Department of Energy

Bonneville Power Administration
P.O. Box 3621

Portland, Oregon 97208-3621

POWER SERVICES

March 9, 2016

In reply refer to: PTL-5

To: Regional Customers, Stakeholders, and Other Interested Parties

Subject: Alcoa Amendment No. 2

On February 10, 2016, Bonneville Power Administration ("Bonneville") entered into Amendment No. 2 (see Attachment A) to Alcoa, Inc.'s (Alcoa) power sale agreement Contract No. 13PM-10978 (Agreement). As explained elsewhere in this document, this decision resulted from Alcoa's notice curtailing its load on Bonneville from 75 MW to 10 MW in accordance with curtailment rights specified in Section 5.1. The Agreement grants Alcoa the unilateral right to reduce its purchase amount below 75 MW beginning October 1, 2015 without incurring liquidated damages.

Overview

As discussed more fully below, the Amendment makes it possible for Bonneville to receive financial and secondary benefits that it would otherwise not obtain by not suspending certain rights under the existing Agreement during the four and one-half month term of the Amendment. Specifically, Bonneville will suspend its right, as established in Section 5.5 of Agreement, to require Alcoa to purchase 75 MW at the Industrial Firm Power Rate (IP Rate) prior to purchasing power from a third party. Instead, under the Amendment, Bonneville will continue to sell 10 MW of firm power to Alcoa under the IP Rate. Under a separate power sale contract with Alcoa Power Marketing, LLC Bonneville will sell 300 MW of surplus firm power at a price which results in greater net revenues compared to selling that surplus power into the market.

This short-term contract arrangement will permit Alcoa to continue its current level of operations at the Intalco plant, in Ferndale Washington, through June 30, 2016. The continuation of that status has clear benefits to Alcoa, but it also provides additional operational benefits to Bonneville, which are identified and described below.

Negotiation Issues and Objectives

In the negotiations leading up to the Amendment, Bonneville fully considered the available options and concluded that the approach embodied in Amendment No. 2 provided the greatest value to the agency as opposed to selling only 10 MW during curtailment.

On November 16, 2015, Alcoa notified Bonneville that it was exercising its right to curtail its purchase amount from 75 MW to 10 MW starting February 15, 2016, through August 14, 2017 (Curtailment Period). Then on January 11, 2016, Alcoa requested that the parties engage in discussions regarding under what condition Bonneville would allow Alcoa to purchase market power from February 15, 2016 to June 30, 2016.

Pursuant to Section 5.5 of the Agreement, Alcoa cannot make any market purchases from third-party suppliers to replace any portion of the amount curtailed. Section 5.5 states:

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

One option available to Bonneville was simply to follow the existing terms under the Agreement which restricts Alcoa from purchasing power from the market if it is purchasing less than 75 MW of firm power from Bonneville. However, Alcoa rejected that alternative expressly on economic grounds, stating that purchasing an additional 65 MW of firm power at the IP Rate would be prohibitively expensive, and maintaining the curtailment of 10 MW at the IP Rate, as provided in its notice letter, would be a preferable alternative. Alcoa's Curtailment Notice states, "As an energy-intensive industry, electricity is a key driver of production costs, representing approximately 30% of the cost of each pound of aluminum produced. With downward revenue pressures and upward cost pressures, operating margins at this smelter are significantly negative…"

While Bonneville is not privy to Alcoa's proprietary data, Bonneville frequently works with an aluminum consultant to stay abreast of aluminum industry fundamentals. Bonneville confirmed with the consultant that under Alcoa's current power cost structure coupled with prolonged low aluminum prices, the Intalco plant could not remain profitable enough to continue operations. In the final analysis, Bonneville concluded that Alcoa's position regarding the economics of purchasing an additional 65 MW of firm power at the IP Rate before turning to the market was a reasonable assessment based on information available at that time.

Thus, Bonneville was faced with the alternative of selling 10 MW of firm power at the IP Rate during the 18 month curtailment period, or considering other options that would include a surplus power sale and suspending the restriction under Section 5.5 of the Agreement. Amendment No. 2, as described more fully below, is the result of that consideration. It suspends the provision that requires Alcoa to purchase the full 75 MW of firm power under the Agreement prior to buying any additional power from the market in consideration for Alcoa purchasing 300 MW of surplus power from Bonneville at an above market price. From Alcoa's perspective, the

Amendment allows continuation of plant operations at the pre-curtailment operating level of 2.5 pot lines.

Direct Financial Benefit

Bonneville will continue to sell Alcoa 10 MW of firm power at the IP Rate under the Agreement. For clarification purposes, Bonneville is not modifying Alcoa's purchase amount to 10 MW similar to Amendment No.1; it is only allowing Alcoa to curtail to this amount for the duration of Amendment No. 2. As part of a separate enabling agreement and trading floor confirmation, Bonneville will sell, and Alcoa Power Marketing, LLC will purchase, an additional 300 MW of surplus firm power at an indexed market rate with a $1.52/MWh adder. This arrangement will allow Bonneville to receive revenues in excess of the power's market value, over a four and one-half month period, totaling $1.5 million.

Secondary Benefits

In addition to the $1.5 million realized from the over market priced sale, there were other benefits that were also taken into consideration. These secondary benefits include:

1. **Reduced transmission cost.** Under the surplus sale, Alcoa received its power at the busbar and provides its own transmission to its load under a point-to-point transmission agreement with the transmission provider. This means that Bonneville's power business does not have to buy as much incremental transmission during spring run-off, which represents a cost savings to Bonneville. *See "Attachment B"* below.

2. **Continued participation in Bonneville's third party supply program**. Alcoa has been an active participant in Bonneville's third party supply program. Participation in the program requires that the bidder have significant electrical load that can reliably be reduced on short notice. When more bidders can participate in the program, Bonneville benefits from the enhanced competition.

3. **Available load in the event of oversupply**. At times, during the spring months, Bonneville may experience a situation of oversupply. When snow melt is high, seasonal rains continue through the spring, and the wind fleet is at high production, Bonneville seeks to avoid impacts on threatened and endangered salmon due to spill and thus moves water through turbines which results in oversupply conditions. This puts pressure on Bonneville's ability to hold out reserves to accommodate the variability of wind generation in the Bonneville Balancing Authority. Consequently, Bonneville may face additional costs to the extent it curtails and compensates wind generation for their lost revenue. Even though oversupply does not occur every spring, having Alcoa's load in place in the coming spring is good insurance for mitigating such costs should they arise.

<u>Economic Evaluation</u>

The following economic analysis provides a comparison of the status quo scenario of the curtailment down to 10 MW of firm power compared to the short-term amendment that will replace the status quo scenario for a period of four and one-half months, taking into consideration the avoided transmission cost and the potential value of protection against an oversupply events during spring run-off. *See also, "Attachment B".*

- **Status Quo (10 MW IP Sale Only)** – Bonneville sells 10 MW firm power at the IP Rate**.**
    - $834K net revenue (revenue above the value of the power if it were sold at market price).
    - $86K avoided transmission cost. Alcoa takes power at the busbar and uses its own transmission to deliver to the plant, versus Bonneville purchasing transmission to sell the surplus power at Mid-C.
    - $36K in net Oversupply Reduction. This is an estimate of what Bonneville could save in reduced payments to wind generators via Oversupply Management in the event that it may arise. This number has a wide range of possible outcomes.
    - Total benefit: **$957,377**

- **Short-Term Amendment –** Bonneville sells Alcoa 10 MW IP firm power and 300 MW (*i.e.*, a sale of 300 MW/986,100 MWh flat) of surplus firm power to Alcoa Power Marketing, LLC, priced at index + $1.52.

    - $2.3M net revenue from the IP sale and surplus sale (net revenue means the revenue above the value of the power if it were sold at the market price).
    - $2.6M avoided transmission purchase. Alcoa takes power at the bus bar and uses its own transmission to deliver to the plant, versus Bonneville purchasing transmission to sell the surplus power at Mid-C.
    - $1.1M in potential Oversupply Reduction. This is an estimate of what Bonneville saves in reduced payments to wind generators via Oversupply Management in the event that it may arise.
    - Total benefit as much as **$6,132,959.**

The analysis demonstrates that the new short term amendment results in financial benefits over and above what Bonneville would receive if the contract remained in curtailment status, especially when operational benefits are considered. Bonneville estimates the overall benefit to be **$5,175,582** above the status quo.

<u>Contract Features</u>

There are a number of features of the Amendment No. 2 that are critical to preserving Bonneville's position with respect to both this particular transaction and the longer term agreement embodied in the Agreement.

1. **Enhanced "Make Whole Payment" Provision.** Bonneville strengthened and clarified the provisions related to the "Make Whole Payment" embodied in the first contract amendment. To review, on March 31, 2015 Alcoa notified Bonneville that it was electing to terminate the Agreement per Section 19.1.1 of the Agreement. The notice of termination would have required Alcoa to either continue to purchase firm power (300 MW) at the IP Rate for one year, or pay one years' worth of liquidated damages. Alcoa and Bonneville agreed to an alternative to termination whereby Alcoa reduced its contract demand from 300 MW to 75 MW but continued to purchase firm power at the IP Rate for the entire contract term of the agreement, through September 2022. However, this agreement was conditioned on Bonneville being guaranteed to receive, at a minimum and regardless of subsequent events (*e.g.*, another later termination), the same value that it would have otherwise received if Alcoa had simply terminated and paid the required liquidated damages.

   The original "Make Whole" provision did not explicitly address the effect of a curtailment rather than a termination. Alcoa and Bonneville agreed, however, that the "Make Whole Payment" needed to achieve its intended purpose, as stated above. Therefore, new language has been agreed upon clarifying that intention and establishing a revised formula for determining the "Make Whole Payment."

2. **Curtailment Period** The Amendment requires that the period of this amendment be considered a curtailment for the purposes of determining the total curtailment period. Thus, for the purposes of determining how many months of curtailment Alcoa has used under the Agreement, the period of the short-term amendment will be treated as curtailment months. In other words, the four and one-half month term of the Amendment counts as months subtracted from the 24 months of curtailment permitted pursuant to Section 5.2 of the Agreement.

3. **Credit Assurance.** Alcoa provided a letter of credit for $36 million which Bonneville can call on for any reason it deems appropriate. Bonneville can also seek other performance assurance if Alcoa's viability becomes unsatisfactory.

4. **Waiver Provision.** Section 2(d) of the Amendment makes clear that any waiver of Bonneville's contractual rights under Section 5.5 of the Agreement is a waiver for only the term of this Amendment and does not constitute a waiver for any other purpose. Additionally, BPA is suspending the requirement that prohibits Alcoa from purchasing market power during any period of curtailment. This suspension is only effective through the duration of the Amendment period.

5. **Windfall Protection Benefits**. Included in the 300 MW surplus power sale contract are protections that ensure Bonneville receives added benefits if Alcoa sees increased revenue due to aluminum price increases. If the London Metal Exchange Price of aluminum rises to a specified price per ton, then the pricing will adjust, changing the price for 65 MW of surplus power sold by Bonneville to Alcoa from the contract rate

(market index price plus $1.52/MWh) to a price that is equivalent to the IP Rate. Currently, the IP Rate is significantly higher than the market index price.

6. **Reversion to Previous Status**. All obligations will revert to the obligations and requirements in place prior to this short term agreement at the end of the term of the Amendment. In other words, Alcoa will continue to purchase 10 MW of firm power at the IP rate from Bonneville through the remainder of the curtailment period, starting July 1, 2016, and ending on August 14, 2017. Thus, the term of the Amendment allows time for the parties to explore other alternatives beyond the term of the Amendment, but it does not obligate either party in any way in the future and simply returns the contractual relationship to the *status quo*.

Conclusion

Given the Curtailment Notice provided by Alcoa, Bonneville would have experienced significantly lower revenues. Alcoa indicated a willingness to operate its smelter at full capacity if it could realize a reduction in its power costs. Using its rights under the contract, Bonneville was able to negotiate an arrangement that increased its short term revenues well above what it would expect under a curtailment. The timing of this arrangement also added the benefit of a firm, flat, busbar sale during the spring run-off season. Bonneville believes entering into this arrangement is consistent with sound business principles.

Bonneville regrets that there was no opportunity to provide for comments by interested parties. However, in this instance, it was not feasible to provide a public comment period due to time constraints. While such participation is always useful, Bonneville needed to act quickly due to the approaching curtailment date to obtain the benefits created by this transaction during its short duration.

Neither the lack of a public comment period nor the short term nature of the Amendment should be viewed as setting precedent for the future, either with respect to promoting public involvement or entering into future transactions with Alcoa. The Amendment temporarily suspends the curtailment and this period of time will give the parties an opportunity to explore other options for the future. With the Amendment in place for the next several months, there is ample time and opportunity to consider input from interested parties prior to making any final determinations.

If you have questions concerning this letter, please call Mark Miller of my staff at (503) 230-4003 or Heidi Helwig from the Public Affairs Office at (503) 230-3458.

Sincerely,

/s/ Suzanne B. Cooper

Suzanne B. Cooper
Vice President, Bulk Marketing

Amendment No. 2 to Power Sales Agreement
Contract No. 13PM-10978

Amendment No. 2
Contract No. 13PM-10978

AMENDMENT

executed by the

BONNEVILLE POWER ADMINISTRATION

and

ALCOA INC.

This AMENDMENT to the Power Sales Agreement Contract No. 13PM-10978 (Agreement) is executed by the UNITED STATES OF AMERICA, Department of Energy, acting by and through the BONNEVILLE POWER ADMINISTRATION (BPA) and Alcoa Inc. (Alcoa), a corporation organized under the laws of the State of Pennsylvania. BPA and Alcoa are sometimes referred to individually as "Party" and collectively as "Parties."

RECITALS

WHEREAS, On November 16, 2015 Alcoa notified BPA exercising it's right to curtail (Curtailment Notice) it's Firm Power amount from 75 MW to 10 MW starting February 15, 2016 through August 14, 2017 (Curtailment Period).

WHEREAS, On January 11, 2016 Alcoa requested to engage in discussions to amend the Agreement to allow Alcoa to acquire market power from February 15, 2016 to June 30, 2016. Per Section 5.5 of the Agreement Alcoa cannot make any market purchases from third-party suppliers to replace any portion of the amount curtailed.

WHEREAS, Alcoa and BPA wish to execute mutually favorable arrangements for the period between February 15, 2016 through June 30, 2016 which will allow Alcoa to maintain a 2.5 potline operation at the Alcoa Intalco Plant. The Parties will endeavor to negotiate long term arrangements for the remaining Curtailment Period.

WHEREAS, Alcoa's actions and contract actions have served to reject power from BPA at the IP rate due to the economic impossibility of profitably operating at current and forecasted aluminum prices during the Curtailment Period.

This Amendment No. 2 (Amendment) between BPA and Alcoa amends the terms of the Agreement.

BPA and Alcoa agree:

1. **TERM**
   This Amendment takes effect on February 15, 2016 and will terminate at 2400 hours on June 30, 2016.

2. **AMENDMENT OF AGREEMENT**
   BPA and Alcoa agree to amend the Agreement as follows:

(a) Section 2.26 ("Make Whole Payment") of the Agreement shall be deleted and replaced by the following:

"2.26 "Make Whole Amount" means the established dollar amount Alcoa is obligated to pay BPA as outlined in Section 21.3 of this Amendment. For clarification purposes the Make Whole Amount is intended to place BPA in the same economic position that would have occurred had Alcoa's termination notice, dated March 31, 2015, remained in effect. The starting Make Whole Amount on May 1, 2015 was $36,712,072. The Make Whole Amount shall decrease over time by the Net Revenue Amount.

Interruptions in performance for curtailments, uncontrollable forces, or for any other reason beyond BPA's control shall not reduce, excuse, or mitigate Alcoa's obligation to pay the "Make Whole Amount," as provided for herein. Alcoa acknowledges that it may be necessary to adjust the "Make Whole Amount," and the time period over which it is to be paid, as may be necessary to achieve its intended purpose, as described herein. The Parties agree to work together in good faith at all times to achieve the purpose intended by the Make Whole Amount.

Section 2.26 shall survive the termination of this Amendment. It will remain effective until the expiration of the Agreement or until both Parties mutually agree to terminate this Section 2.26."

(b) Section 2.27 shall be added to the Agreement as follows:

"2.27 "Net Revenue Amount" means the amount of IP power sold to Alcoa times the calculated difference between the monthly Industrial Firm Power Rate, or its successor, and the corresponding monthly historical diurnal Market ICE Mid-C Peak Day-Ahead Index and ICE Mid-C Off-Peak Day-Ahead Index (ICE Index Price). In the event that the monthly ICE Index Price for the calculated month increases above the Industrial Firm Power Rate, then that month will not be considered in the monthly reduction.

Any dollar value, above the monthly historical ICE Index Price, that Alcoa pays BPA under Confirmation Agreement No. 16PM-13213 shall also be considered in the Net Revenue Amount.

Section 2.27 shall survive the termination of this Amendment. It will remain effective until the expiration of the Agreement or until both Parties mutually agree to terminate this Section 2.27."

(c) Section 4.4 (Surplus Power Sale) shall be added to the Agreement as follows:

"4.4 **Surplus Power Sale**
BPA shall make available surplus power in the amount of 300 aMW, and Alcoa Power Marketing, LLC (subsidiary of Alcoa, Inc.) shall purchase such surplus power on a take-or-pay basis. The terms of the market purchase will be specified in Confirmation Agreement No. 16PM-13213.

(d) Section 5.5 (No Purchases from Third Parties During Curtailment) shall be deleted and replaced by the following:

"The operation and effect of Section 5.5 shall be suspended during the term of this Amendment. To the extent this section constitutes or operates as a waiver of any of BPA's rights under Section 5.5 of the underlying Agreement, such waiver is operative only for the term of this Amendment and shall not be construed as a waiver of any right to enforce any waived provision after the expiration of the term of this Amendment, nor shall it be construed as a precedent, promise, or commitment of any kind to waive any such right or rights after the expiration of the term of this Amendment."

(e) Section 5.8 (Curtailment Requirement Suspension) shall be added to the Agreement as follows:

"Section 5.7 shall be suspended during the term of this Amendment; however, the Curtailment Notice shall be deemed to remain in effect during the period of this Amendment and will count towards Alcoa's 24 month cumulative right to curtail per Section 5.2."

(f) Section 18.8.1 of the Agreement shall be deleted and replaced by the following:

"18.8.1 Notwithstanding anything in this Agreement to the contrary, BPA may require that Alcoa provide BPA with an irrevocable standby letter of credit in the amount of $30,000,000, issued in a form and by a bank acceptable to BPA. Such letter of credit shall have an expiration date one year from its date of issuance, and BPA may require replacement letters of credit so that a letter of credit is in place on a continuous basis for the term of this Agreement. The minimum amount of replacement letters of credit will be established by the product of: i) the then prevailing highest monthly average applicable IP rate; ii) 75 MW; iii) 103 days; and iv) 24 hours (e.g. $38/MWh * 75 MW * 103 days * 24 hours = $7,045,200).

With the execution of this Amendment, Alcoa's existing letter of credit in the amount of $30,000,000 shall remain in place as of the time of execution of this Amendment. However, Alcoa may replace this letter of credit with a smaller denomination, provided that the amount of the letter of credit does not drop below a value equal to the sum of: i) the minimum amount of replacement letters of credit and ii) the Make Whole Amount at the time the letter of credit is replaced. The parties may, by mutual agreement, reduce, eliminate or modify the denomination of the letter of credit.

If Alcoa fails to provide any letter of credit requested by BPA pursuant to this section 18.8.1 and 18.8.2, then BPA may terminate this Agreement."

(g) Section 21.3 shall be deleted and replaced by the following:

"21.3 "BPA will reduce the Make Whole Amount each month by subtracting the Net Revenue Amount from the previous month's Make Whole Amount balance. For the purposes of calculating the Make Whole Amount going forward, as of February 1, 2016 the total Make Whole Amount owed by Alcoa was $29,437,600. The February 1, 2016 amount was established in Table 1 of Amendment No.1.

BPA will report to Alcoa the reduced Make Whole Amount by the 15th of the following month. The remainder of the Make Whole Amount, if any, will be paid to BPA upon expiration or termination of the Agreement.

Section 21.3 shall survive the termination of this Amendment. It will remain effective until the expiration of the Agreement or until both Parties mutually agree to terminate this Section 21.3."

3. SIGNATURES

The Parties have executed this Amendment as of the last date indicated below.

ALCOA INC.	UNITED STATES OF AMERICA Department of Energy Bonneville Power Administration
By /s/ Simon Baker	By /s/ Mark Miller
Name Simon Baker *(Print/Type)*	Name Mark Miller *(Print/Type)*
Title President Energy	Title Account Executive
Date 2/10/2016	Date 2/10/2016

Attachment B
Economic Evaluation

ALCOA Scenarios for February 15, 2016 - June 30, 2016

Type	Description	Net Revenue Above Market	Foregone TX Purchase	Net Oversupply Reduction	Total
Status Quo	10 MW at IP rate	$834,858	$86,119	$36,400	$957,377
Short Term Agreement	10 MW at IP rate & 300 MW at Market Plus	$2,334,858	$2,669,701	$1,128,400	$6,132,959
No Curtailment	75 MW at IP rate	$6,261,432	$645,896	$273,000	$7,180,328

Notes: Market = Pricing team forecast. Assumed 2 weeks of oversupply in graveyard hours only with cost of $65/MWh.
Market price obtained from Bonneville's pricing team. Vintage based on February 5, 2016 price forecast.
Net revenue means the revenue above the value of the power if it were sold at the market price