UNITED STATES OF AMERICA

US DEPARTMENT OF ENERGY

BEFORE THE

BONNEVILLE POWER ADMINISTRATION

2010 WHOLESALE POWER RATE ADJUSTMENT PROCEEDING	))	BPA Docket WP-10

DIRECT TESTIMONY OF JACK A. SPEER
(CONFORMED COPY)

ON BEHALF OF

ALCOA INC

FILED: MARCH 20, 2009

SUBJECT: DIRECT TESTIMONY ON IP RATE METHODOLOGY, DSI RESERVES, AND OPTIONAL ALUMINUM VARIABLE RATE

Q. Please state you name and your affiliation.

A. My name is Jack A. Speer. I am the owner of Speer Energy Consulting LLC, and represent Alcoa Inc. in this proceeding. My qualifications are contained in WP-10-Q-AL-01.

Q. What is the purpose of this testimony?

A. I am providing direct testimony on Alcoa's proposal for an IP rate methodology and for the appropriate calculation of DSI credit for reserves.

Q. How is this testimony organized?

A. There are three parts to this testimony. The first part is a description of how BPA should develop a fair IP rate. The second part is a proposal for DSI reserve products. The third part is a proposal for an optional aluminum variable rate.

Q. Is Alcoa a "direct service industrial customer" as defined in the 1980 Northwest Power Act?

A. Yes. The Northwest Power Act states in section 3(8) that, "Direct service industrial customer means an industrial customer that contracts for the purchase of power from the Administrator for direct consumption." Alcoa has continuously contracted for power from BPA since the passage of the Northwest Power Act. Furthermore, Appendix A to Senate Report 96-272 specifically mentions the Aluminum Company of America plant in Wenatchee Washington, and the Mitalco Aluminum Company plant in Ferndale Washington as Direct Service Industrial Customers. Today, Alcoa Inc owns and operates both of these facilities.

Q. BPA began this rate case with a Federal Register notice announced that DSI contract issues would be decided in another proceeding. How does your testimony accommodate this bifurcation of the contract and rate issues?

A. BPA's Federal Register notice states:

> 3. Service to the Direct Service Industries (DSIs).
>
> The manner and method by which BPA could provide service or financial payments to its DSI customers is being reevaluated in light of the recent decision in *Pacific Northwest Generating Cooperative, et al.*, v. *Bonneville Power Administration*, No. 05–75638, slip op. at 16513 (9th Cir. Dec. 17, 2008). Power Services will forecast, solely for purpose of the Initial Proposal, that BPA will continue to serve the aluminum smelter DSIs, as well as Port Townsend Paper, under new or amended contracts that are consistent with the Court's opinion. BPA's decisions to serve the DSIs, along with the method and level of service to be provided DSIs in the FY 2010–2011 rate period, will be determined in the offering of these contracts or amendments and not in this proceeding. Pursuant to § 1010.3(f) of BPA's Procedures, the Administrator directs the Hearing Officer to exclude from the record all argument, testimony, or other evidence that seeks in any way to revisit the appropriateness or reasonableness of BPA's decisions regarding the service to the DSIs, including the method or level of such service.

Alcoa understands that in this proceeding, BPA is seeking to develop lawful rates for DSI service that will be available to apply to whatever contract structure comes out of the parallel proceeding designed to determine the level and type of service to be provided Alcoa and the other DSIs.

In this proceeding, Alcoa suggests two additional components of an IP rate: 1) a variable rate, similar to the IP rate that BPA had in place for DSIs from 1986 through 1996 and 2) a value of reserves credit, designed to accommodate one possible service structure and whatever reserve structure might come out of the parallel contract structure proceeding. Since the rate period for the proposed IP rate is October 2009 through September 2011 we have the "chicken or the egg" problem of trying to fashion a rate to plug into a yet-to-be-determined contract structure. For that reason, we urge that BPA be liberal in letting Alcoa, and all parties, propose rate structures that might be applied to any variety of contract structures that might be developed in the parallel proceedings.

PART 1- FAIR IP RATES

Q. Please describe how BPA derived the amount of IP service it used for purposes of this rate case.

A. BPA's policy testimony in WP-10-E-BPA-10 states, a page 12, lines 1-16:

Q. How does the Loads and Resources Study model the assumptions regarding DSI service?

A. As noted, the PNGC opinion came too late in the ratemaking process to incorporate any change of assumption regarding DSI service in the Loads and Resources Study, WP-10- E-BPA-01. If the Court's opinion had been issued earlier, loads would have been increased to reflect the assumption of an actual power sale to the aluminum DSIs.

Second, the Port Townsend Paper FPS sale would have been moved from a BPA contract sale to Clallam PUD, to a direct BPA IP sale to Port Townsend. Third, the amount of augmentation necessary for load-resource balance would have been increased to reflect the power sale to the aluminum DSIs. The Port Townsend change would not affect the total amount of augmentation needed, because the load-resource balance already accounts for a power sale.

Q. What changes to the final Loads and Resources Study regarding DSI service would be expected?

A. If BPA makes a determination to sell power to the DSIs, the changes outlined in the prior answer will be incorporated into the final study. If the determination is for a monetized benefit, no changes will be necessary.

Q. Do you agree with the major premise of the questions and answers above?

A. Yes and no. Certainly, the December 17, 2008 Ninth Circuit opinion came out too late to allow BPA to revise all of its studies to incorporate a physical power service alternative. ~~However, for its initial proposal, BPA starts with the assumption that the level of service should be derived based on an assessment of what BPA believes its customers can "afford" ($59 million - the same dollar level for the Monetary Benefits proposal that the Court found to be invalid), and then backs into an amount of power it will provide, as opposed to a determination of the amount of power it determines it has~~

~~available to serve the DSI load [see WP-10-E-BPA-10, page 11, lines 17-21 and page 12, lines 19-25] by taking the $59 million and dividing by the IP rate to arrive at the number of average megawatts BPA will sell to the aluminum DSIs. I believe this simultaneously: a) results in too little power for Alcoa's Intalco smelter to operate and b) derives from an artificial dollar cap that was successfully challenged by both Alcoa and PNGC in the *PNGC* case. For the reasons expressed in Alcoa's opening memorandum filed with this testimony, Alcoa believes that BPA has ample authority: 1) to provide physical power service to Alcoa, 2) to price this service at an IP rate that is developed consistent with the methodology that BPA used in developing its final IP rate in its WP-07 Supplemental rates, 3) to develop a variable rate that will recover BPA's allocated IP costs over the long-term of the contract that BPA is to develop and 4) to provide reserve credits to the DSIs consistent with the methodology and valuation methods proposed in this testimony.~~

Q. What is the general standard for the IP rate?

A. As more fully described in Alcoa's opening memorandum, the Northwest Power Act generally provides that the rates applicable to DSIs for service after July 1, 1985 should be at a level that is equitable in relation to the retail rates charged by the region's public bodies and cooperative customers to their industrial customers, subject to the adjustments contained in Section 7 (c)(2) of the Northwest Power Act.

Q. Does BPA's initial proposal generally follow the appropriate rate design?

A. Yes. The IP rate is appropriately calculated. BPA starts with the PF rate, adds to the PF rate a typical margin applied to the industrial customer loads of public power utilities, calculates the rate ceiling under Section 7(b)(2) of the Northwest Power Act and spreads the resulting surcharge over all other power sales in the region (including

surplus sales) to develop the IP rate. This is the general approach BPA used in its final rates in WP-07 Supplemental rate proceeding.

~~Q. Does Alcoa agree that the amount of power that BPA proposes to provide to the DSIs at the IP rate is correct?~~

~~A. No. As described above, BPA "backed into" the amount of power it proposes to supply to the DSIs based upon a dollar cap that has nothing to do with BPA's power supply. Based on my understanding of the *PNGC* case, as more fully reflected in Alcoa's opening memorandum, BPA has discretion concerning the amount of power it could provide to Alcoa. BPA may make purchases of power to "fill up" the Federal Base System in order to be able to supply power to meet its preference customer and DSI loads.~~

Q. Does Alcoa propose that BPA determine the amount of power to be sold to DSI customers in this proceeding?

A. No. BPA should simply estimate the amount of service it would provide in this proceeding so it could correctly set rates, and then determine the actual amount of service through a separate process which defines BPA service to DSI customers.

Q. Would a purchase of power to serve the DSIs result in an incremental power purchase for which the DSIs should pay a marginal cost rate?

A. No. Alcoa has been a BPA customer since 1940. Both Alcoa's Intalco and Wenatchee plants were in operation when the Northwest Power Act was passed in 1980 and have been in continuous operation since then with the exception of a short period of time when their power supplies were temporarily returned to BPA and Chelan PUD as a result of the 2000-2001 California energy crisis. Thus, they are not new DSIs to whom a "new resources" or marginal cost rate might appropriately be applied. Indeed, as a class, DSI loads declined from a high of 3,153 average

megawatts in BPA FY 1991 to 474 average megawatts in BPA FY 2009 (through January, 2009). This is a decrease in DSI loads of 2,682 average megawatts in this 9-year period. Table 3 of the "1998 Pacific Northwest Loads and Resources Study", the "White Book" published by BPA indicates that total public agency loads were expected to be 8,060 average megawatts in 1999/2000. Table 9 of the "2007 White Book" indicates that public entities loads were expected to be 8,949 average megawatts in 2008/2009. This shows an increase in preference customer loads of 889 average megawatts over this 9-year period. So while DSI loads have been decreasing in recent times, preference customer loads have been increasing. If one were to correctly measure the "marginal cost" to BPA, growing loads would pay a higher cost of power as each additional increment of power production in recent years has cost BPA more to produce (or buy). From the perspective of sending the right price signals to consumers, if growing loads receive lower rates because a customer class with declining loads is paying higher rates—the ensuing economic subsidy masks the true cost of the load growth and the customer with the growing loads is not receiving the right price signal.

Q. Is Alcoa arguing, in this case, that preference customers should be charged the marginal cost of their load growth?

A. No. As I understand it, the statutes under which BPA operates encourage the development of rolled-in or average rates (including for the declining DSI loads) rather than marginal cost rates. But the argument that providing power to the DSIs at less than marginal cost or market rates constitutes a "subsidy" is contrary to any established economic theory of which I am aware. The DSIs are long-time, historically-served customers of BPA. The argument that the DSIs should be charged a higher rate for declining loads and the preference customers a lower rate for increasing loads turns the concept of marginal cost pricing on its head.

Q. If BPA has the discretion to serve the DSI loads, or not, does that make the DSI load an incremental load to which marginal cost pricing should be applied?

A. No. The remaining DSIs are not new loads and they are not consuming more power. ~~Given the discretion to sell DSIs firm power, or not, BPA should serve these historic DSI loads. To fail to do so would result in the death of an industry with flat loads that have been historically served by BPA while BPA serves growing loads at rates that don't reflect the cost of providing their growing service needs. While BPA's rates are constrained in a way that doesn't permit unconstrained marginal cost pricing – for BPA to go out of its way to artificially preserve the lowest rates for one customer class at the cost of the demise of an entire customer class would be to voluntarily send the wrong price signals to the growing loads.~~

~~Q. Is there another reason for serving the historic DSI loads?~~

~~A. Yes. Over the nearly 70 years that BPA has been in existence, the DSIs have paid rates that have helped pay off the debt for large portions of BPA's system. While they haven't built up "equity" in the sense of gaining ownership of BPA's system, they certainly have contributed to the construction of the Federal Columbia River Power System and the related transmission that give rise to BPA's ability to serve consumer owned utility customers.~~

PART 2 – DSI RESERVE PROPOSAL

Q. Please provide a context for your DSI reserve proposal.

A. The Northwest Power Act states that BPA sales to DSI customers shall provide a portion of BPA's reserves for firm power loads within the region. The purpose of this portion of my testimony is to propose a rate for 4 reserve products that could be used to help implement the DSI reserve requirement.

Q. What processes should BPA use to establish the criteria for DSI reserves, and the appropriate pricing?

A. We believe that BPA should develop rates for a variety of DSI reserve products in this rate proceeding. We also believe that the specific amounts of DSI reserves should be determined during contract negotiations and not be a part of this rate process.

Q. What is your objective in proposing these reserve products?

A. The objective is to provide rates that will allow Alcoa to offer the maximum amount of reserves that are cost effective to BPA and its other customers.

Q. Please explain why you think the specific amounts for reserves should not be a part of this process.

A. Alcoa would provide reserves by reducing its production of primary aluminum in specific amounts and for specific durations. Some relatively small or short term reductions would have modest impact on production costs, but larger and longer term reductions could have very large impacts. Alcoa must know the rate under which it will be compensated before committing to provide specific reserves under a BPA contract. Without that knowledge, we would not know if the contract is economical or not.

Q. What reserve products do you propose?

A. We propose 4 reserve products that will be available in different amounts depending on eventual contract amounts:

1. A **regulation reserve** product, which can be utilized under Automatic Generation Control to instantaneously vary load as often as every 6 seconds within contract amounts. This product will be priced based upon BPA's long-run marginal cost of acquiring regulation from other sources.

2. A **capacity reserve** product, which can be utilized with less than 10 minute notice and will not result in any long-term equipment damage (electrolytic cell outages). This product will be priced based upon BPA's long-run marginal cost of capacity and modified by the duration and frequency of reductions allowed.
3. A **moderate energy reserve** product**, which** can be utilized with less than 4 hours notice and will not result in any long-term equipment damage (electrolytic cell outages). This product will be priced in two increments: (1) 20% of the difference between the expected firm market price for power in the rate period and the established IP rate times the reserve energy made available will be included as a fixed reduction in the IP rate for each rate period, and (2) as an additional charge, 60% of the difference between the actual firm market price for power that is curtailed and the IP rate during the curtailed period will be paid as a credit to the DSI power bill at the time that BPA utilizes this reserve.
4. A **large energy reserve** product, which can be utilized with less than 48 hours notice and will result in long-term equipment (electrolytic cell outages). This product will be priced in 3 increments: (1) 20% of the difference between the expected firm market price for power in the rate period and the established IP rate times the reserve energy made available will be included as a fixed reduction in the IP rate for each rate period, and (2) as an additional charge, 60% of the difference between the actual firm market price for power that is curtailed and the IP rate during the curtailed period will be paid as a

credit to the DSI power bill at the time that BPA utilizes this reserve, and (3) a fixed charge of $5 million for each full potline outage will be applied at the time BPA utilizes this reserve. BPA will not use this reserve unless it forecasts market prices to average over $200/MWh for the duration of the outage.

Q. Have you developed specific rate formulae for these reserve products?

A. Yes. The proposed formulae are shown in Exhibits 1 through 4 to this testimony.

PART 3 – OPTIONAL ALUMINUM VARIABLE RATE PROPOSAL

Q. Mr. Speer, has BPA's design of the IP rate in the past been entirely fixed?

A. No. On past occasions, BPA has developed special rate provisions within the IP rate schedule to meet both BPA's and the DSIs unique needs during a particular time period and to deal with special circumstances designed to keep the DSIs operating.

Q. Please give an example of BPA's use of the flexibility inherent in the IP rate.

A. As early as 1983, BPA saw the need for a Premium Industrial Rate to allow DSIs to elect more reliable service to the top quartile in exchange for a higher rate and an Industrial Incentive Rate that allowed BPA to offer additional power to the DSIs at a lower rate to encourage additional use of power. I have included the IP-83 rate schedule as Exhibit 5 to my testimony as an example of this flexibility.

Q. Was this flexibility in the IP rate schedule ever successfully challenged?

A. No. To the best of my knowledge, until Alcoa (and PNGC) challenged the Monetary Benefits approach to industrial power service, no party has successfully challenged the flexibility inherent in the IP rate.

Q. During periods of economic uncertainty in the past has BPA adopted a variable rate approach as an alternative to the standard IP rate?

A. Yes. Between 1986 and 1996 BPA offered a Variable Industrial Power Rate that allowed the DSI rate to fluctuate based on the price of aluminum. I have attached as Exhibit 6 to my testimony, the VI-87 rate schedule and the related General Rate Schedule Provision as an exemplar of the Variable Industrial Power Rate.

Q. How did the variable rate work during this period?

A. BPA established a power rate for aluminum smelters that varied with the price of aluminum and made it available to aluminum DSI companies who elected to be served under that rate under the terms of their BPA contract.

Q. What do you propose as the IP rate design for the WP-10 rate period and beyond?

A. I propose that BPA adopt a Variable Industrial Power Rate that is expected to recover the costs BPA determines are assignable to the IP rate over the term of a contract, but which is variable over its term in order to accommodate the economic crisis that is temporarily causing huge economic distortions in the market for aluminum, and also to give BPA and its customers an opportunity to benefit and share in the upside if, as Alcoa believes will be the case, aluminum prices occasionally rise to higher levels as they were as little as one year ago.

Q. Do you propose an alternative rate structure for DSI aluminum customers?

A. Yes. Alcoa proposes that BPA adopt an optional aluminum variable rate, which would be available for BPA power service up to contract amounts for DSI aluminum smelters for this rate period.

Q. Have the contract terms for service in this rate period been determined?

A. No. Following the Ninth Circuit Court of Appeals ruling of December 16, 2008, BPA and Alcoa (and, I believe, Columbia Falls Aluminum Company) signed amendatory agreements that provide terms of service through September 30, 2009. We have not agreed to contract terms that will apply to the period after October 1, 2009.

Q. How do you propose that BPA and its DSI aluminum customers reach mutually acceptable contract and rate terms since contracts and rates are conducted using different BPA processes?

A. Alcoa proposes that BPA adopt an optional aluminum variable rate in this rate proceeding even though contracts have not yet been developed. At the same time, we propose that BPA develop new long-term contracts for aluminum DSI customers in a separate process that is consistent with the process used for new contracts recently signed with other BPA customers under its Regional Dialogue process. With the optional aluminum variable rate available by October 1, 2009, we are hopeful that we can reach agreement with BPA for a new long-term contract that will become effective on October 1, 2009. That contract will determine terms of service under which BPA is willing to offer the optional variable rate adopted under this rate process.

Q. Do you propose to deal with DSI service issues in this rate proceeding?

A. No. This proceeding deals only with rates. Contractual terms of DSI service will be managed through separate BPA processes, and will continue to be excluded from this process as currently proscribed by BPA.

Q. ~~What type of contract do you expect to receive from BPA for the period from October 1, 2009 through September 30, 2011?~~

A. ~~For purposes of this testimony, we expect BPA to offer a contract for the purchase of power at the IP-10 rate or the Optional Aluminum Variable rate that we propose in this testimony. If this occurs, Alcoa will likely have to remarket power that was pre-purchased under the monetized benefit contract at market rates that are lower than the purchase price, thereby increasing our net power rate above our IP rate.~~

Q. This is an optional rate. How would the option work?

A. Any aluminum DSI that is eligible for the optional variable rate would have to choose between that rate and the standard IP-10 rate prior to October 1, 2009. That choice would remain in place for the entire rate period.

Q. Is the optional aluminum variable rate something you propose for the term of a new long-term contract, or just for this rate period?

A. We are proposing this rate for this rate period, but hope to develop a long-term aluminum variable rate methodology in the future that is similar in nature to the long-term tiered-rates methodology recently adopted by BPA.

Q. Please describe the optional aluminum variable rate.

A. A graph of the proposed rate is included as Exhibit 7 to this testimony. The graph is drawn in approximate scale, but cannot be shown exactly because it is based on the IP standard rate which is not known at this time. In general, the rate that BPA would charge an aluminum company under this rate would be a function of the standard IP rate in effect, and the price of aluminum as reported on the London Metal Exchange (LME). When LME prices are between $2000 per metric tonne and $2500 per metric tonne, the rate would be set to equal the standard IP rate (the plateau) as developed in this process. When LME prices are at or below $1300 per metric tonne the rate would be the standard IP rate less $15/MWh (the floor), and when LME prices are at or above $3200 per metric tonne, the rate would be the standard IP rate plus $15/MWh (the ceiling). Between the plateau and the floor and between the plateau and the ceiling the rate would vary linearly (by $0.0214 per dollar change in the price of a metric tonne of aluminum).

Q. Why is the rate designed so that an aluminum DSI customer would pay the IP rate less $15/MWh at an aluminum price at $1,300 per metric tonne?

A. This point is our estimate of the maximum power rate a Northwest aluminum smelter could afford to pay for power and maintain some operating capacity during a down cycle in the aluminum market for this rate period.

Q. What determines the shape of the curve in Exhibit 7 when the aluminum price is greater than $2500 per metric tonne?

A. The rate was designed to be symmetrical with the rate when aluminum prices are lower than $2000 per metric tonne.

Q. How is the LME Aluminum price determined for each month's power bill in Exhibit 7?

A. BPA would determine the average daily cash seller primary aluminum price as reported by the London Metal Exchange for the month that is 3 months prior to the billing month. For example, when BPA determines the power bill for October 2009, it would use the average daily aluminum prices for July 2009.

Q. How is the IP rate determined for each month's power bill in Exhibit 7?

A. BPA would use all of the rates listed it its standard IP rate schedule for the standard IP rate each month except the energy rate would be adjusted as determined by Exhibit 7. Using the LME Aluminum price determined above, the graph would indicate the adjustment for the variable IP energy rate. For example, at an LME price of $2100 per metric tonne, the variable IP energy rate would be the standard IP rate with no adjustment, and for an LME price of $3300 per metric tonne, the variable energy rate would be the IP energy rate plus $15/MWh.

Q. Why is Alcoa proposing this Optional Aluminum Variable Rate?

A. Alcoa expects that in the range of expected IP rate levels, Alcoa would be forced by economics to vary the output of the Intalco smelter depending upon market prices for aluminum. However, varying production levels is expensive from an operating standpoint, and is difficult for our community as workers are hired and laid off to

match current economics. The proposed variable rate has the potential of reducing the fluctuations in production levels thereby reducing long-term costs for the Intalco plant and improving our impact on the community.

Q. Will BPA receive the same amount of revenue under the proposed variable rate as under its standard IP rate?

A. Alcoa expects that the long-run marginal cost of producing aluminum will be in the range of $2000 per metric tonne to $2500 per metric tonne, and that long-run aluminum prices will be in this range. This is the plateau range for the variable rate, and while prices are expected to be below this level and above this level from time to time depending on then current economics and supply/demand imbalances, we expect that the proposed variable rate will recover approximately the same revenues as the IP rate over the life of a long-term contract. This will probably not be true in the short run, so revenues from the variable rate will likely vary from the standard IP rate in this rate period, and in each subsequent rate period assuming this rate is continued.

Q. Do you propose a true-up mechanism to insure that aluminum variable rate DSI customers will not pay less than the standard IP rate for contracted power?

A. Yes. We propose that running accounts be kept of: (1) the total dollars paid for power by each aluminum DSI under BPA contracts beginning on October 1, 2006 (Actual Dollars), and (2) the dollars that would have been paid under the standard IP rates in effect or the same period (IP Dollars). We propose that at the termination of any new contract, that difference between Actual Dollars and IP Dollars be calculated. If there is a negative difference, i.e. the IP Dollars are greater than the Actual Dollars; we propose that the variable aluminum DSI customer pay that difference to BPA. This will guarantee that BPA will not lose revenue due to the proposed variable rate as compared to the standard IP rate.

Q. What would happen if Actual Dollars were above IP Dollars at the time of contract termination?

A. The mechanism we propose will guarantee that BPA collects at least the IP standard rate from 2006 through the life of a new contract. We believe that the determination of what happens if the Actual Dollars are above the IP Dollars at the time of contract termination should be a matter determined in the contract.

Q. Why is October 1, 2006 the appropriate date to start the true-up?

A. We believe the appropriate power rate for Alcoa to pay under a BPA contract is the IP rate. Beginning on October 1, 2006, Alcoa was offered a monetized power contract that was not priced at the IP rate. The Ninth Circuit Court of Appeals has remanded this contract to BPA, but the economic impact of actions taken under the remanded contract will likely result in power costs through September 30, 2011 which are higher than the applicable IP rate. Rather than proposing that BPA immediately return with interest the amount of the overpayment during this period, we believe it would be beneficial to other BPA customers to include this in the true-up mechanism for a variable rate that may result in no repayment or at least spread the burden of a repayment over several years.

Q. Please describe the amount that Alcoa is likely to pay above the IP rate because of the remanded monetized contract?

A. The expected overpayment can be segregated into 4 categories:

1. First, is the difference between the amounts actually paid for power from non-BPA sources (including BPA monetized benefits received) versus what would have been paid under the IP-07 and IP-07R rates from October 1, 2006 through November 30, 2008 under the original monetized benefit contract. This is summarized in Exhibit 8 to this testimony.

2. Second, is the difference between what Alcoa is likely to pay for power pre-purchased from non-BPA sources (including monetized benefits and revenues received from the remarketing of surplus pre-purchased power) under the amended monetized benefit contract versus what would have been paid under the IP-07R rate from December 1, 2008 through September 30, 2009. This is summarized in Exhibit 9 to this testimony.

3. Third is the difference between what Alcoa is likely to pay for power from BPA at an expected IP rate plus what Alcoa is likely to pay for pre-purchased non-BPA sources (including BPA monetary benefits and revenues from the remarketing pre-purchased power) versus what would have been paid under the proposed IP-10 rate from October 1, 2009 through September 30, 2011. This is summarized in Exhibit 10 to this testimony.

4. Fourth is the difference between what Alcoa would have paid at the improperly high IP-07 rate and what Alcoa would have paid had BPA revised the IP-07 rate during the WP-07R proceeding. When BPA conducted its supplemental 2007 rate case, it adjusted future PF rates to comply with the remanded Residential Exchange Program settlement. This indirectly affected future IP rates. However, it did not adjust the incorrect IP-07 rate methodology retroactively to be consistent with the correct methodology used to determine the IP-07R rate. This resulted in artificially high IP-07 rate as compared to the IP-07R rate. This is summarized in Exhibit 11 to this testimony.

Q. Did Alcoa object to the IP-07 methodology?

A. No. Alcoa was not purchasing power under that rate, but under the monetized power contract at the time, and was not impacted by that rate at that time.

Q. What should the IP-07 rate have been?

A. It is very difficult to replicate the calculations in the development of the IP-07 rates under the methodology used in the IP-07R rate development. As an estimate, I assume that the IP-07 rates would have been equal to the IP-07R rates.

Q. Please summarize the total amount of the expected overpayment between October 1, 2006 and September 30, 2011.

A. The total expected overpayment is summarized in Exhibit 12.

Q. Do you propose that the entire $195 million shown in Exhibit 12 be included in the variable rate true-up calculation?

A. No. We realize the amount of work required for BPA to retroactively revise its rates from October 1, 2006 through September 30, 2008. In the spirit of cooperation and long-term problem solving we propose to eliminate any adjustment in category 4 (Exhibit 11) in the true-up of a variable aluminum rate. This would reduce the total estimated true-up to the $147 million subtotal for the first 3 categories shown in Exhibit 12.

Q. How will the true-up be calculated for other aluminum companies that may have contracts that allow purchases under the variable aluminum rate?

A. A true-up using the same methodology would be used beginning with power costs under BPA contracts on October 1, 2006. Of course, the numbers will be different because of different operating levels and different power costs.

Q. What will be the expected revenue impact on BPA from the optional variable aluminum rate during this rate period?

A. By using the 27-month LME Official Prices Curve for March 13, 2009, an expected price of approximately $1500 per metric tonne can be obtained for the period from October 1, 2009 through September 30, 2011. At that average aluminum price, the variable rate will be about $10.70/MWh below the standard rate for this rate period.

Assuming Intalco continues to operate at current levels (about 288 aMW) for this rate period, the variable rate revenue from Intalco would be about $27 million below the standard IP rate each year of the rate period.

Q. How does the $27 million per year revenue impact of your proposed variable rate compare to the impact of serving the Intalco plant in BPA's initial proposal?

A. In its initial proposal BPA estimated a $59 million per year impact between serving aluminum DSI loads and not serving aluminum DSI loads based on the cost of making market purchases to sell power at the IP rate. Of that amount, about $42 million per year could be attributed to the Alcoa Intalco smelter. Because the expected difference between wholesale power market prices and the IP rate has declined considerably, it is likely that the total revenue impact of serving Alcoa at the proposed variable rate during this rate period will be smaller than expected at the time of the initial proposal. In fact, if the cost of acquiring additional power to serve Intalco eventually equals the revenue received from Alcoa at the standard IP rate; the impact of serving Intalco during this rate period will be reduced from $42 million to $27 million per year.

Q. What is the likely impact on the operation of the Intalco plant and its 550 workers of the adoption of the proposed variable rate?

A. Without adoption of the proposed variable rate, Alcoa will be stranded with the power it purchased in reliance upon the 2006 monetary benefit contract. This would put Alcoa in a hardship because its effective power rate would be much higher than the IP rate. Without adoption of this variable rate the facility, community, and 550 jobs are at risk. The adoption of this proposed variable rate will provide the potential to sustain operating levels.

Q. Does this complete your testimony, Mr. Speer?

A. Yes.

Exhibit 1

Regulation Reserve Product

Availability: This product will be available in amounts as specified in aluminum DSI power contracts.

Description: Customer will allow BPA to control its load through Automated Generation Control within limits specified in its power sales contract as often as every 6 seconds.

Pricing: BPA will reduce the customer's monthly bill by the amount of regulation-up and/or regulation down provided by the customer in that month times the long-run marginal cost of acquiring that regulation from other sources.

Exhibit 2

Capacity Reserve Product

Availability: This product will be available in amounts as specified in aluminum DSI power contracts.

Description: Customer will agree to curtail loads up to amounts and duration specified in its power sales contract when BPA provides a 10-minute notice. The amount of energy curtailed will be returned by BPA immediately following the capacity curtailment at no additional charge to the customer.

Pricing: BPA will reduce the IP standard and IP variable rate by the following formula:

CRR = ((LRMCC*1000/730)*(MW*HRS)*(HRS/8760)) / (BCA*8760)

Where:

CRR is the capacity rate reduction in $/MWh applied to the entire BPA contract load.

LRMCC is the long-run marginal cost of capacity in $/KW-month.

MW is the Megawatt amount allowed for curtailment in the contract.

HRS is the number of hours per year of curtailment allowed in the contract.

BCA is the BPA contract amount in Megawatts.

Exhibit 3

Moderate Energy Reserve Product

Availability: This product will be available in amounts as specified in aluminum DSI power contracts.

Description: Customer will agree to curtail loads up to amounts and duration specified in its power sales contract when BPA provides a 4-hour notice. Energy curtailed will not be charged to the customer, and BPA will not return energy curtailed. No long-term equipment damage will occur as a result of the use of this reserve.

Pricing: BPA will reduce the IP standard and IP variable rate by the following formula:

ERR = (0.2*(MCR-IP)*MW*HRS)) / (BCA*8760)

In addition BPA will reduce the monthly bill to the customer by the following formula if this reserve is utilized by BPA in any month.

ERR$ = (0.6*(MCRC-IPC)*(MWC*HRSC))

Where:

ERR is the capacity rate reduction in $/MWh applied to the entire BPA contract load.

MCR is the average market cost of resources for the rate period in $/MWh as determined in the rate case.

IP is the average IP rate for the rate period in $/MWh at 100% load factor.

MW is the Megawatt curtailment allowed in the contract.

HRS is the number of hours per year of curtailment allowed in the contract.

BCA is the BPA contact amount in MW.

ERR$ is the reduction for energy reserves used during the month in dollars.

MCRC is the market price of resources BPA during the curtailment in $/MWh.

IPC is the average IP rate for the curtailment period.

MWC is the number of Megawatts actually curtailed during the month.

HRSC is the number of hours of the actual curtailment.

Exhibit 4

Large Energy Reserve Product

Availability: This product will be available in amounts as specified in aluminum DSI power contracts.

Description: Customer will agree to curtail loads up to amounts and duration specified in its power sales contract when BPA provides a 48-hour notice. Energy curtailed will not be charged to the customer, and BPA will not return energy curtailed. Long-term equipment damage will occur as a result of the use of this reserve. This reserve will not be used by BPA unless it projects that market prices for power will exceed $200/MWh for the duration of the curtailment.

Pricing: BPA will reduce the IP standard and IP variable rate by the following formula:

ERR = (0.2*(MCR-IP)*MW*HRS)) / (BCA*8760)

In addition BPA will reduce the monthly bill to the customer by the following formula if this reserve is utilized by BPA in any month.

ERR$ = (0.6*(MCRC-IPC)*(MWC*HRSC))

In addition, BPA will reduce the customer's bill by the sum of $5 million for every potline of aluminum capacity curtailed under this reserve.

Where:

ERR is the capacity rate reduction in $/MWh applied to the entire BPA contract load.

MCR is the average market cost of resources for the rate period in $/MWh as determined in the rate case.

IP is the average IP rate for the rate period in $/MWh at 100% load factor.

MW is the Megawatt curtailment allowed in the contract.

HRS is the number of hours per year of curtailment allowed in the contract.

BCA is the BPA contact amount in MW.

ERR$ is the reduction for energy reserves used during the month in dollars.

MCRC is the market price of resources BPA during the curtailment in $/MWh.

IPC is the average IP rate for the curtailment period.

MWC is the number of Megawatts actually curtailed during the month.

HRSC is the number of hours of the actual curtailment.

Exhibit 5

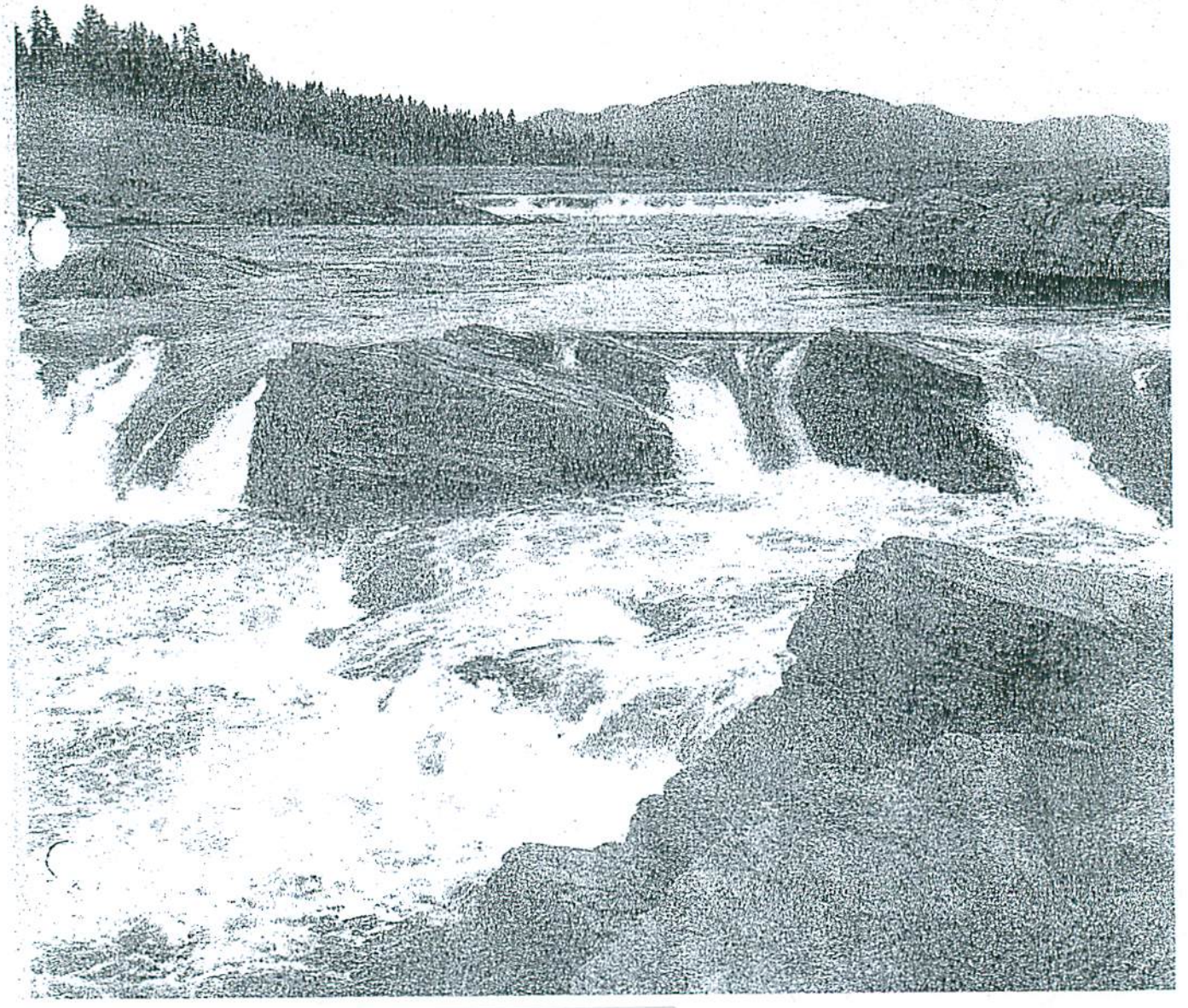
Wholesale Power Rate Schedules

and General Rate Schedule Provisions

1983

Bonneville Power Administration
U.S. Department of Energy

BPA



SCHEDULE IP-83

INDUSTRIAL FIRM POWER RATE

SECTION I. Availability:

This schedule is available to existing direct-service industrial customers for the contract purchase of Industrial Firm Power on an Operating Demand basis and for Auxiliary Power requested by the purchaser and made available as an Auxiliary Demand by BPA on an intermittent basis. This rate schedule supersedes Schedule IP-2 which went into effect on an interim basis on October 1, 1982.

SECTION II. Rate:

This rate schedule includes three possible rates for Industrial Firm Power basic service: the Standard Industrial Rate, the Premium Industrial Rate, and the Industrial Incentive Rate. Under the Standard Industrial Rate, first quartile service is provided by BPA with nonfirm energy and/or provisional drafts. Under the Premium Industrial Rate, first quartile service is provided with surplus firm energy load carrying capability (FELCC). The Industrial Incentive Rate is for the same quality of service as provided under the Standard Industrial Rate, but the rate is optional at the discretion of the Administrator, with the agreement of affected direct-service industrial customers and is applied on a take-or-pay basis. The procedures for determining when the Industrial Incentive Rate will be offered are specified in section V.D of the General Rate Schedule Provisions.

A. Standard Industrial Rate

The following rate shall apply to purchases of Industrial Firm Power under the Standard Industrial Rate:

1. **Customer Charge:**
   a. for all billing months: $7.34 per kilowatt. The basis for the customer charge is provided in section III.A of this rate schedule.
2. **Demand Charge:**
   a. for the billing months December through April, Monday through Saturday, 7 a.m. through 10 p.m.: $4.62 per kilowatt of billing demand;
   b. for the billing months May through November, Monday through Saturday, 7 a.m. through 10 p.m.: $2.21 per kilowatt of billing demand;
   c. all other hours: No demand charge.
3. **Energy Charge:**
   a. for the billing months September through March: 14.7 mills per kilowatthour of billing energy;
   b. for the billing months April through August: 12.2 mills per kilowatthours of billing energy.
4. **Unauthorized Increase Charge:**
   a. 83.0 mills per kilowatthour.

B. Premium Industrial Rate

The following rate shall apply to purchases of Industrial Firm Power under the Premium Industrial Rate:

1. **Customer Charge:**
   a. for all billing months: $9.63 per kilowatt. The basis for the customer charge is provided in section III.A of this rate schedule.
2. **Demand Charge:**
   a. for the billing months December through April, Monday through Saturday, 7 a.m. through 10 p.m.: $5.57 per kilowatt of billing demand;
   b. for the billing months May through November, Monday through Saturday, 7 a.m. through 10 p.m.: $2.42 per kilowatt of billing demand;
   c. all other hours: No demand charge.
3. **Energy Charge:**
   a. for the billing months September through March: 15.9 mills per kilowatthour of billing energy;
   b. for the billing months April through August: 12.7 mills per kilowatthour of billing energy.
4. **Unauthorized Increase Charge:**
   a. 83.0 mills per kilowatthour.

C. Industrial Incentive Rate

If BPA elects to implement the Industrial Incentive Rate, the rate shall be contractually specified. The rate which is adopted shall remain in effect for at least 6 months or the end of the rate period, whichever comes first.

1. **Customer Charge:**

   for all billing months: $7.34 per kilowatt. The basis for the customer charge is provided in section III.A of this rate schedule.
2. **Demand Charge:**

   The demand charge for the Industrial Incentive Rate shall be contractually specified and shall be calculated by reducing the demand charge for the Standard Industrial Rate by a uniform percentage.

3. **Energy Charge:**

   The energy charge for the Industrial Incentive Rate shall be contractually specified and shall be calculated by reducing the energy charge for the Standard Industrial Rate by a uniform percentage.

4. **Unauthorized Increase Charge:**

   83.0 mills per kilowatthour.

SECTION III. Billing Factors:

A. Customer Charge

The Customer Charge shall be applied on a monthly basis to purchasers of Industrial Firm Power. The Customer Charge for power purchased under all three rates (the Standard Industrial Rate, the Premium Industrial Rate, and the Industrial Incentive Rate) shall be based on the greater of:

1. the weighted average of Restricted Demand, if any, and 89.4 percent of Monthly Operating Demand; or
2. Billing Demand.

B. Billing Demand

1. **Basic Service**

   a. **Standard Industrial Rate and Premium Industrial Rate**

   For customers purchasing under either the Standard Industrial Rate or the Premium Industrial Rate, the billing demand for Industrial Firm Power basic service shall be the lowest of the following billing factors:

   (1) Operating Demand;
   (2) Curtailed Demand; or
   (3) Restricted Demand.

   b. **Industrial Incentive Rate**

   For customers purchasing under the Industrial Incentive Rate, the billing demand for Industrial Firm Power basic service shall be the greater of billing factors (1) and (2):

   (1) (a) Curtailed Demand, if applicable; otherwise,
   (b) Operating Demand; and

   (2) the lower of:
   (a) Committed Demand; or
   (b) Restricted Demand.

   c. **Application of the Billing Factors for Basic Service**

   Each of the billing factors for demand used in the computation of the power bill shall be adjusted for power factor. Only that portion of the demand which is purchased from BPA shall be considered in the determination of the billing demand.

   If, during any billing month, there is more than one type of demand (Operating Demand, Curtailed Demand, Restricted Demand, or Committed Demand) for Industrial Firm Power basic service, the billing demand for Industrial Firm Power basic service shall be the weighted average of the billing demands for power purchased under this rate schedule for basic service during such month.

   If the purchaser requests a waiver regarding the notice requirements specified in the purchaser's power sales contract for a voluntary change in the level of Operating Demand or Curtailed Demand, and if BPA does not grant the waiver, or if the purchaser fails to give notice of such a change and does not request a waiver, the purchaser shall be billed as if no notice has been provided until such time as the number of days in the notice period have passed. If, however, BPA agrees to waive the notice requirement, the power bill shall reflect the requested changes as of the requested effective date specified in the notice or, at BPA's discretion, a date of BPA's choosing within the notice period.

2. **Auxiliary Power**

   For Auxiliary Power requested by the purchaser and made available by BPA, the billing demand shall be the weighted average of the purchaser's Auxiliary Demands during the billing month, as adjusted for power factor. Auxiliary Power shall be made available to the purchaser at the same rate (the Standard Industrial Rate, the Premium Industrial Rate, or the Industrial Incentive Rate) as that applied to the purchaser's basic service.

3. **Curtailments**

   BPA shall charge the purchaser for curtailments in accordance with the provisions of section 9 of the power sales contract.

4. **Unauthorized Increase**

   If the Measured Demand during the hours 7 a.m.–10 p.m. on any day Monday through Saturday exceeds the sum of:

   a. the billing demand (as specified in section III.B.1) during that hour before adjustment for power factor;
   b. the Auxiliary Demand during that hour before adjustment for power factor; and
   c. any applicable demands which the purchaser acquires through other contracts for such hour;

the difference may be billed:

a. as unauthorized increase; or
b. as additional billing demand under this rate schedule.

BPA shall make the determination as to how the unauthorized increase shall be billed.

5. **Transitional Service**

Transitional Service may only be purchased under the Standard Industrial Rate or the Premium Industrial Rate.

If the purchaser requests billing on a Measured Demand basis pursuant to section 4 of the power sales contract and if BPA agrees to such billing, the billing demand for the billing month shall be the weighted average of the daily Measured Demands as adjusted for power factor. However, at no time during the period of restoration, as defined in section 4(e) of the power sales contract, shall the daily demand be lower than any previous such demand during such period. Should the Measured Demand for any day during the period of restoration be lower than the daily demand for the previous day, the previous day's daily demand shall be used as the daily demand for such day.

C. Billing Energy

1. **Basic Service**

a. Standard Industrial Rate and Premium Industrial Rate

The billing energy shall be the Measured Energy for the billing month.

b. Industrial Incentive Rate

The billing energy shall be the higher of:

(1) the Committed Energy; or
(2) the Measured Energy for the billing month.

The power bill shall reflect the distribution of the kilowatthours of billing energy among the respective billing demands for the billing month.

SECTION IV. Selection of the IP-83 Rate for Basic Service:

All sales of Industrial Firm Power for which there is no contract specifying use of the Premium Industrial Rate or the Industrial Incentive Rate shall be made at the Standard Industrial Rate.

If the purchaser elects to purchase Industrial Firm Power under the Premium Industrial Rate, BPA and the purchaser shall execute a contract specifying the period of time for which the Premium Industrial rate shall be effective.

The Industrial Incentive Rate shall only be applied to sales of Industrial Firm Power made pursuant to contracts specifying use of the Industrial Incentive Rate. Prior to applying the Industrial Incentive Rate, BPA and the purchaser shall contractually specify the terms and conditions under which the incentive rate shall apply. The contract with the purchaser shall specify:

A. the period of time for which the Industrial Incentive Rate is to be applied (such period being for no less than 6 months or the end of the rate adjustment period, whichever comes first);
B. the Committed Demand;
C. the Committed Energy; and
D. the level of the demand and energy charges.

During any billing month only one of the three possible rates for Industrial Firm Power basic service may apply (Standard Industrial Rate, Premium Industrial Rate, and Industrial Incentive Rate). The rate in effect on the first day of the billing month shall remain in effect for the entire billing month.

SECTION V. Adjustments:

A. Value of Reserves

A monthly billing credit for the value of the reserves provided by purchasers of Industrial Firm Power under the Standard Industrial Rate and the Premium Industrial Rate shall be:

1. $0.23 per kilowatt of billing demand; and
2. 1.6 mills per kilowatthour of billing energy.

The credit for power purchases under the Standard Industrial Rate and the Premium Industrial Rate shall be applied to the same billing factors which are used to determine the billing for power purchased under section III.B.1, III.B.2, and III.C.1 of this rate schedule. No value of reserves credit shall be applied to that portion of the purchaser's demand subject to curtailment charges under section III.B.3 of this rate schedule. In addition, no value of reserves credit shall be applied to those purchases subject to unauthorized increase charges under section III.B.4, above.

No value of reserves credit shall be applied to purchases of Industrial Firm Power under the Industrial Incentive Rate.

B. Power Factor Adjustment

The adjustment for power factor, when specified in this rate schedule or in the power sales contract, shall be made in accordance with the provisions of both this section and section III.C.1 of the General Rate Schedule Provisions. The adjustment shall be made if the average leading power factor or average lagging power factor at which energy is supplied during the billing month is less than 95 percent.

To make the power factor adjustment, BPA shall increase the billing demand by one percentage point for each percentage point or major fraction thereof (.5 or greater) by which the average leading power factor or average lagging power factor is below 95 percent. BPA may elect to waive the adjustment for power factor in whole or in part.

C. Exchange Adjustment

The Exchange Adjustment shall be calculated pursuant to section III.C.2 of the General Rate Schedule Provisions and shall be applied to all power purchases under the Standard Industrial Rate and the Premium Industrial Rate.

For this rate schedule, the variable ECP in the Exchange Adjustment calculation shall have a value of .521.

SECTION VI. Resource Cost Contribution:

The approximate cost contribution of different resource categories to the IP-83 rate is 100 percent Exchange.

The forecasted average cost of resources available to the Administrator under average water conditions is 18.9 mills per kilowatthour.

The forecasted cost of resources to meet load growth is 34.0 mills per kilowatthour.

SECTION VII. General Provisions:

Sales of power under this schedule shall be subject to the General Rate Schedule Provisions and the following Acts, as amended: the Bonneville Project Act, the Regional Preference Act (Pub. L. 88-552), the Federal Columbia River Transmission System Act, and the Pacific Northwest Electric Power Planning and Conservation Act.

Exhibit 6

SCHEDULE VI-87

VARIABLE INDUSTRIAL POWER RATE

SECTION I. AVAILABILITY

This schedule is available to direct-service industrial (DSI) customers for purchases under the Power Sales Contract implementing the Variable Industrial Power rate schedule (Variable Rate Contract) of: (1) Industrial Firm Power and (2) Auxiliary Power if requested by the DSI customer and made available by BPA. This schedule is available only for that portion of a DSI's load used in primary aluminum reduction including associated administrative facilities, if any. By virtue of incorporation of this rate schedule and associated General Rate Schedule Provisions (GRSPs) in the Variable Rate Contract, DSIs electing to purchase power under this rate schedule contractually agree to the terms and conditions of this rate schedule. A DSI further agrees to waive for that portion of their load designated to purchase power at the VI rate, all rights they might otherwise have to purchase power at the Industrial Firm Power Rate Schedule for the duration of the Variable Rate Contract. Section VI.J. supplements schedule VI-86. GRSPs effective July 1, 1985, as revised effective August 1, 1986, and as revised in the 1987 rate case and in subsequent wholesale rate filings are applicable to this rate schedule. Sales under this schedule are made subject to BPA's General Rate Schedule Provisions.

SECTION II. TERM OF THE RATE

This rate schedule shall take effect on August 1, 1986, and shall terminate on midnight June 30, 1993, unless BPA elects to exercise its unilateral option to terminate the rate at midnight June 30, 1991. This termination right is described in section VI.E. of this rate schedule. Actions to invoke an early termination shall comply with section VI.E. of this rate schedule and with the provisions and stipulations set forth in the Variable Rate Contract.

SECTION III. RATE

A. Revised Rate Charges Subject to Rate Case Adjustments

The following rates shall apply to Industrial customers that meet the eligibility requirements and elect to purchase power under the Variable Industrial Power Rate Schedule. These rates shall remain in effect until the next Rate Adjustment Date, at which point the rates shall be adjusted following the procedures set forth in section VI.C. of this rate schedule, unless the Cost Recovery Adjustment Clause triggers, at which point the rates shall be adjusted following the procedures set forth in section VI.J. of this rate schedule. In addition, the Lower Rate Limit also will be subject to a biennial adjustment pursuant to section VI.B. of this rate schedule. The formula to be used in the calculation of the monthly power bill is contained in section IV. A separate billing adjustment for the value of the reserves provided by purchasers of Industrial Firm Power is not contained in this rate schedule; the value of reserves credit has been included in the determination of the Plateau Energy Charge.

1. Base Variable Industrial Rate

a. Demand Charge

$5.33 per kilowatt of billing demand occurring during the Peak Period. No demand charge is applied during Offpeak Period hours.

b. Plateau Energy Charge

16.1 mills per kilowatthour of billing energy.

2. First Quartile Service Discount

0.5 mills per kilowatthour of billing energy.

3. Lower Rate Limit

8.3 mills per kilowatthour of billing energy.

4. Upper Rate Limit

21.9 mills per kilowatthour of billing energy.

B. Initial Rate Parameters Subject to Annual Adjustments

The following rate parameters shall be used in determining the power bills for customers electing to purchase power under the Variable Industrial Power rate schedule. These parameters will be adjusted annually starting on July 1, 1987, and every July 1 thereafter, in accordance with the procedures contained in section VII.B. of the GRSPs.

1. Lower Pivot Aluminum Price

60.8 cents per pound.

2. Upper Pivot Aluminum Price

73.4 cents per pound.

SECTION IV. FORMULA

The Variable Industrial Power rate is a formula rate tied to th U.S. market price of aluminum. Under this rate schedule, th monthly energy charge varies in response to changes in th average price of aluminum in U.S. markets.

A. **Demand Charge**

1. The Demand Charge, as stated in section III.A.1.a. of this rate schedule, remains constant over all aluminum prices. The demand charge is applied to billing demand occurring during all Peak Period hours for all billing months.

2. No demand charge during Offpeak Period hours.

B. **Energy Charge**

1. Plateau Energy Charge

When the monthly billing aluminum price (described in section VII.A. of the GRSPs) is between the Lower Pivot Aluminum Price and the Upper Pivot Aluminum Price inclusive (as stated in sections III.B.1. and III.B.2. of this rate schedule), the monthly energy charge shall be the Plateau Energy Charge as stated in section III.A.1.b. of this rate schedule.

2. Reductions to Plateau Energy Charge

When the monthly billing aluminum price is less than the Lower Pivot Aluminum Price, the monthly energy charge shall be the greater of:

a. The Plateau Energy Charge - (LP - MAP) * (LS)

where:

LP = the Lower Pivot Aluminum Price as stated in section III.B.1. of this rate schedule.

MAP = the monthly billing aluminum price in cents per pound determined pursuant to section VII.A. of the GRSPs

LS = lower slope = $\frac{\text{1 mill per kilowatthour}}{\text{1 cent per pound}}$

or

b. the Lower Rate Limit as stated in section III.A.3. of this rate schedule.

3. Increases to Plateau Energy Charge

When the monthly billing aluminum price is greater than the Upper Pivot Aluminum Price, the monthly energy charge shall be the lesser of:

a. The Plateau Energy Charge + (MAP - UP) * (US)

where:

MAP = the monthly billing aluminum price in cents per pound, as determined according to section VII.A. of the GRSPs.

UP = the Upper Pivot Aluminum Price as stated in section III.B.2. of this rate schedule.

US = upper slope = $\frac{\text{0.75 mills per kilowatthour}}{\text{1 cent per pound}}$

or

b. the Upper Rate Limit, as stated in section III.A.4. of this rate schedule.

SECTION V. BILLING FACTORS

A. **Billing Demand**

1. Billing Demand for Customers Whose Entire BPA Load is Served at the Variable Industrial Power Rate

The billing demand for power purchased shall be the BPA Operating Level during the Peak Period as adjusted for power factor. If there is more than one BPA Operating Level during the Peak Period within a billing month, the billing demand shall be a weighted average of the BPA Operating Levels during the Peak Period for the billing month. The BPA Operating Level is defined in section III.A.10. of the GRSPs.

2. Billing Demand for Customers When Only a Portion of Their Total BPA Load is Served at the Variable Rate

The Billing Demand shall be the portion of the BPA Operating Level attributable to the VI rate as determined by the method specified in the Variable Rate Contract.

3. Billing Demand During Periods of Transitional Service

If BPA has agreed, pursuant to section 4 of the direct service industrial power sales contract, to sell Industrial Firm Power on a daily demand basis (transitional service), this section of the rate schedule shall not apply, and BPA shall bill the purchaser in accordance with the provisions of section V.C. of the GRSPs.

B. **Billing Energy**

The billing energy for power purchased shall be the Measured Energy for the billing month, minus any kilowatthours on which BPA assesses the charge for unauthorized increase.

SECTION VI. OTHER ADJUSTMENTS AND SPECIAL PROVISIONS

A. **Lower and Upper Pivot Aluminum Prices**

Effective July 1, 1987, and every July 1 thereafter, the Lower and Upper Pivot Aluminum Prices set forth in section III.B. of the rate schedule shall be adjusted following the procedures set forth in section VII.B. of the GRSPs. The adjusted Lower and Upper Pivot Aluminum Prices shall supersede the Lower and Upper Pivot Aluminum Prices contained in section III.B. of the ra

schedule. The revised Lower and Upper Pivot Aluminum Prices shall be used for billing purposes and subsequent adjustments to the Lower and Upper Pivot Aluminum Prices.

B. Lower Rate Limit

Beginning with the July 1, 1988, annual adjustment date and every second July 1 thereafter, the Lower Rate Limit as stated in section III.A.3. shall be increased by 1 mill per kilowatthour. The revised Lower Rate Limit shall supersede the Lower Rate Limit as stated in section III.A.3. of the rate schedule. This increase is in addition to rate adjustment increases in the Lower Rate Limit described in section VI.C. of this rate schedule. In the event that a rate adjustment date and the annual adjustment date occur simultaneously, the Lower Rate Limit shall be adjusted first for changes in the Plateau Energy Charge pursuant to section VI.C. of this rate schedule, and then increased by 1 mill per kilowatthour. The revised Lower Rate Limit shall be used for billing purposes and subsequent rate adjustments.

C. Rate Adjustments

The overall rate level of this rate shall be subject to adjustment in BPA's general wholesale power rate case following the procedures and directives of the Northwest Power Act. The overall rate level consists of the Demand Charge, Plateau Energy Charge, and First Quartile Service Adjustment contained in sections III.A.1. and III.A.2.; these shall be adjusted by a uniform percentage based on the percentage change in the overall rate level. The Lower and Upper Rate Limits as stated in sections III.A.3. and III.A.4. of this rate schedule shall be adjusted by an amount equal to the change, in mills per kilowatthour, in the Plateau Energy Charge. The Lower and Upper Pivot Aluminum Prices shall not be adjusted in the rate case; rather, they shall be adjusted pursuant to the procedures described in section VII.B. of the GRSPs. The lower and upper slopes shall not be adjusted. The rate for unauthorized increase shall be separately determined in each rate case.

D. Discount for Quality of First Quartile Service

If a purchaser requests First Quartile service with other than Surplus FELCC, a discount contained in section III.A.2. of this rate schedule shall be granted. This billing credit shall be applied to the monthly billing energy under section V.B. for all power purchased under this rate schedule. No credit shall be applied to those purchases subject to unauthorized increase charges under section VI.G. of this rate schedule. To qualify for the First Quartile Discount, the purchaser must request discounted rate service in writing by April 2 of each calendar year. By virtue of making such request, the Purchaser is agreeing to accept the level and quality of First Quartile service described in section 6 of the Variable Industrial Rate contract. Such acceptance includes the waiver of contract rights provided in section 6.a(2)(a) of said contract.

E. Termination Provision

The Administrator may terminate the Variable Industria Power rate effective midnight June 30, 1991, upon a determination that significant changes in the condition and expectations under which this rate was offere render the continuation of the Variable Industrial rat inconsistent with BPA's stated goals and objectives. BP shall provide notification of such a determination pursu ant to the provisions of the Variable Rate Contract. A part of the notification procedures, BPA shall provide a reasonable opportunity for interested parties to com ment on BPA's determination, as well as to examine th comments submitted by other parties, prior to BP taking final action to cancel the rate. If BPA determine that the Variable Industrial rate will remain in place unti midnight June 30, 1993, BPA shall provide notice that s states and no additional action by BPA will be required

F. Curtailments

BPA shall charge the customer for curtailments of th lower three quartiles in accordance with the provision of section 9 of the power sales contract and the provi sions contained in the Variable Rate Contract.

G. Unauthorized Increase

1. Rate for Unauthorized Increase

67.3 mills per kilowatthour.

2. Application of the Charge

During any billing month, BPA may assess th unauthorized increase charge on the number c kilowatthours associated with the DSI Measure Demand in any one 60-minute clock-hour, befor adjustment for power factor, that exceed the BP Operating Level for that clock-hour, regardless c whether such Measured Demand occurs during th Peak or Offpeak Period.

H. Power Factor Adjustment

The adjustment for power factor, when specified in th rate schedule or in the power sales contract, shall b made in accordance with the provisions of both th section and section III.C.1. of the GRSPs. The adjustme shall be made if the average leading power factor average lagging power factor at which energy is supplie during the billing month is less than 95 percent.

To make the power factor adjustment, BPA shall i crease the BPA Operating Level by 1 percentage poi for each percentage point or major fraction thereof (0 or greater) by which the average leading power factor average lagging power factor is below 95 percent. BI may elect to waive the adjustment for power factor whole or in part.

I. Outage Credit

Pursuant to section 7 of the General Contract Pro sions, BPA shall provide an outage credit to any C

to whom BPA is unable to deliver the full billing demand during that billing month due to an outage on the facilities used by BPA to deliver Industrial Firm Power. Such credit shall not be provided if BPA is able to serve the DSI's load through the use of alternative facilities or if the outage is for less than 30 minutes. The amount of the credit shall be calculated according to the provisions of section III.C.2. of the GRSPs.

J. **Cost Recovery Adjustment Clause**

The Cost Recovery Adjustment Clause described in section III.C.5. of the GRSPs shall be applied to all power purchases under this rate schedule consistent with the procedures to adjust the Variable Industrial rate and the provisions of the Variable Rate Contract. A uniform adjustment will be made only if it causes demand and Plateau Energy charges and the First Quartile Service Discount to increase.

The uniform percentage (CRAC%) determined in section III.C.5.c. of the GRSPs shall be applied in the following manner:

$$(1 + \frac{CRAC\%}{100}) \cdot \frac{22.4}{23.0}$$

times the demand and Plateau Energy charges contained in section III.A.1. of this rate schedule and to the First Quartile Service Discount specified in section III.A.2. of this rate schedule.

where: 22.4 represents the average VI-89 margin-based plateau rate in mills per kilowatthour, and 23.0 represents the average VI-89 floor rate in mills per kilowatthour.

The Lower and Upper Rate Limits stated in sections III.A.3. and III.A.4. of this rate schedule shall be adjusted by an amount equal to the change, in mills per kilowatthour, to the Plateau Energy charge due to application of the Cost Recovery Adjustment Clause. The adjusted rate parameters shall be used for billing purposes and supersede the rate charges subject to the adjustment contained in section III.A. of this rate schedule. The adjusted rate parameters shall also be used in subsequent rate adjustments pursuant to section III.B. of this rate schedule and to subsequent biennial adjustments to the lower rate limit pursuant to section VI.B. of this rate schedule.

SECTION VII. RESOURCE COST CONTRIBUTION

BPA has made the following determinations:

A. The approximate cost contribution of different resource categories to the VI-87 rate is 99.3 percent Exchange and 0.7 percent New Resources.

B. The forecasted average cost of resources available to BPA under average water conditions is 17.7 mills per kilowatthour.

C. The forecasted cost of resources to meet load growth is 28.7 mills per kilowatthour.

amount of the bill which it is replacing, the additional amount will be billed on a separate bill, and the date of the revised bill shall be its date of issue.

SECTION VII. VARIABLE INDUSTRIAL RATE PARAMETERS AND ADJUSTMENTS

A. Monthly Average Aluminum Price Determination

1. Calculation of the Monthly Billing Aluminum Price

The monthly billing aluminum price shall be determined by BPA for each billing month. For purposes of this rate schedule, the monthly billing aluminum price shall be based on the average price of aluminum in U.S. markets during the third calendar month prior to the billing month. The average price of aluminum in U.S. markets shall be defined as the average U.S. Transaction Price reported for the month by *Metals Week*, in cents per pound, rounded to the nearest tenth of a cent.

2. Notification of the Monthly Average Aluminum Price

BPA shall provide, 45 days prior to the billing month, written notification to purchasers under this rate schedule of the monthly billing aluminum price to be used for billing purposes. Upon written request supporting documentation shall be provided.

3. Changes in Aluminum Price Indicators

In the event that BPA determines that factors outside its control render the monthly average U.S. Transaction Price unusable as an approximation of U.S. market prices, BPA may develop and substitute another indicator for prices in U.S. markets. BPA shall notify interested parties of its intent to do so at least 120 days prior to the billing month in which the change would become effective. In this notification, BPA shall explain the reason for the substitution and specify the replacement indicator it intends to use. BPA also shall describe the methodology to determine the monthly billing aluminum price to be used for billing purposes under this rate schedule and shall provide the necessary data to be used in the calculation. Interested persons will have until close of business 3 weeks from the date of the notification to provide comments. Consideration of comments and more current information may cause the final methodology and the substitute aluminum price index to differ from those proposed. BPA shall notify all affected parties, and those parties that submitted comments, of its final determination 90 days prior to the billing month the new indicator shall be effective.

B. Annual Adjustments to the Lower and Upper Pivot Aluminum Prices

On July 1, 1987, and every July 1 thereafter, the Lower and Upper Pivot Aluminum Prices, as stated in section III.B of the rate schedule, shall be subject to change for billing purposes as herein described. The term "annual adjustment date" shall refer to July 1 of each year.

1. Implementation Procedures

Beginning in 1987 and every year thereafter, prior to April 1 of that year, BPA shall provide the purchasers under this rate schedule preliminary written estimates of proposed adjustments to the Lower and Upper Pivot Aluminum Prices. By the last working day of the month of April, BPA shall notify interested parties in writing of BPA's revised determinations concerning changes to the Lower and Upper Pivot Aluminum Prices. BPA shall describe how the adjustments were determined and provide the data used in the calculations. In addition to written notification, BPA may, but is not obligated to, hold a public comment forum to clarify its determinations and solicit comments. Interested persons may submit comments on the determinations to BPA and other parties. Comments will be accepted until close of business on the last working Friday in May. Consideration of comments and more current information may result in the final adjustment differing from the proposed adjustment. By June 30 of each year, BPA shall notify all VI purchasers, those parties that submitted comments, and parties that requested notification, of the final determination.

2. Annual Adjustment Procedures

a. Annual Adjustment of the Lower Pivot Aluminum Price

Beginning with the July 1, 1987, annual adjustment date, for each year that the Variable Industrial rate is in effect, the Lower Pivot Aluminum Price as stated in section III.B.1 of the rate schedule shall be adjusted on the July 1 annual adjustment date. The Lower Pivot Aluminum Price shall be revised by multiplying 59 cents per pound by the Cost Escalation Index described in section VII.B.3.b of these GRSPs and rounded to the nearest tenth of a cent. The revised Lower Pivot Aluminum Price shall replace the Lower Pivot Aluminum Price as stated in section III.B.1 of the rate schedule and shall be used to determine the energy rate in the subsequent 12 billing months.

b. Annual Adjustment of the Upper Pivot Aluminum Price

For each year that the Variable Industrial rate is in effect, the Upper Pivot Aluminum Price as stated in section III.B.2 of the rate schedule shall be adjusted on the July 1 annual adjustment date.

(1) **Annual adjustment for the period beginning July 1, 1987, and ending June 30, 1991**

The Upper Pivot Aluminum Price shall be revised by multiplying 72 cents per pound by the Cost Escalation Index described in section VII.B.3.c of these GRSPs and rounded to the nearest tenth of a cent. The revised Upper Pivot Aluminum Price shall supersede the Upper Pivot Aluminum Price as stated in section III.B.2 of the rate schedule and shall be used to determine the energy rate in the subsequent 12 billing months.

(2) **Annual Adjustment for the period beginning July 1, 1991, and ending June 30, 1993**

The Upper Pivot Aluminum Price will be adjusted such that the Average Historical Aluminum Price described in section VII.B.4 of these GRSPs is the midpoint between the adjusted Upper Pivot Aluminum Price and the Average Historical Lower Pivot Aluminum Price described in section VII.B.5 below, except as limited to the greater of 65 cents per pound or the adjusted Lower Pivot Point for the year.

The Upper Pivot Aluminum Price shall equal the greater of:

(a) (2)(AAP) - ALP:

where

AAP = the Average Historical Aluminum Price described in section VII.B.4 of these GRSPs.

ALP = the Average Historical Lower Pivot Aluminum Price described in section VII.B.5 of these GRSPs.

(b) 65.0 cents per pound escalated to current dollars using the Cost Escalator for the Upper Pivot Aluminum Price described in section VII.B.3.c of these GRSPs.

or

(c) The adjusted Lower Pivot Aluminum Price for the year.

The revised Upper Pivot Aluminum Price shall supersede the Upper Pivot Aluminum Price as stated in section III.B.2 of the rate schedule and shall be used to determine the energy rate in the subsequent 12 months.

3. Cost Escalators

a. The cost indices described below shall be used in calculating the appropriate cost escalators. Each index shall be rounded to the nearest one-tenth of a percent, or three significant places.

(1) **Electricity Cost Index**

The average VI-87 rate in mills per kilowatthour based on the Plateau Energy Charge and the Discount for Quality of First Quartile Service in effect on the April 1 preceding the annual adjustment date and a load factor of 98.5 percent; divided by 22.8 mills per kilowatthour (the average VI-86 rate assuming the plateau energy charge and the Discount for Quality of First Quartile Service in 1986).

(2) **Labor Cost Index**

The annual average hourly earnings for the U.S. primary aluminum industry (SIC 3334) over the previous complete calendar year, from the Employment and Earnings, published by the U.S. Department of Labor, Bureau of Labor Statistics (BLS), divided by $14.20 per hour (the value of SIC 3334 earnings reported for 1985).

(3) **Alumina Cost Index**

The annual average of the monthly billing aluminum prices described in section VII.A of the GRSPs for the previous 1-year period beginning July 1 through June 30 divided by 50.8 cents per pound (the average U.S. Transaction price over the period April 1985 through March 1986).

(4) **Other Costs Index**

The annual average GNP Implicit Price Deflator for the previous complete calendar year, as published by the U.S. Department of Commerce, Bureau of Economic Analysis, divided by 1.115 (the value of the GNP Implicit Price Deflator for 1985 with 1982 = 1.000).

In the event the indices delineated above are discontinued or revised in a manner that BPA determines renders them unusable for calculating a consistent cost index, BPA will adjust or substitute another similar price index, following advance notification and opportunity for public comment as described in section VII.B.1 of these GRSPs.

b. The Cost Escalator for the Lower Pivot Aluminum Price shall be a weighted average of the four indices contained in section VII.B.3.a above. The following weights shall be assigned each index:

Electricity Cost Index	.30
Labor Cost Index	.20
Alumina Cost Index	.20
Other Costs Index	.30

c. The Cost Escalator for the Upper Pivot Aluminum Price shall be a weighted average of the Electricity Cost and Other Cost Escalators as stated in sections VII.B.3.a.(1) and VII.B.3.a.(4) above. The following weights shall be assigned each index:

Electricity Cost Index	.25
Other Costs Index	.75

4. Average Historical Aluminum Price

Prior to the July 1, 1991, annual adjustment date and every annual adjustment date thereafter, an average historical aluminum price shall be calculated for the period the Variable rate has been in effect. The average historical aluminum price shall be determined following the procedures set forth below:

a. Each monthly billing aluminum price determined pursuant to section VII.A of these GRSPs for the period August 1, 1986, through June 30 immediately preceding the annual adjustment date, shall be escalated to the current year dollars using the Price Deflator procedures described in section VII.B.6 below.

b. The sum of the escalated monthly billing aluminum prices shall be divided by the number of months in the period and rounded to the nearest tenth of a cent to obtain the Average Historical Aluminum Price.

5. Average Historical Lower Pivot Aluminum Price

Prior to the July 1, 1991, annual adjustment date and every annual adjustment date thereafter, the average of the Lower Pivot Aluminum Prices for the period the Variable Industrial rate has been in effect shall be calculated following the procedures set forth below:

a. The Lower Pivot Aluminum Price in each month for the period August 1, 1986, through June 30 of the calendar year preceding the annual adjustment date, shall be escalated to the current year's dollars using the Price Deflator procedures described in section VII.B.6 below.

b. The sum of the escalated monthly Lower Pivot Aluminum Prices shall be divided by the number of months in the period, and rounded to the nearest tenth of a cent to obtain an Average Historical Lower Pivot Aluminum Price.

6. Price Deflator Procedures

For purposes of converting nominal dollars to real dollars in the calculation of the Average Historical Aluminum Price and the Average Historical Lower Pivot Aluminum Price, the following Price Deflator procedures shall be used:

a. Monthly billing aluminum prices and Lower Pivot Aluminum Prices for any calendar months July through December shall be inflated by multiplying the price by the ratio of the GNP Implicit Price Deflator for the calendar year prior to the annual adjustment date divided by the Implicit Price Deflator for the calendar year in which the price occurred.

b. Monthly billing aluminum prices and Lower Pivot Aluminum Prices for any calendar months January through June shall be inflated by multiplying the price by the ratio of the Implicit Price Deflator for the calendar year prior to the annual adjustment date divided by the Implicit Price Deflator for the calendar year prior to the year in which the price occurred.

Each price shall be rounded to the nearest tenth of a cent.

EXHIBIT 7

Variable Aluminum Rate

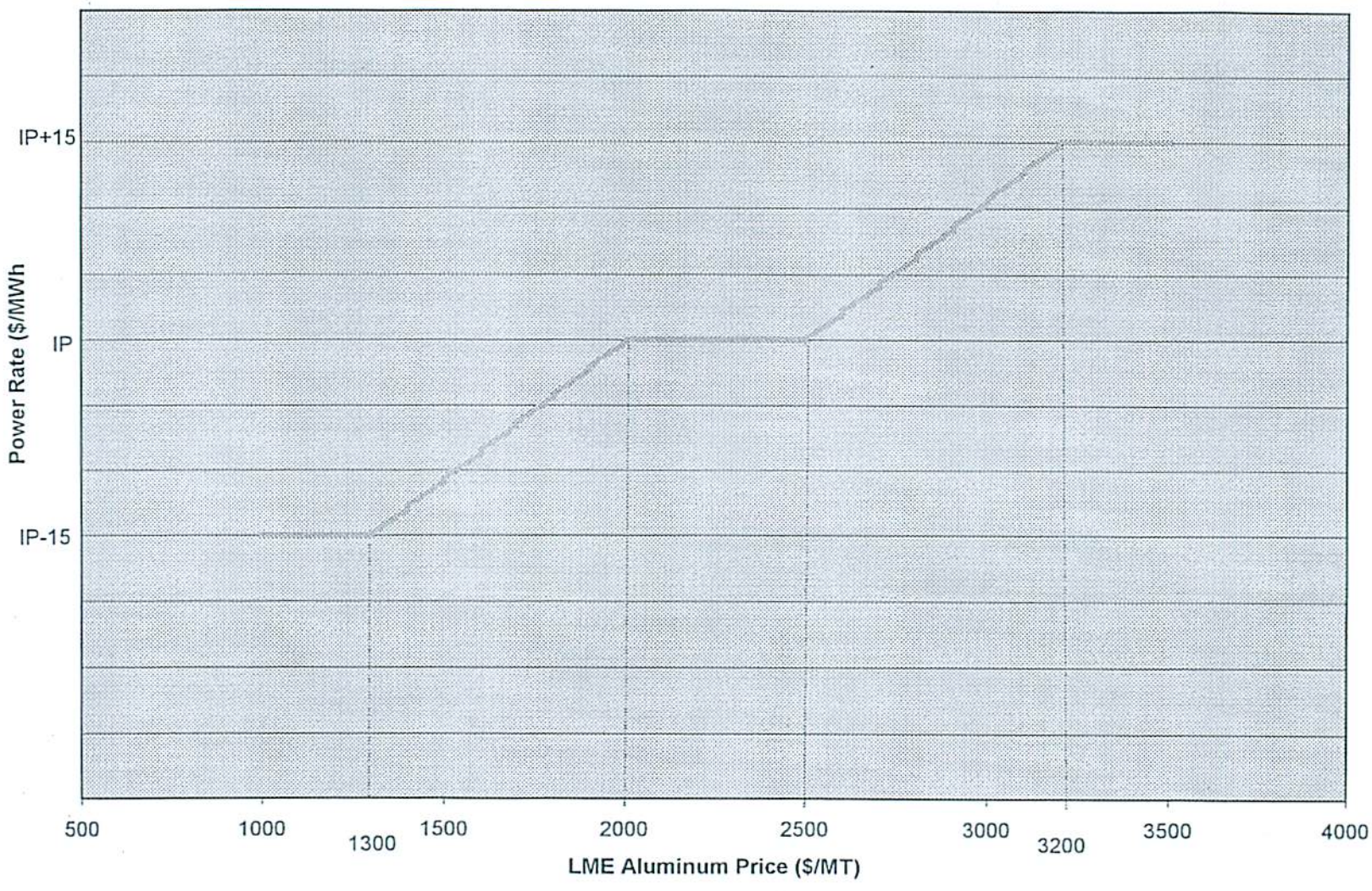


EXHIBIT 8

Overpayment Above IP Rate in Effect from October 1, 2006 through November 30, 2008

Notes: 1. IP rates are calculated at 100 % Load Factor
2. Loads are actual Intalco energy up to BPA contract limits

Year	Month	aMW	Hours	MWh	Rate Paid	Dollars Paid	BPA Ben. $/MWh	BPA Benefit $ Paid	Actual Dollars Net $ Paid	Actual Rate $/MWh	IP Rate $/MWh	IP Dollars $ at IP Rate	Overpayment $/MWh	Overpayment $
2006	Oct	192.4	745	143,301	$65.69	$9,413,033	18.32	$ 2,625,403	$6,787,630	$47.37	44.98	$ 6,445,679	$2.39	$341,951
	Nov	197.0	720	141,809	$50.59	$7,173,542	17.96	$ 2,547,246	$4,626,296	$32.62	52.06	$ 7,378,322	-$19.41	-$2,752,026
	Dec	200.2	744	148,961	$64.23	$9,567,658	17.62	$ 2,625,403	$6,942,255	$46.60	54.40	$ 8,103,478	-$7.80	-$1,161,223
2007	Jan	201.2	744	149,719	$61.01	$9,134,128	17.56	$ 2,628,403	$6,505,725	$43.45	49.08	$ 7,348,209	-$5.63	-$842,484
	Feb	242.7	672	163,102	$61.27	$9,992,685	14.54	$ 2,371,332	$7,621,353	$46.74	50.41	$ 8,221,972	-$3.68	-$600,619
	Mar	320.0	744	238,080	$59.82	$14,241,946	11.01	$ 2,622,403	$11,619,543	$48.81	48.06	$ 11,442,125	$0.75	$177,418
	Apr	320.0	719	230,080	$59.82	$13,763,386	11.08	$ 2,548,889	$11,214,497	$48.74	39.68	$ 9,129,574	$9.06	$2,084,922
	May	320.0	744	238,080	$59.82	$14,241,946	11.01	$ 2,620,330	$11,621,616	$48.81	34.82	$ 8,289,946	$13.99	$3,331,670
	Jun	320.0	720	230,400	$59.82	$13,782,528	11.06	$ 2,548,585	$11,233,943	$48.76	33.01	$ 7,605,504	$15.75	$3,628,439
	Jul	320.0	744	238,080	$59.82	$14,241,946	11.01	$ 2,620,434	$11,621,512	$48.81	40.61	$ 9,668,429	$8.20	$1,953,083
	Aug	320.0	744	238,080	$59.82	$14,241,946	11.06	$ 2,633,372	$11,608,574	$48.76	45.84	$ 10,913,587	$2.92	$694,986
	Sep	320.0	720	230,400	$59.82	$13,782,528	11.01	$ 2,535,743	$11,246,785	$48.81	48.22	$ 11,109,888	$0.59	$136,897
	Oct	358.0	745	266,705	$61.66	$16,445,005	12.03	$ 3,207,583	$13,237,422	$49.63	45.11	$ 12,031,063	$4.52	$1,206,359
	Nov	361.0	720	259,942	$61.12	$15,887,753	12.09	$ 3,142,273	$12,745,480	$49.03	52.03	$ 13,524,782	-$3.00	-$779,302
	Dec	358.8	744	266,938	$60.30	$16,095,854	12.03	$ 3,210,226	$12,885,628	$48.27	54.40	$ 14,521,427	-$6.13	-$1,635,799
2008	Jan	367.2	744	273,179	$60.75	$16,594,829	11.87	$ 3,242,807	$13,352,022	$48.88	49.08	$ 13,407,625	-$0.20	-$55,603
	Feb	367.4	696	255,735	$62.14	$15,891,382	12.20	$ 3,120,147	$12,771,235	$49.94	50.34	$ 12,873,700	-$0.40	-$102,465
	Mar	368.6	744	274,247	$61.01	$16,731,830	11.48	$ 3,149,518	$13,582,312	$49.53	47.94	$ 13,147,401	$1.59	$434,911
	Apr	369.4	719	265,617	$59.17	$15,717,535	12.22	$ 3,246,157	$12,471,378	$46.95	39.80	$ 10,571,557	$7.15	$1,899,821
	May	375.5	744	279,393	$58.03	$16,213,567	11.64	$ 3,251,633	$12,961,934	$46.39	34.82	$ 9,728,464	$11.57	$3,233,470
	Jun	384.2	720	276,636	$56.40	$15,601,771	11.39	$ 3,150,146	$12,451,625	$45.01	32.82	$ 9,079,194	$12.19	$3,372,431
	Jul	381.3	744	283,701	$60.93	$17,285,620	11.46	$ 3,251,633	$14,033,987	$49.47	40.76	$ 11,563,653	$8.71	$2,470,334
	Aug	379.5	744	282,336	$61.30	$17,306,910	11.52	$ 3,253,363	$14,053,547	$49.78	45.70	$ 12,902,755	$4.08	$1,150,792
	Sep	380.8	720	274,165	$59.39	$16,282,344	11.49	$ 3,150,146	$13,132,198	$47.90	48.34	$ 13,253,136	-$0.44	-$120,938
	Oct	381.1	745	283,947	$55.35	$15,708,287	11.45	$ 3,251,633	$12,456,654	$43.87	39.01	$ 11,076,772	$4.86	$1,379,882
	Nov	336.7	720	242,415	$59.77	$14,489,536	13.42	$ 3,253,363	$11,236,173	$46.35	41.10	$ 9,963,257	$5.25	$1,272,917
Total/Avg				6,175,048	$59.95	$ 369,829,493	$12.67	$75,808,171	$ 294,021,322	$47.28	$44.71	$273,301,499	$2.57	$20,719,823

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EXHIBIT 9

Expected Overpayment Above IP Rate in Effect from December 1, 2008 through September 30, 2009

Notes:
1. IP rates are calculated at 100 % Load Factor
2. Loads are estimated
3. Market rates are estimated
4. Market rate forecast is as of March 16, 2009

Year	Month	Intalco Load aMW	Hours	Intalco Load MWh	Prepurchased MWh	Prepurchased $/MWh	Market Sales MWh	Market Rate $/MWh	Rate Paid	Dollars Paid	BPA Ben. $/MWh	BPA Benefit $ Paid	Actual Dollars Net $ Paid	Actual Rate $/MWh	IP Rate $/MWh	IP Dollars $ at IP Rate	Overpayment $/MWh	Overpayment $
2008	Dec	304.7	744	226,667	234,360	59.82	7,692.96	55.77	59.96	$13,590,379	$ 14.20	$ 3,218,672	$10,371,707	$45.76	42.96	$ 9,737,616	2.80	$634,091
2009	Jan	300.4	744	223,483	234,360	59.82	10,877.28	38.11	60.88	$13,604,882	$ 15.35	$ 3,430,460	$10,174,422	$45.53	36.51	$ 8,159,354	9.02	$2,015,068
	Feb	296.0	672	198,912	211,680	59.82	12,768.00	34.13	61.47	$12,226,926	$ 15.35	$ 3,053,299	$9,173,627	$46.12	37.54	$ 7,467,156	8.58	$1,706,470
	Mar	288.0	743	213,984	234,045	59.82	20,061.00	27.29	62.87	$13,453,107	$ 15.35	$ 3,284,654	$10,168,453	$47.52	34.96	$ 7,480,881	12.56	$2,687,572
	Apr	288.0	719	207,072	226,485	59.82	19,413.00	22.14	63.35	$13,118,529	$ 15.35	$ 3,178,555	$9,939,974	$48.00	32.45	$ 6,719,486	15.55	$3,220,487
	May	288.0	744	214,272	234,360	59.82	20,088.00	19.55	63.60	$13,626,695	$ 15.35	$ 3,289,075	$10,337,620	$48.25	26.70	$ 5,721,062	21.55	$4,616,557
	Jun	288.0	720	207,360	226,800	59.82	19,440.00	25.73	63.02	$13,066,985	$ 15.35	$ 3,182,976	$9,884,009	$47.67	22.62	$ 4,690,483	25.05	$5,193,526
	Jul	288.0	744	214,272	234,360	59.82	20,088.00	35.55	62.10	$13,305,287	$ 15.35	$ 3,289,075	$10,016,212	$46.75	30.17	$ 6,464,586	16.58	$3,551,625
	Aug	288.0	744	214,272	234,360	59.82	20,088.00	38.01	61.86	$13,255,870	$ 15.35	$ 3,289,075	$9,966,795	$46.51	35.91	$ 7,694,508	10.60	$2,272,288
	Sep	288.0	720	207,360	226,800	59.82	19,440.00	34.94	62.15	$12,887,942	$ 15.35	$ 3,182,976	$9,704,966	$46.80	37.78	$ 7,834,061	9.02	$1,870,906
Sum/Avg		291.7	729.4	226,667	234,360.00	59.82	169,956.24	43.12	62.1	$132,136,602	15.24	$32,398,818	$99,737,784	$ 46.89	42.96	$71,969,194	13.13	$27,768,590

EXHIBIT 10

Expected Overpayment Above IP Rate in Effect from October 1, 2009 through September 30, 20011

Notes:
1. IP rates are calculated at 100 % Load Factor
2. Loads are estimated
3. Market rate forecast is as of March 16, 2009
4. Assumes a sale of all prepurchased energy at market and a purchase of IP rate power to meet load

Year	Month	Intalco Load aMW	Hours	Intalco Load MWh	Prepurchased MWh	Prepurchased $/MWh	Market Sales MWh	Market Rate $/MWh	Rate Paid	Dollars Paid	BPA Ben. $/MWh	BPA Benefit $ Paid	Actual Dollars Net $ Paid	Actual Rate $/MWh	IP Rate $/MWh	IP Dollars $ at IP Rate	Overpayment $/MWh	Overpayment $
2009	Oct	288.0	746	214,848	234,990	59.82	234,990	35.92	62.61	$ 13,451,768	$ -	$ -	$13,451,768	$62.61	36.47	$ 7,835,507	26.14	$5,616,261
	Nov	288.0	720	207,360	226,800	59.82	226,800	42.06	61.27	$ 12,703,910	$ -	$ -	$12,703,910	$61.27	41.84	$ 8,675,942	19.43	$4,027,968
	Dec	288.0	744	214,272	234,360	59.82	234,360	55.24	49.07	$ 10,514,193	$ -	$ -	$10,514,193	$49.07	44.06	$ 9,440,824	5.01	$1,073,369
2010	Jan	288.0	744	214,272	234,360	59.82	234,360	52.64	47.26	$ 10,127,164	$ -	$ -	$10,127,164	$47.26	39.41	$ 8,444,460	7.85	$1,682,705
	Feb	288.0	672	193,536	211,680	59.82	211,680	42.00	60.19	$ 11,649,053	$ -	$ -	$11,649,053	$60.19	40.70	$ 7,676,915	19.49	$3,772,138
	Mar	288.0	743	213,984	234,045	59.82	234,045	34.41	66.64	$ 14,260,362	$ -	$ -	$14,260,362	$66.64	38.85	$ 8,313,278	27.79	$5,947,083
	Apr	288.0	720	207,360	226,800	59.82	226,800	26.40	68.70	$ 14,246,280	$ -	$ -	$14,246,280	$68.70	32.15	$ 6,666,624	36.55	$7,579,656
	May	288.0	744	214,272	234,360	59.82	234,360	25.97	65.02	$ 13,932,702	$ -	$ -	$13,932,702	$65.02	28.00	$ 5,999,616	37.02	$7,933,086
	Jun	288.0	720	207,360	226,800	59.82	226,800	33.30	55.62	$ 11,532,586	$ -	$ -	$11,532,586	$55.62	26.61	$ 5,517,850	29.01	$6,014,736
	Jul	288.0	744	214,272	234,360	59.82	234,360	44.90	49.17	$ 10,535,486	$ -	$ -	$10,535,486	$49.17	32.85	$ 7,038,835	16.32	$3,496,651
	Aug	288.0	744	214,272	234,360	59.82	234,360	44.90	53.18	$ 11,394,717	$ -	$ -	$11,394,717	$53.18	36.86	$ 7,898,066	16.32	$3,496,651
	Sep	288.0	720	207,360	226,800	59.82	226,800	47.67	52.27	$ 10,838,513	$ -	$ -	$10,838,513	$52.27	38.98	$ 8,082,893	13.29	$2,755,620
	Oct	288.0	746	214,848	234,990	59.82	234,990	47.19	50.26	$ 10,803,430	$ -	$ -	$10,803,430	$50.26	36.47	$ 7,835,507	13.81	$2,967,924
	Nov	288.0	720	207,360	226,800	59.82	226,800	47.16	55.69	$ 11,547,230	$ -	$ -	$11,547,230	$55.69	41.84	$ 8,675,942	13.85	$2,871,288
	Dec	288.0	744	214,272	234,360	59.82	234,360	47.47	57.57	$ 12,335,170	$ -	$ -	$12,335,170	$57.57	44.06	$ 9,440,824	13.51	$2,894,346
2011	Jan	288.0	744	214,272	234,360	59.82	234,360	47.63	52.65	$ 11,324,744	$ -	$ -	$11,324,744	$52.65	39.41	$ 8,444,460	13.44	$2,880,284
	Feb	288.0	672	193,536	211,680	59.82	211,680	47.61	54.05	$ 10,461,528	$ -	$ -	$10,461,528	$54.05	40.70	$ 7,676,915	13.35	$2,784,613
	Mar	288.0	743	213,984	234,045	59.82	234,045	39.09	61.52	$ 13,165,031	$ -	$ -	$13,165,031	$61.52	36.85	$ 8,312,278	22.67	$4,851,753
	Apr	288.0	720	207,360	226,800	59.82	226,800	30.12	64.63	$ 13,402,584	$ -	$ -	$13,402,584	$64.63	32.15	$ 6,666,624	32.48	$6,735,960
	May	288.0	744	214,272	234,360	59.82	234,360	29.68	60.99	$ 13,067,914	$ -	$ -	$13,067,914	$60.99	28.00	$ 5,999,616	32.99	$7,068,298
	Jun	288.0	720	207,360	226,800	59.82	226,800	37.07	51.49	$ 10,677,550	$ -	$ -	$10,677,550	$51.49	26.61	$ 5,517,850	24.88	$5,159,700
	Jul	288.0	744	214,272	234,360	59.82	234,360	49.12	44.55	$ 9,546,487	$ -	$ -	$9,546,487	$44.55	32.85	$ 7,038,835	11.70	$2,507,652
	Aug	288.0	744	214,272	234,360	59.82	234,360	49.66	47.75	$ 10,232,262	$ -	$ -	$10,232,262	$47.75	36.86	$ 7,898,066	10.89	$2,334,220
	Sep	288.0	720	207,360	226,800	59.82	226,800	51.34	48.26	$ 10,006,157	$ -	$ -	$10,006,157	$48.26	38.98	$ 8,082,893	9.28	$1,923,264
sum/average		288.0	730	5,046,336	5,519,430	59.82	5,519,430	42.03	55.60	$ 281,756,851	0.0	0.0	$ 281,756,851	55.86	36.40	183,581,620	19.46	$ 98,175,231

EXHIBIT 11

Overpayment Due to Improper IP-07 Rate from October 1, 2006 through September 30, 2008

Notes: 1. IP rates are calculated at 100 % Load Factor
2. Loads are actual Intalco energy up to BPA contract limits

Year	Month	aMW	Hours	MWh	IP-07 Rate In Effect	Dollars Paid At IP-07 Rate	IP-07R Rate	Dollars Paid At IP-07R Rate	Overpayment $/MWh	Overpayment $
2006	Oct	192.4	745	143,301	44.98	$6,445,679	36.47	$ 5,226,187	8.51	$1,219,492
	Nov	197.0	720	141,809	52.03	$7,378,322	41.84	$ 5,933,289	10.19	$1,445,034
	Dec	200.2	744	148,961	54.40	$8,103,478	44.06	$ 6,563,222	10.34	$1,540,257
2007	Jan	201.2	744	149,719	49.08	$7,348,209	39.41	$ 5,900,426	9.67	$1,447,783
	Feb	242.7	672	163,102	50.41	$8,221,972	40.70	$ 6,638,251	9.71	$1,583,720
	Mar	320.0	744	238,080	48.06	$11,442,125	38.85	$ 9,249,408	9.21	$2,192,717
	Apr	320.0	719	230,080	39.68	$9,129,574	32.15	$ 7,397,072	7.53	$1,732,502
	May	320.0	744	238,080	34.82	$8,289,946	28.00	$ 6,666,240	6.82	$1,623,706
	Jun	320.0	720	230,400	33.01	$7,605,504	26.61	$ 6,130,944	6.40	$1,474,560
	Jul	320.0	744	238,080	40.61	$9,668,429	32.85	$ 7,820,928	7.76	$1,847,501
	Aug	320.0	744	238,080	45.84	$10,913,587	36.86	$ 8,775,629	8.98	$2,137,958
	Sep	320.0	720	230,400	48.22	$11,109,888	38.98	$ 8,980,992	9.24	$2,128,896
	Oct	358.0	745	266,705	45.11	$12,031,068	36.47	$ 9,726,731	8.64	$2,304,331
	Nov	361.0	720	259,942	52.03	$13,524,782	41.84	$ 10,875,973	10.19	$2,648,809
	Dec	358.8	744	266,938	54.40	$14,521,427	44.06	$ 11,761,288	10.34	$2,760,139
2008	Jan	367.2	744	273,179	49.08	$13,407,625	39.41	$ 10,765,984	9.67	$2,641,641
	Feb	367.4	696	255,755	50.34	$12,873,700	40.70	$ 10,408,415	9.64	$2,465,285
	Mar	368.6	744	274,247	47.94	$13,147,401	38.85	$ 10,654,496	9.09	$2,492,905
	Apr	369.4	719	265,617	39.80	$10,571,557	32.15	$ 8,539,587	7.65	$2,031,970
	May	375.5	744	279,393	34.82	$9,728,464	28.00	$ 7,823,004	6.82	$1,905,460
	Jun	384.2	720	276,636	32.82	$9,079,194	26.61	$ 7,361,284	6.21	$1,717,910
	Jul	381.3	744	283,701	40.76	$11,563,653	32.85	$ 9,319,578	7.91	$2,244,075
	Aug	379.5	744	282,336	45.70	$12,902,755	36.86	$ 10,406,905	8.84	$2,495,850
	Sep	380.8	720	274,165	48.34	$13,253,136	38.98	$ 10,686,952	9.36	$2,566,184
Total/Avg				5,648,686	$ 45.10	$ 252,261,470	$ 36.40	$ 203,612,784	$ 8.70	$ 48,648,685

EXHIBIT 12
SUMMARY OF OVERPAYMENTS

EXHIBIT 8 OVERPAYMENTS ABOVE IP RATE IN EFFECT FROM OCTOBER 2006 THROUGH NOVEMBER 2008	$ 20,719,823	
EXHIBIT 9 EXPECTED OVERPAYMENTS FROM DECEMBER 2008 THROUGH SEPTEMBER 2009	$ 27,768,590	
EXHIBIT 10 EXPECTED OVERPAYMENTS FROM OCTOBER 2009 THROUGH SEPTEMBER 2011	$ 98,175,231	
SUBTOTAL OF OVERPAYMENTS IN EXHIBITS 8, 9 AND 10		$ 146,663,644
EXHIBIT 11 OVERPAYMENTS DUE TO IMPROPPER IP-07 RATE	$ 48,648,685	
TOTAL EXPECTED OVERPAYMENT BY OCTOBER 1, 2011		$ 195,312,329