			Projected IP Rates		
	Demand (kW)	HLH (MWh)	LLH (MWh)	Demand (\$ / kW)	HLH (\$ / MWh)	LLH (\$ / MWh)
Mar-21	20,500	8,856	6,376	\$9.60	\$47.26	\$38.39
Apr-21	20,500	8,528	6,232	\$9.10	\$44.76	\$36.04
May-21	20,500	8,200	7,052	\$8.50	\$41.74	\$28.67
Jun-21	20,500	8,528	6,232	\$8.72	\$42.85	\$26.98
Jul-21	20,500	8,528	6,724	\$10.20	\$50.33	\$35.43
Aug-21	20,500	8,528	6,724	\$10.75	\$53.12	\$38.17
Sep-21	20,500	8,200	6,560	\$10.53	\$52.02	\$39.94
Oct-21	20,500	8,528	6,724	\$9.18	\$48.85	\$39.98
Nov-21	20,500	8,200	6,581	\$9.31	\$49.53	\$40.24
Dec-21	20,500	8,528	6,724	\$9.97	\$53.17	\$42.89
Jan-22	20,500	8,200	7,052	\$9.70	\$51.74	\$40.64
Feb-22	20,500	7,872	5,904	\$9.92	\$52.94	\$42.60
Mar-22	20,500	8,856	6,376	\$9.60	\$51.13	\$41.48
Apr-22	20,500	8,528	6,232	\$9.10	\$48.41	\$38.92
May-22	20,500	8,200	7,052	\$8.50	\$45.12	\$30.92
Jun-22	20,500	8,528	6,232	\$8.72	\$46.33	\$29.08
Jul-22	20,500	8,200	7,052	\$10.20	\$54.46	\$38.26
Aug-22	20,500	8,856	6,396	\$10.75	\$57.50	\$41.24
Sep-22	20,500	8,200	6,560	\$10.53	\$56.30	\$43.16

**TABLE 4 - BPA's Projected Revenue assuming 20.5 aMW**

			Projected IP Revenue	
Month	HLH (\$)	LLH (\$)	Month (\$)	Cumulative Total Contract-to-Date (\$)
Sep-13	\$347,136	\$235,828	\$582,963	\$582,963
Oct-13	\$376,355	\$224,481	\$600,836	\$1,183,799
Nov-13	\$353,124	\$232,419	\$585,542	\$1,769,342
Dec-13	\$377,997	\$264,665	\$642,662	\$2,412,004
Jan-14	\$382,978	\$239,728	\$622,707	\$3,034,710
Feb-14	\$361,391	\$220,136	\$581,527	\$3,616,237
Mar-14	\$378,620	\$243,690	\$622,309	\$4,238,547
Apr-14	\$359,289	\$213,254	\$572,544	\$4,811,090
May-14	\$335,884	\$185,188	\$521,072	\$5,332,163
Jun-14	\$331,257	\$170,613	\$501,869	\$5,834,032
Jul-14	\$402,309	\$226,355	\$628,664	\$6,462,695
Aug-14	\$423,913	\$243,090	\$667,004	\$7,129,699
Sep-14	\$399,409	\$247,657	\$647,066	\$7,776,766
Oct-14	\$377,366	\$225,211	\$602,578	\$8,379,343
Nov-14	\$339,898	\$244,792	\$584,690	\$8,964,033
Dec-14	\$394,091	\$253,123	\$647,214	\$9,611,247
Jan-15	\$383,952	\$240,496	\$624,448	\$10,235,695
Feb-15	\$362,290	\$220,811	\$583,100	\$10,818,796
Mar-15	\$379,593	\$244,455	\$624,049	\$11,442,844
Apr-15	\$360,263	\$213,966	\$574,229	\$12,017,074
May-15	\$323,902	\$195,027	\$518,929	\$12,536,003
Jun-15	\$345,481	\$162,794	\$508,274	\$13,044,277
Jul-15	\$403,283	\$227,123	\$630,405	\$13,674,682
Aug-15	\$424,887	\$243,858	\$668,746	\$14,343,428
Sep-15	\$400,345	\$248,407	\$648,752	\$14,992,180
Oct-15	\$397,016	\$236,966	\$633,982	\$15,626,162
Nov-15	\$357,593	\$257,568	\$615,161	\$16,241,323
Dec-15	\$414,593	\$266,322	\$680,916	\$16,922,239
Jan-16	\$388,396	\$265,390	\$653,786	\$17,576,025
Feb-16	\$397,019	\$238,780	\$635,799	\$18,211,824
Mar-16	\$414,709	\$244,623	\$659,332	\$18,871,156
Apr-16	\$379,024	\$225,138	\$604,162	\$19,475,318
May-16	\$340,782	\$205,245	\$546,027	\$20,021,345
Jun-16	\$363,481	\$171,331	\$534,812	\$20,556,156
Jul-16	\$407,940	\$250,642	\$658,582	\$21,214,739
Aug-16	\$464,166	\$244,065	\$708,231	\$21,922,970
Sep-16	\$421,161	\$261,360	\$682,521	\$22,605,490
Oct-16	\$382,730	\$249,448	\$632,179	\$23,237,669
Nov-16	\$372,896	\$245,662	\$618,558	\$23,856,227
Dec-16	\$415,012	\$266,653	\$681,665	\$24,537,892
Jan-17	\$388,799	\$265,736	\$654,535	\$25,192,428
Feb-17	\$381,525	\$232,617	\$614,141	\$25,806,569
Mar-17	\$415,144	\$244,937	\$660,080	\$26,466,649
Apr-17	\$364,849	\$237,310	\$602,158	\$27,068,807

**TABLE 4 - BPA's Projected Revenue assuming 20.5 aMW**

			Projected IP Revenue	
Month	HLH (\$)	LLH (\$)	Month (\$)	Cumulative Total Contract-to-Date (\$)
May-17	\$354,833	\$196,029	\$550,861	\$27,619,668
Jun-17	\$363,899	\$171,637	\$535,537	\$28,155,205
Jul-17	\$408,343	\$250,988	\$659,331	\$28,814,537
Aug-17	\$464,601	\$244,379	\$708,980	\$29,523,517
Sep-17	\$421,564	\$261,682	\$683,246	\$30,206,762
Oct-17	\$398,836	\$260,056	\$658,892	\$30,865,654
Nov-17	\$388,577	\$256,106	\$644,682	\$31,510,337
Dec-17	\$415,776	\$291,507	\$707,282	\$32,217,619
Jan-18	\$421,320	\$264,141	\$685,461	\$32,903,081
Feb-18	\$397,519	\$242,474	\$639,993	\$33,543,073
Mar-18	\$432,575	\$255,331	\$687,906	\$34,230,980
Apr-18	\$380,208	\$247,417	\$627,625	\$34,858,605
May-18	\$369,823	\$204,503	\$574,326	\$35,432,931
Jun-18	\$379,252	\$179,090	\$558,342	\$35,991,273
Jul-18	\$425,440	\$261,689	\$687,129	\$36,678,402
Aug-18	\$484,008	\$254,753	\$738,762	\$37,417,164
Sep-18	\$421,621	\$286,401	\$708,023	\$38,125,186
Oct-18	\$414,052	\$247,282	\$661,334	\$38,786,520
Nov-18	\$388,463	\$256,014	\$644,477	\$39,430,997
Dec-18	\$415,662	\$291,408	\$707,070	\$40,138,067
Jan-19	\$421,201	\$264,048	\$685,249	\$40,823,316
Feb-19	\$397,409	\$242,392	\$639,801	\$41,463,117
Mar-19	\$416,435	\$268,374	\$684,809	\$42,147,926
Apr-19	\$395,298	\$234,959	\$630,257	\$42,778,183
May-19	\$369,705	\$204,409	\$574,114	\$43,352,296
Jun-19	\$364,551	\$188,424	\$552,976	\$43,905,272
Jul-19	\$442,339	\$249,424	\$691,763	\$44,597,035
Aug-19	\$483,885	\$254,664	\$738,549	\$45,335,584
Sep-19	\$421,512	\$286,305	\$707,817	\$46,043,401
Oct-19	\$399,633	\$236,422	\$636,055	\$46,679,456
Nov-19	\$375,155	\$244,855	\$620,010	\$47,299,466
Dec-19	\$402,588	\$279,596	\$682,185	\$47,981,650
Jan-20	\$407,509	\$252,666	\$660,176	\$48,641,826
Feb-20	\$400,880	\$238,947	\$639,827	\$49,281,653
Mar-20	\$402,702	\$257,071	\$659,773	\$49,941,426
Apr-20	\$381,383	\$224,327	\$605,709	\$50,547,136
May-20	\$341,894	\$201,905	\$543,799	\$51,090,935
Jun-20	\$365,079	\$167,889	\$532,968	\$51,623,903
Jul-20	\$428,829	\$237,917	\$666,746	\$52,290,649
Aug-20	\$452,657	\$256,374	\$709,031	\$52,999,680
Sep-20	\$426,203	\$261,698	\$687,900	\$53,687,580
Oct-20	\$400,011	\$236,695	\$636,706	\$54,324,286
Nov-20	\$360,485	\$257,354	\$617,839	\$54,942,125
Dec-20	\$419,056	\$266,879	\$685,935	\$55,628,060
Jan-21	\$392,186	\$265,293	\$657,479	\$56,285,539
Feb-21	\$385,181	\$232,741	\$617,922	\$56,903,461

**TABLE 4 - BPA's Projected Revenue assuming 20.5 aMW**

Month	HLH (\$)	LLH (\$)	Projected IP Revenue	
			Month (\$)	Cumulative Total Contract-to-Date (\$)
Mar-21	\$418,569	\$244,765	\$663,334	\$57,566,795
Apr-21	\$381,747	\$224,593	\$606,340	\$58,173,135
May-21	\$342,244	\$202,207	\$544,450	\$58,717,585
Jun-21	\$365,444	\$168,155	\$533,599	\$59,251,184
Jul-21	\$429,193	\$238,204	\$667,397	\$59,918,581
Aug-21	\$453,021	\$256,662	\$709,682	\$60,628,263
Sep-21	\$426,553	\$261,978	\$688,531	\$61,316,794
Oct-21	\$416,590	\$268,796	\$685,386	\$62,002,180
Nov-21	\$406,139	\$264,814	\$670,953	\$62,673,133
Dec-21	\$453,406	\$288,417	\$741,823	\$63,414,956
Jan-22	\$424,276	\$286,607	\$710,883	\$64,125,839
Feb-22	\$416,745	\$251,514	\$668,259	\$64,794,098
Mar-22	\$452,791	\$264,464	\$717,255	\$65,511,352
Apr-22	\$412,840	\$242,568	\$655,409	\$66,166,761
May-22	\$369,975	\$218,014	\$587,988	\$66,754,749
Jun-22	\$395,114	\$181,204	\$576,318	\$67,331,067
Jul-22	\$446,565	\$269,787	\$716,352	\$68,047,420
Aug-22	\$509,194	\$263,781	\$772,975	\$68,820,395
Sep-22	\$461,643	\$283,131	\$744,774	\$69,565,168



**TABLE 5 - BPA's Forecasted Revenues Obtained from the Market assuming 20.5 aMW**

Month	Forecasted Market Price		Forecasted Revenues Obtained from the Market			
	HLH Price (\$ / MWh)	LLH Price (\$ / MWh)	HLH (\$)	LLH (\$)	Month (\$) (HLH + LLH)	Cumulative Total Contract-to-Date (\$)
Sep-13	\$37.70	\$29.29	\$296,767	\$201,751	\$498,518	\$498,518
Oct-13	\$37.70	\$30.82	\$333,882	\$197,128	\$531,009	\$1,029,528
Nov-13	\$36.79	\$29.45	\$301,646	\$193,776	\$495,422	\$1,524,949
Dec-13	\$39.24	\$31.11	\$321,807	\$219,411	\$541,218	\$2,066,168
Jan-14	\$40.26	\$31.18	\$343,367	\$209,634	\$553,000	\$2,619,168
Feb-14	\$42.03	\$33.12	\$330,851	\$195,519	\$526,371	\$3,145,539
Mar-14	\$40.16	\$31.97	\$342,507	\$214,291	\$556,799	\$3,702,337
Apr-14	\$35.96	\$27.54	\$306,637	\$171,652	\$478,290	\$4,180,627
May-14	\$31.35	\$20.24	\$267,365	\$136,089	\$403,454	\$4,584,081
Jun-14	\$32.04	\$19.43	\$262,757	\$127,440	\$390,197	\$4,974,278
Jul-14	\$38.80	\$27.16	\$330,927	\$182,650	\$513,577	\$5,487,855
Aug-14	\$43.55	\$30.95	\$371,400	\$208,119	\$579,519	\$6,067,374
Sep-14	\$42.50	\$32.82	\$348,493	\$215,291	\$563,784	\$6,631,158
Oct-14	\$42.82	\$35.03	\$379,229	\$224,067	\$603,296	\$7,234,454
Nov-14	\$42.38	\$34.12	\$333,634	\$235,749	\$569,383	\$7,803,837
Dec-14	\$44.99	\$35.34	\$383,715	\$237,595	\$621,309	\$8,425,146
Jan-15	\$43.86	\$33.44	\$373,997	\$224,822	\$598,818	\$9,023,965
Feb-15	\$44.79	\$35.12	\$352,561	\$207,357	\$559,918	\$9,583,883
Mar-15	\$44.53	\$35.20	\$379,789	\$235,957	\$615,746	\$10,199,629
Apr-15	\$39.93	\$29.94	\$340,536	\$186,615	\$527,151	\$10,726,780
May-15	\$36.07	\$22.26	\$295,774	\$156,982	\$452,757	\$11,179,537
Jun-15	\$37.05	\$22.20	\$316,004	\$138,345	\$454,349	\$11,633,886
Jul-15	\$44.29	\$29.78	\$377,719	\$200,260	\$577,979	\$12,211,865
Aug-15	\$47.72	\$33.00	\$406,977	\$221,894	\$628,871	\$12,840,736
Sep-15	\$46.60	\$35.14	\$382,158	\$230,492	\$612,651	\$13,453,387
Oct-15	\$46.38	\$37.33	\$410,771	\$238,771	\$649,542	\$14,102,929
Nov-15	\$45.60	\$36.00	\$358,945	\$248,683	\$607,627	\$14,710,556
Dec-15	\$46.43	\$36.33	\$395,983	\$244,266	\$640,249	\$15,350,806
Jan-16	\$46.08	\$34.64	\$377,871	\$244,259	\$622,130	\$15,972,936
Feb-16	\$47.93	\$37.60	\$393,058	\$228,128	\$621,186	\$16,594,122
Mar-16	\$45.14	\$35.22	\$399,750	\$224,549	\$624,298	\$17,218,420
Apr-16	\$41.49	\$31.71	\$353,789	\$197,632	\$551,421	\$17,769,841
May-16	\$37.09	\$23.64	\$304,158	\$166,681	\$470,839	\$18,240,680
Jun-16	\$36.20	\$20.69	\$308,691	\$128,916	\$437,607	\$18,678,288
Jul-16	\$45.20	\$29.80	\$370,607	\$210,138	\$580,745	\$19,259,033
Aug-16	\$48.27	\$33.09	\$427,451	\$211,619	\$639,070	\$19,898,103
Sep-16	\$48.73	\$35.81	\$399,560	\$234,942	\$634,501	\$20,532,604
Oct-16	\$49.33	\$39.06	\$420,668	\$262,613	\$683,281	\$21,215,885
Nov-16	\$46.46	\$36.55	\$380,949	\$240,526	\$621,475	\$21,837,361
Dec-16	\$48.83	\$38.47	\$416,454	\$258,671	\$675,125	\$22,512,485
Jan-17	\$48.43	\$36.69	\$397,112	\$258,743	\$655,855	\$23,168,340
Feb-17	\$49.36	\$38.93	\$388,577	\$229,847	\$618,424	\$23,786,764
Mar-17	\$46.72	\$36.75	\$413,787	\$234,326	\$648,112	\$24,434,877
Apr-17	\$41.41	\$30.78	\$339,534	\$201,890	\$541,424	\$24,976,301
May-17	\$37.81	\$23.26	\$322,431	\$156,404	\$478,835	\$25,455,136

**TABLE 5 - BPA's Forecasted Revenues Obtained from the Market assuming 20.5 aMW**

Month	Forecasted Market Price		Forecasted Revenues Obtained from the Market			
	HLH Price (\$ / MWh)	LLH Price (\$ / MWh)	HLH (\$)	LLH (\$)	Month (\$) (HLH + LLH)	Cumulative Total Contract-to-Date (\$)
Jun-17	\$38.93	\$23.12	\$332,033	\$144,106	\$476,139	\$25,931,275
Jul-17	\$45.67	\$30.23	\$374,493	\$213,214	\$587,707	\$26,518,982
Aug-17	\$48.69	\$33.06	\$431,173	\$211,430	\$642,603	\$27,161,585
Sep-17	\$48.55	\$35.38	\$398,075	\$232,088	\$630,163	\$27,791,748
Oct-17	\$50.01	\$40.00	\$426,455	\$268,990	\$695,445	\$28,487,193
Nov-17	\$48.79	\$38.30	\$400,096	\$252,057	\$652,154	\$29,139,347
Dec-17	\$50.20	\$39.15	\$411,657	\$276,057	\$687,714	\$29,827,061
Jan-18	\$49.88	\$37.79	\$425,386	\$254,110	\$679,497	\$30,506,558
Feb-18	\$50.84	\$40.10	\$400,234	\$236,743	\$636,976	\$31,143,534
Mar-18	\$48.13	\$37.86	\$426,200	\$241,355	\$667,556	\$31,811,090
Apr-18	\$42.65	\$31.70	\$349,720	\$207,947	\$557,667	\$32,368,757
May-18	\$38.94	\$23.96	\$332,104	\$161,096	\$493,200	\$32,861,957
Jun-18	\$40.10	\$23.82	\$341,994	\$148,429	\$490,423	\$33,352,381
Jul-18	\$47.04	\$31.14	\$385,728	\$219,611	\$605,338	\$33,957,719
Aug-18	\$50.15	\$34.05	\$444,109	\$217,773	\$661,881	\$34,619,600
Sep-18	\$50.00	\$36.44	\$393,616	\$251,003	\$644,620	\$35,264,219
Oct-18	\$51.51	\$41.20	\$456,142	\$263,545	\$719,687	\$35,983,907
Nov-18	\$50.26	\$39.45	\$412,099	\$259,619	\$671,718	\$36,655,625
Dec-18	\$51.71	\$40.32	\$424,007	\$284,339	\$708,346	\$37,363,971
Jan-19	\$51.38	\$38.93	\$438,148	\$261,733	\$699,881	\$38,063,852
Feb-19	\$52.37	\$41.30	\$412,241	\$243,845	\$656,086	\$38,719,938
Mar-19	\$49.57	\$38.99	\$422,728	\$261,386	\$684,113	\$39,404,051
Apr-19	\$43.93	\$32.65	\$374,620	\$203,476	\$578,096	\$39,982,147
May-19	\$40.11	\$24.68	\$342,067	\$165,929	\$507,996	\$40,490,144
Jun-19	\$41.31	\$24.53	\$338,706	\$160,929	\$499,634	\$40,989,778
Jul-19	\$48.45	\$32.08	\$413,191	\$215,678	\$628,869	\$41,618,647
Aug-19	\$51.65	\$35.07	\$457,432	\$224,306	\$681,738	\$42,300,385
Sep-19	\$51.50	\$37.53	\$405,425	\$258,533	\$663,958	\$42,964,343
Oct-19	\$53.05	\$42.44	\$469,827	\$271,451	\$741,278	\$43,705,621
Nov-19	\$51.76	\$40.64	\$424,462	\$267,408	\$691,870	\$44,397,491
Dec-19	\$53.26	\$41.53	\$436,727	\$292,869	\$729,596	\$45,127,087
Jan-20	\$52.92	\$40.09	\$451,292	\$269,585	\$720,878	\$45,847,965
Feb-20	\$53.94	\$42.54	\$442,300	\$258,137	\$700,437	\$46,548,402
Mar-20	\$51.06	\$40.16	\$435,409	\$269,227	\$704,637	\$47,253,038
Apr-20	\$45.25	\$33.63	\$385,859	\$209,580	\$595,439	\$47,848,477
May-20	\$41.31	\$25.42	\$338,778	\$179,244	\$518,022	\$48,366,499
Jun-20	\$42.54	\$25.27	\$362,821	\$157,469	\$520,290	\$48,886,790
Jul-20	\$49.90	\$33.04	\$425,587	\$222,148	\$647,735	\$49,534,525
Aug-20	\$53.20	\$36.12	\$453,705	\$242,883	\$696,588	\$50,231,113
Sep-20	\$53.05	\$38.66	\$434,987	\$253,609	\$688,596	\$50,919,709
Oct-20	\$54.64	\$43.71	\$483,921	\$279,595	\$763,516	\$51,683,225
Nov-20	\$53.32	\$41.86	\$419,708	\$289,159	\$708,867	\$52,392,092
Dec-20	\$54.86	\$42.78	\$467,822	\$287,624	\$755,447	\$53,147,538
Jan-21	\$54.51	\$41.30	\$446,953	\$291,218	\$738,171	\$53,885,709
Feb-21	\$55.56	\$43.82	\$437,346	\$258,695	\$696,041	\$54,581,751
Mar-21	\$52.59	\$41.37	\$465,721	\$263,736	\$729,456	\$55,311,207

**TABLE 5 - BPA's Forecasted Revenues Obtained from the Market assuming 20.5 aMW**

Month	Forecasted Market Price		Forecasted Revenues Obtained from the Market			
	HLH Price (\$ / MWh)	LLH Price (\$ / MWh)	HLH (\$)	LLH (\$)	Month (\$) (HLH + LLH)	Cumulative Total Contract-to-Date (\$)
Apr-21	\$46.60	\$34.64	\$397,435	\$215,867	\$613,302	\$55,924,509
May-21	\$42.55	\$26.18	\$348,942	\$184,621	\$533,563	\$56,458,072
Jun-21	\$43.82	\$26.03	\$373,706	\$162,193	\$535,899	\$56,993,971
Jul-21	\$51.40	\$34.03	\$438,355	\$228,813	\$667,168	\$57,661,138
Aug-21	\$54.80	\$37.21	\$467,316	\$250,169	\$717,485	\$58,378,623
Sep-21	\$54.64	\$39.82	\$448,037	\$261,217	\$709,254	\$59,087,877
Oct-21	\$56.28	\$45.03	\$479,978	\$302,751	\$782,729	\$59,870,607
Nov-21	\$54.92	\$43.11	\$450,312	\$283,693	\$734,005	\$60,604,611
Dec-21	\$56.50	\$44.06	\$481,857	\$296,253	\$778,110	\$61,382,721
Jan-22	\$56.14	\$42.53	\$460,362	\$299,954	\$760,316	\$62,143,038
Feb-22	\$57.22	\$45.13	\$450,467	\$266,456	\$716,923	\$62,859,960
Mar-22	\$54.17	\$42.61	\$479,692	\$271,648	\$751,340	\$63,611,300
Apr-22	\$48.00	\$35.68	\$409,358	\$222,343	\$631,701	\$64,243,001
May-22	\$43.83	\$26.97	\$359,410	\$190,160	\$549,570	\$64,792,571
Jun-22	\$45.14	\$26.81	\$384,917	\$167,059	\$551,976	\$65,344,547
Jul-22	\$52.94	\$35.05	\$434,140	\$247,174	\$681,313	\$66,025,860
Aug-22	\$56.44	\$38.32	\$499,848	\$245,105	\$744,953	\$66,770,813
Sep-22	\$56.28	\$41.01	\$461,478	\$269,054	\$730,532	\$67,501,345

**TABLE 6 - BPA's Net Benefit before Adjustment assuming 20.5 aMW**

	<b>Net Revenue or (Cost)</b>	
Month	Month (\$)	Cumulative Total Contract-to-Date (\$)
Sep-13	\$84,445	\$84,445
Oct-13	\$69,827	\$154,271
Nov-13	\$90,121	\$244,392
Dec-13	\$101,444	\$345,836
Jan-14	\$69,706	\$415,542
Feb-14	\$55,156	\$470,699
Mar-14	\$65,511	\$536,209
Apr-14	\$94,254	\$630,463
May-14	\$117,618	\$748,082
Jun-14	\$111,673	\$859,754
Jul-14	\$115,086	\$974,841
Aug-14	\$87,485	\$1,062,325
Sep-14	\$83,282	\$1,145,608
Oct-14	(\$718)	\$1,144,889
Nov-14	\$15,307	\$1,160,196
Dec-14	\$25,904	\$1,186,101
Jan-15	\$25,630	\$1,211,731
Feb-15	\$23,182	\$1,234,913
Mar-15	\$8,303	\$1,243,215
Apr-15	\$47,078	\$1,290,294
May-15	\$66,172	\$1,356,466
Jun-15	\$53,925	\$1,410,391
Jul-15	\$52,426	\$1,462,818
Aug-15	\$39,874	\$1,502,692
Sep-15	\$36,101	\$1,538,793
Oct-15	(\$15,560)	\$1,523,233
Nov-15	\$7,534	\$1,530,767
Dec-15	\$40,667	\$1,571,433
Jan-16	\$31,656	\$1,603,089
Feb-16	\$14,613	\$1,617,702
Mar-16	\$35,034	\$1,652,736
Apr-16	\$52,740	\$1,705,476
May-16	\$75,188	\$1,780,664
Jun-16	\$97,204	\$1,877,869
Jul-16	\$77,837	\$1,955,706
Aug-16	\$69,161	\$2,024,867
Sep-16	\$48,019	\$2,072,886
Oct-16	(\$51,102)	\$2,021,784
Nov-16	(\$2,917)	\$2,018,867
Dec-16	\$6,540	\$2,025,407
Jan-17	(\$1,320)	\$2,024,087
Feb-17	(\$4,283)	\$2,019,805
Mar-17	\$11,968	\$2,031,773
Apr-17	\$60,734	\$2,092,506
May-17	\$72,026	\$2,164,532

**TABLE 6 - BPA's Net Benefit before Adjustment assuming 20.5 aMW**

	<b>Net Revenue or (Cost)</b>	
Month	Month (\$)	Cumulative Total Contract-to-Date (\$)
Jun-17	\$59,398	\$2,223,930
Jul-17	\$71,624	\$2,295,554
Aug-17	\$66,377	\$2,361,931
Sep-17	\$53,083	\$2,415,014
Oct-17	<b>(\$36,553)</b>	\$2,378,461
Nov-17	<b>(\$7,471)</b>	\$2,370,990
Dec-17	\$19,568	\$2,390,558
Jan-18	\$5,965	\$2,396,523
Feb-18	\$3,016	\$2,399,539
Mar-18	\$20,351	\$2,419,890
Apr-18	\$69,958	\$2,489,848
May-18	\$81,126	\$2,570,974
Jun-18	\$67,919	\$2,638,892
Jul-18	\$81,791	\$2,720,683
Aug-18	\$76,880	\$2,797,564
Sep-18	\$63,403	\$2,860,967
Oct-18	<b>(\$58,353)</b>	\$2,802,613
Nov-18	<b>(\$27,242)</b>	\$2,775,372
Dec-18	<b>(\$1,276)</b>	\$2,774,096
Jan-19	<b>(\$14,632)</b>	\$2,759,464
Feb-19	<b>(\$16,285)</b>	\$2,743,179
Mar-19	\$696	\$2,743,875
Apr-19	\$52,161	\$2,796,035
May-19	\$66,117	\$2,862,153
Jun-19	\$53,341	\$2,915,494
Jul-19	\$62,894	\$2,978,388
Aug-19	\$56,812	\$3,035,199
Sep-19	\$43,859	\$3,079,058
Oct-19	<b>(\$105,223)</b>	\$2,973,835
Nov-19	<b>(\$71,860)</b>	\$2,901,975
Dec-19	<b>(\$47,411)</b>	\$2,854,563
Jan-20	<b>(\$60,702)</b>	\$2,793,861
Feb-20	<b>(\$60,610)</b>	\$2,733,251
Mar-20	<b>(\$44,863)</b>	\$2,688,388
Apr-20	\$10,270	\$2,698,658
May-20	\$25,777	\$2,724,435
Jun-20	\$12,678	\$2,737,113
Jul-20	\$19,010	\$2,756,124
Aug-20	\$12,443	\$2,768,567
Sep-20	<b>(\$696)</b>	\$2,767,871
Oct-20	<b>(\$126,810)</b>	\$2,641,061
Nov-20	<b>(\$91,027)</b>	\$2,550,034
Dec-20	<b>(\$69,512)</b>	\$2,480,522
Jan-21	<b>(\$80,692)</b>	\$2,399,830
Feb-21	<b>(\$78,119)</b>	\$2,321,710
Mar-21	<b>(\$66,122)</b>	\$2,255,588
Apr-21	<b>(\$6,962)</b>	\$2,248,626

**TABLE 6 - BPA's Net Benefit before Adjustment assuming 20.5 aMW**  
**Net Revenue or (Cost)**

Month	Month (\$)	Cumulative Total Contract-to-Date (\$)
May-21	\$10,887	\$2,259,513
Jun-21	(\$2,300)	\$2,257,213
Jul-21	\$229	\$2,257,443
Aug-21	(\$7,803)	\$2,249,640
Sep-21	(\$20,723)	\$2,228,916
Oct-21	(\$97,343)	\$2,131,573
Nov-21	(\$63,052)	\$2,068,521
Dec-21	(\$36,287)	\$2,032,234
Jan-22	(\$49,433)	\$1,982,801
Feb-22	(\$48,664)	\$1,934,138
Mar-22	(\$34,085)	\$1,900,052
Apr-22	\$23,707	\$1,923,760
May-22	\$38,419	\$1,962,178
Jun-22	\$24,342	\$1,986,520
Jul-22	\$35,039	\$2,021,559
Aug-22	\$28,022	\$2,049,581
Sep-22	\$14,242	\$2,063,824

**TABLE 7a - BPA's Net Benefit Adjustments assuming 20.5 aMW**  
**Value of Reserves**

Month	Month (\$)	Cumulative Total Contract-to-Date (\$)
Sep-13	\$13,874	\$13,874
Oct-13	\$14,337	\$28,211
Nov-13	\$13,894	\$42,105
Dec-13	\$14,337	\$56,442
Jan-14	\$14,337	\$70,779
Feb-14	\$12,949	\$83,728
Mar-14	\$14,318	\$98,046
Apr-14	\$13,874	\$111,920
May-14	\$14,337	\$126,257
Jun-14	\$13,874	\$140,131
Jul-14	\$14,337	\$154,468
Aug-14	\$14,337	\$168,805
Sep-14	\$13,874	\$182,680
Oct-14	\$14,337	\$197,016
Nov-14	\$13,894	\$210,910
Dec-14	\$14,337	\$225,247
Jan-15	\$14,337	\$239,584
Feb-15	\$12,949	\$252,533
Mar-15	\$14,318	\$266,851
Apr-15	\$13,874	\$280,725
May-15	\$14,337	\$295,062
Jun-15	\$13,874	\$308,937
Jul-15	\$14,337	\$323,274
Aug-15	\$14,337	\$337,610
Sep-15	\$13,874	\$351,485
Oct-15	\$14,337	\$365,822
Nov-15	\$13,894	\$379,715
Dec-15	\$14,337	\$394,052
Jan-16	\$14,337	\$408,389
Feb-16	\$13,412	\$421,801
Mar-16	\$14,318	\$436,119
Apr-16	\$13,874	\$449,993
May-16	\$14,337	\$464,330
Jun-16	\$13,874	\$478,204
Jul-16	\$14,337	\$492,541
Aug-16	\$14,337	\$506,878
Sep-16	\$13,874	\$520,752
Oct-16	\$14,337	\$535,089
Nov-16	\$13,894	\$548,983
Dec-16	\$14,337	\$563,320
Jan-17	\$14,337	\$577,657
Feb-17	\$12,949	\$590,606
Mar-17	\$14,318	\$604,924
Apr-17	\$13,874	\$618,798
May-17	\$14,337	\$633,135

**TABLE 7a - BPA's Net Benefit Adjustments assuming 20.5 aMW**  
**Value of Reserves**

Month	Month (\$)	Cumulative Total Contract-to-Date (\$)
Jun-17	\$13,874	\$647,010
Jul-17	\$14,337	\$661,346
Aug-17	\$14,337	\$675,683
Sep-17	\$13,874	\$689,558
Oct-17	\$14,337	\$703,895
Nov-17	\$13,894	\$717,788
Dec-17	\$14,337	\$732,125
Jan-18	\$14,337	\$746,462
Feb-18	\$12,949	\$759,411
Mar-18	\$14,318	\$773,729
Apr-18	\$13,874	\$787,603
May-18	\$14,337	\$801,940
Jun-18	\$13,874	\$815,815
Jul-18	\$14,337	\$830,152
Aug-18	\$14,337	\$844,488
Sep-18	\$13,874	\$858,363
Oct-18	\$14,337	\$872,700
Nov-18	\$13,894	\$886,593
Dec-18	\$14,337	\$900,930
Jan-19	\$14,337	\$915,267
Feb-19	\$12,949	\$928,217
Mar-19	\$14,318	\$942,534
Apr-19	\$13,874	\$956,409
May-19	\$14,337	\$970,746
Jun-19	\$13,874	\$984,620
Jul-19	\$14,337	\$998,957
Aug-19	\$14,337	\$1,013,294
Sep-19	\$13,874	\$1,027,168
Oct-19	\$14,337	\$1,041,505
Nov-19	\$13,894	\$1,055,399
Dec-19	\$14,337	\$1,069,736
Jan-20	\$14,337	\$1,084,072
Feb-20	\$13,412	\$1,097,484
Mar-20	\$14,318	\$1,111,802
Apr-20	\$13,874	\$1,125,676
May-20	\$14,337	\$1,140,013
Jun-20	\$13,874	\$1,153,888
Jul-20	\$14,337	\$1,168,224
Aug-20	\$14,337	\$1,182,561
Sep-20	\$13,874	\$1,196,436
Oct-20	\$14,337	\$1,210,773
Nov-20	\$13,894	\$1,224,666
Dec-20	\$14,337	\$1,239,003
Jan-21	\$14,337	\$1,253,340
Feb-21	\$12,949	\$1,266,290
Mar-21	\$14,318	\$1,280,607
Apr-21	\$13,874	\$1,294,482



**TABLE 7a - BPA's Net Benefit Adjustments assuming 20.5 aMW**  
**Value of Reserves**

Month	Month (\$)	Cumulative Total Contract-to-Date (\$)
May-21	\$14,337	\$1,308,818
Jun-21	\$13,874	\$1,322,693
Jul-21	\$14,337	\$1,337,030
Aug-21	\$14,337	\$1,351,367
Sep-21	\$13,874	\$1,365,241
Oct-21	\$14,337	\$1,379,578
Nov-21	\$13,894	\$1,393,472
Dec-21	\$14,337	\$1,407,808
Jan-22	\$14,337	\$1,422,145
Feb-22	\$12,949	\$1,435,095
Mar-22	\$14,318	\$1,449,412
Apr-22	\$13,874	\$1,463,287
May-22	\$14,337	\$1,477,624
Jun-22	\$13,874	\$1,491,498
Jul-22	\$14,337	\$1,505,835
Aug-22	\$14,337	\$1,520,172
Sep-22	\$13,874	\$1,534,046

**TABLE 7b - BPA's Net Benefit Adjustments assuming 20.5 aMW**  
**Avoided Tx and Ancillary Service Costs**

Month	Month (\$)	Proportional Month (\$)	Cumulative Total Contract-to-Date (\$)
Sep-13	\$29,385	\$735	\$735
Oct-13	\$22,053	\$551	\$1,286
Nov-13	\$39,072	\$977	\$2,263
Dec-13	\$108,059	\$2,701	\$4,964
Jan-14	\$355,084	\$8,877	\$13,841
Feb-14	\$302,740	\$7,568	\$21,410
Mar-14	\$311,639	\$7,791	\$29,201
Apr-14	\$625,085	\$15,627	\$44,828
May-14	\$953,527	\$23,838	\$68,666
Jun-14	\$838,514	\$20,963	\$89,629
Jul-14	\$375,118	\$9,378	\$99,007
Aug-14	\$75,160	\$1,879	\$100,886
Sep-14	\$26,102	\$653	\$101,538
Oct-14	\$18,325	\$458	\$101,997
Nov-14	\$23,560	\$589	\$102,586
Dec-14	\$94,437	\$2,361	\$104,946
Jan-15	\$334,966	\$8,374	\$113,321
Feb-15	\$273,273	\$6,832	\$120,152
Mar-15	\$289,318	\$7,233	\$127,385
Apr-15	\$596,784	\$14,920	\$142,305
May-15	\$893,002	\$22,325	\$164,630
Jun-15	\$657,224	\$16,431	\$181,061
Jul-15	\$346,939	\$8,673	\$189,734
Aug-15	\$63,957	\$1,599	\$191,333
Sep-15	\$21,579	\$539	\$191,873
Oct-15	\$17,387	\$435	\$192,307
Nov-15	\$17,495	\$437	\$192,745
Dec-15	\$84,043	\$2,101	\$194,846
Jan-16	\$320,500	\$8,013	\$202,858
Feb-16	\$314,540	\$7,864	\$210,722
Mar-16	\$281,957	\$7,049	\$217,771
Apr-16	\$583,753	\$14,594	\$232,364
May-16	\$948,318	\$23,708	\$256,072
Jun-16	\$793,253	\$19,831	\$275,904
Jul-16	\$385,512	\$9,638	\$285,542
Aug-16	\$63,316	\$1,583	\$287,124
Sep-16	\$19,624	\$491	\$287,615
Oct-16	\$17,047	\$426	\$288,041
Nov-16	\$17,574	\$439	\$288,481
Dec-16	\$81,706	\$2,043	\$290,523
Jan-17	\$316,921	\$7,923	\$298,446
Feb-17	\$263,464	\$6,587	\$305,033

**TABLE 7b - BPA's Net Benefit Adjustments assuming 20.5 aMW  
Avoided Tx and Ancillary Service Costs**

Month	Month (\$)	Proportional Month (\$)	Cumulative Total Contract-to-Date (\$)
Mar-17	\$280,514	\$7,013	\$312,046
Apr-17	\$582,452	\$14,561	\$326,607
May-17	\$872,758	\$21,819	\$348,426
Jun-17	\$683,776	\$17,094	\$365,520
Jul-17	\$350,438	\$8,761	\$374,281
Aug-17	\$53,553	\$1,339	\$375,620
Sep-17	\$16,933	\$423	\$376,043
Oct-17	\$20,315	\$508	\$376,551
Nov-17	\$21,284	\$532	\$377,083
Dec-17	\$89,679	\$2,242	\$379,325
Jan-18	\$328,449	\$8,211	\$387,537
Feb-18	\$295,387	\$7,385	\$394,921
Mar-18	\$287,530	\$7,188	\$402,110
Apr-18	\$593,861	\$14,847	\$416,956
May-18	\$955,830	\$23,896	\$440,852
Jun-18	\$806,210	\$20,155	\$461,007
Jul-18	\$385,512	\$9,638	\$470,645
Aug-18	\$63,316	\$1,583	\$472,228
Sep-18	\$19,624	\$491	\$472,718
Oct-18	\$17,047	\$426	\$473,145
Nov-18	\$17,574	\$439	\$473,584
Dec-18	\$81,706	\$2,043	\$475,627
Jan-19	\$316,921	\$7,923	\$483,550
Feb-19	\$263,464	\$6,587	\$490,136
Mar-19	\$280,514	\$7,013	\$497,149
Apr-19	\$582,452	\$14,561	\$511,710
May-19	\$872,758	\$21,819	\$533,529
Jun-19	\$683,776	\$17,094	\$550,624
Jul-19	\$350,438	\$8,761	\$559,385
Aug-19	\$53,553	\$1,339	\$560,723
Sep-19	\$16,933	\$423	\$561,147
Oct-19	\$20,315	\$508	\$561,655
Nov-19	\$21,284	\$532	\$562,187
Dec-19	\$89,679	\$2,242	\$564,429
Jan-20	\$328,449	\$8,211	\$572,640
Feb-20	\$304,772	\$7,619	\$580,259
Mar-20	\$287,530	\$7,188	\$587,447
Apr-20	\$593,861	\$14,847	\$602,294
May-20	\$955,830	\$23,896	\$626,190
Jun-20	\$806,210	\$20,155	\$646,345
Jul-20	\$385,512	\$9,638	\$655,983
Aug-20	\$63,316	\$1,583	\$657,566
Sep-20	\$19,624	\$491	\$658,056
Oct-20	\$17,047	\$426	\$658,482

**TABLE 7b - BPA's Net Benefit Adjustments assuming 20.5 aMW  
Avoided Tx and Ancillary Service Costs**

Month	Month (\$)	Proportional Month (\$)	Cumulative Total Contract-to-Date (\$)
Nov-20	\$17,574	\$439	\$658,922
Dec-20	\$81,706	\$2,043	\$660,964
Jan-21	\$316,921	\$7,923	\$668,887
Feb-21	\$263,464	\$6,587	\$675,474
Mar-21	\$280,514	\$7,013	\$682,487
Apr-21	\$582,452	\$14,561	\$697,048
May-21	\$872,758	\$21,819	\$718,867
Jun-21	\$683,776	\$17,094	\$735,962
Jul-21	\$350,438	\$8,761	\$744,723
Aug-21	\$53,553	\$1,339	\$746,061
Sep-21	\$16,933	\$423	\$746,485
Oct-21	\$20,315	\$508	\$746,993
Nov-21	\$21,284	\$532	\$747,525
Dec-21	\$89,679	\$2,242	\$749,767
Jan-22	\$328,449	\$8,211	\$757,978
Feb-22	\$295,387	\$7,385	\$765,363
Mar-22	\$287,530	\$7,188	\$772,551
Apr-22	\$593,861	\$14,847	\$787,397
May-22	\$955,830	\$23,896	\$811,293
Jun-22	\$806,210	\$20,155	\$831,448
Jul-22	\$385,512	\$9,638	\$841,086
Aug-22	\$63,316	\$1,583	\$842,669
Sep-22	\$19,624	\$491	\$843,160

**TABLE 8 - BPA's Net Benefit after Adjustments assuming 20.5 aMW****BPA's Adjusted Net Revenue or (Cost)**

Month	Net Revenue or (Cost) (A) Month (\$)	Value of Reserves (B) Month (\$)	Avoided Tx Costs (C) Month (\$)	A + B + C + D Month (\$)	Cumulative Total Contract-to-Date (\$)
Sep-13	\$84,445	\$13,874	\$1,255	\$99,574	\$99,574
Oct-13	\$69,827	\$14,337	\$942	\$85,105	\$184,680
Nov-13	\$90,121	\$13,894	\$1,669	\$105,683	\$290,363
Dec-13	\$101,444	\$14,337	\$4,615	\$120,396	\$410,759
Jan-14	\$69,706	\$14,337	\$15,165	\$99,208	\$509,967
Feb-14	\$55,156	\$12,949	\$12,930	\$81,035	\$591,002
Mar-14	\$65,511	\$14,318	\$13,310	\$93,138	\$684,140
Apr-14	\$94,254	\$13,874	\$26,696	\$134,825	\$818,965
May-14	\$117,618	\$14,337	\$40,724	\$172,679	\$991,643
Jun-14	\$111,673	\$13,874	\$35,812	\$161,359	\$1,153,002
Jul-14	\$115,086	\$14,337	\$16,021	\$145,444	\$1,298,446
Aug-14	\$87,485	\$14,337	\$3,210	\$105,032	\$1,403,477
Sep-14	\$83,282	\$13,874	\$1,115	\$98,272	\$1,501,749
Oct-14	(\$718)	\$14,337	\$783	\$14,401	\$1,516,150
Nov-14	\$15,307	\$13,894	\$1,006	\$30,207	\$1,546,357
Dec-14	\$25,904	\$14,337	\$4,033	\$44,275	\$1,590,631
Jan-15	\$25,630	\$14,337	\$14,306	\$54,273	\$1,644,904
Feb-15	\$23,182	\$12,949	\$11,671	\$47,802	\$1,692,707
Mar-15	\$8,303	\$14,318	\$12,356	\$34,977	\$1,727,683
Apr-15	\$47,078	\$13,874	\$25,488	\$86,440	\$1,814,123
May-15	\$66,172	\$14,337	\$38,139	\$118,648	\$1,932,771
Jun-15	\$53,925	\$13,874	\$28,069	\$95,869	\$2,028,640
Jul-15	\$52,426	\$14,337	\$14,817	\$81,580	\$2,110,220
Aug-15	\$39,874	\$14,337	\$2,731	\$56,943	\$2,167,163
Sep-15	\$36,101	\$13,874	\$922	\$50,897	\$2,218,060
Oct-15	(\$15,560)	\$14,337	\$743	(\$481)	\$2,217,579
Nov-15	\$7,534	\$13,894	\$747	\$22,175	\$2,239,754
Dec-15	\$40,667	\$14,337	\$3,589	\$58,593	\$2,298,347
Jan-16	\$31,656	\$14,337	\$13,688	\$59,681	\$2,358,028
Feb-16	\$14,613	\$13,412	\$13,433	\$41,458	\$2,399,486
Mar-16	\$35,034	\$14,318	\$12,042	\$61,394	\$2,460,879
Apr-16	\$52,740	\$13,874	\$24,931	\$91,546	\$2,552,425
May-16	\$75,188	\$14,337	\$40,501	\$130,026	\$2,682,451
Jun-16	\$97,204	\$13,874	\$33,879	\$144,957	\$2,827,409
Jul-16	\$77,837	\$14,337	\$16,465	\$108,638	\$2,936,047
Aug-16	\$69,161	\$14,337	\$2,704	\$86,202	\$3,022,249
Sep-16	\$48,019	\$13,874	\$838	\$62,732	\$3,084,981
Oct-16	(\$51,102)	\$14,337	\$728	(\$36,037)	\$3,048,944
Nov-16	(\$2,917)	\$13,894	\$751	\$11,727	\$3,060,671
Dec-16	\$6,540	\$14,337	\$3,490	\$24,367	\$3,085,038
Jan-17	(\$1,320)	\$14,337	\$13,535	\$26,552	\$3,111,590
Feb-17	(\$4,283)	\$12,949	\$11,252	\$19,919	\$3,131,509
Mar-17	\$11,968	\$14,318	\$11,980	\$38,266	\$3,169,774

**TABLE 8 - BPA's Net Benefit after Adjustments assuming 20.5 aMW****BPA's Adjusted Net Revenue or (Cost)**

Month	Net Revenue or (Cost) (A) Month (\$)	Value of Reserves (B) Month (\$)	Avoided Tx Costs (C) Month (\$)	A + B + C + D Month (\$)	Cumulative Total Contract-to-Date (\$)
Apr-17	\$60,734	\$13,874	\$24,876	\$99,484	\$3,269,258
May-17	\$72,026	\$14,337	\$37,274	\$123,637	\$3,392,895
Jun-17	\$59,398	\$13,874	\$29,203	\$102,475	\$3,495,370
Jul-17	\$71,624	\$14,337	\$14,967	\$100,928	\$3,596,298
Aug-17	\$66,377	\$14,337	\$2,287	\$83,001	\$3,679,299
Sep-17	\$53,083	\$13,874	\$723	\$67,680	\$3,746,979
Oct-17	(\$36,553)	\$14,337	\$868	(\$21,348)	\$3,725,631
Nov-17	(\$7,471)	\$13,894	\$909	\$7,331	\$3,732,962
Dec-17	\$19,568	\$14,337	\$3,830	\$37,735	\$3,770,697
Jan-18	\$5,965	\$14,337	\$14,028	\$34,329	\$3,805,027
Feb-18	\$3,016	\$12,949	\$12,615	\$28,581	\$3,833,608
Mar-18	\$20,351	\$14,318	\$12,280	\$46,948	\$3,880,556
Apr-18	\$69,958	\$13,874	\$25,363	\$109,195	\$3,989,751
May-18	\$81,126	\$14,337	\$40,822	\$136,284	\$4,126,036
Jun-18	\$67,919	\$13,874	\$34,432	\$116,225	\$4,242,261
Jul-18	\$81,791	\$14,337	\$16,465	\$112,593	\$4,354,853
Aug-18	\$76,880	\$14,337	\$2,704	\$93,921	\$4,448,775
Sep-18	\$63,403	\$13,874	\$838	\$78,115	\$4,526,890
Oct-18	(\$58,353)	\$14,337	\$728	(\$43,288)	\$4,483,602
Nov-18	(\$27,242)	\$13,894	\$751	(\$12,598)	\$4,471,004
Dec-18	(\$1,276)	\$14,337	\$3,490	\$16,551	\$4,487,555
Jan-19	(\$14,632)	\$14,337	\$13,535	\$13,240	\$4,500,795
Feb-19	(\$16,285)	\$12,949	\$11,252	\$7,917	\$4,508,711
Mar-19	\$696	\$14,318	\$11,980	\$26,994	\$4,535,705
Apr-19	\$52,161	\$13,874	\$24,876	\$90,911	\$4,626,616
May-19	\$66,117	\$14,337	\$37,274	\$117,728	\$4,744,344
Jun-19	\$53,341	\$13,874	\$29,203	\$96,419	\$4,840,763
Jul-19	\$62,894	\$14,337	\$14,967	\$92,197	\$4,932,960
Aug-19	\$56,812	\$14,337	\$2,287	\$73,436	\$5,006,395
Sep-19	\$43,859	\$13,874	\$723	\$58,456	\$5,064,852
Oct-19	(\$105,223)	\$14,337	\$868	(\$90,019)	\$4,974,833
Nov-19	(\$71,860)	\$13,894	\$909	(\$57,057)	\$4,917,776
Dec-19	(\$47,411)	\$14,337	\$3,830	(\$29,244)	\$4,888,531
Jan-20	(\$60,702)	\$14,337	\$14,028	(\$32,338)	\$4,856,193
Feb-20	(\$60,610)	\$13,412	\$13,016	(\$34,182)	\$4,822,012
Mar-20	(\$44,863)	\$14,318	\$12,280	(\$18,266)	\$4,803,746
Apr-20	\$10,270	\$13,874	\$25,363	\$49,508	\$4,853,254
May-20	\$25,777	\$14,337	\$40,822	\$80,936	\$4,934,189
Jun-20	\$12,678	\$13,874	\$34,432	\$60,984	\$4,995,174
Jul-20	\$19,010	\$14,337	\$16,465	\$49,812	\$5,044,985
Aug-20	\$12,443	\$14,337	\$2,704	\$29,484	\$5,074,470
Sep-20	(\$696)	\$13,874	\$838	\$14,017	\$5,088,486
Oct-20	(\$126,810)	\$14,337	\$728	(\$111,745)	\$4,976,741
Nov-20	(\$91,027)	\$13,894	\$751	(\$76,383)	\$4,900,358
Dec-20	(\$69,512)	\$14,337	\$3,490	(\$51,685)	\$4,848,673

**TABLE 8 - BPA's Net Benefit after Adjustments assuming 20.5 aMW****BPA's Adjusted Net Revenue or (Cost)**

Month	Net Revenue or (Cost) (A) Month (\$)	Value of Reserves (B) Month (\$)	Avoided Tx Costs (C) Month (\$)	A + B + C + D Month (\$)	Cumulative Total Contract-to-Date (\$)
Jan-21	(\$80,692)	\$14,337	\$13,535	(\$52,820)	\$4,795,853
Feb-21	(\$78,119)	\$12,949	\$11,252	(\$53,918)	\$4,741,935
Mar-21	(\$66,122)	\$14,318	\$11,980	(\$39,824)	\$4,702,111
Apr-21	(\$6,962)	\$13,874	\$24,876	\$31,787	\$4,733,898
May-21	\$10,887	\$14,337	\$37,274	\$62,498	\$4,796,397
Jun-21	(\$2,300)	\$13,874	\$29,203	\$40,777	\$4,837,174
Jul-21	\$229	\$14,337	\$14,967	\$29,533	\$4,866,706
Aug-21	(\$7,803)	\$14,337	\$2,287	\$8,821	\$4,875,528
Sep-21	(\$20,723)	\$13,874	\$723	(\$6,126)	\$4,869,402
Oct-21	(\$97,343)	\$14,337	\$868	(\$82,138)	\$4,787,263
Nov-21	(\$63,052)	\$13,894	\$909	(\$48,249)	\$4,739,014
Dec-21	(\$36,287)	\$14,337	\$3,830	(\$18,120)	\$4,720,894
Jan-22	(\$49,433)	\$14,337	\$14,028	(\$21,069)	\$4,699,825
Feb-22	(\$48,664)	\$12,949	\$12,615	(\$23,099)	\$4,676,727
Mar-22	(\$34,085)	\$14,318	\$12,280	(\$7,488)	\$4,669,239
Apr-22	\$23,707	\$13,874	\$25,363	\$62,945	\$4,732,184
May-22	\$38,419	\$14,337	\$40,822	\$93,577	\$4,825,761
Jun-22	\$24,342	\$13,874	\$34,432	\$72,648	\$4,898,409
Jul-22	\$35,039	\$14,337	\$16,465	\$65,841	\$4,964,250
Aug-22	\$28,022	\$14,337	\$2,704	\$45,063	\$5,009,313
Sep-22	\$14,242	\$13,874	\$838	\$28,955	\$5,038,267