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Memorandum

TO: Public Service Commission

FROM: Division of Public Utilities
Philip Powlick, Director,
Artie Powell, Energy Manager
Jamie Dalton, Utility Analyst
Charles Peterson, Technical Consultant

DATE: October 27, 2009

RE: Purchase Power Agreement between PacifiCorp, dba Rocky Mountain Power, and Kennecott Utah Copper Corporation, Docket No. 09-035-62.

RECOMMENDATION (Approval)

The Division recommends that the Commission approve the PPA between PacifiCorp and Kennecott.

ISSUE

On September 3, 2009, PacifiCorp (the Company) filed an Application for Approval of a Power Purchase Agreement (PPA) with Kennecott Utah Copper Corporation (Kennecott). The effective date of the agreement is January 1, 2010. This contract replaces a current contract that will expire on December 31, 2010. The Public Service Commission (Commission) issued an action request on September 3, 2009 to the Division of Public Utilities (Division) requesting a response by November 2, 2009. The following Recommendation and Analysis are intended to serve as the response to the aforementioned action request.

The Division recommends that the Company continue to provide, at least quarterly, the hourly power purchased under this contract so that the Division may monitor the contract and be better prepared to make recommendations in the future.

ANALYSIS

The PPA is dated September 3, 2009 between PacifiCorp and Kennecott. The agreement states that Kennecott "owns, operates and maintains a waste heat-fired steam cogeneration facility for the generation of electric power located in and about the town of Magna, Utah…."[1] The Nameplate Capacity Rating of the plant is 31.8 megawatts (MW). The Kennecott facility is operated as a qualifying facility (QF) as defined by 18 C.F.R Part 292.[2] Kennecott has previously provided its FERC self-certification to PacifiCorp prior to the implementation of the previous contract, which expires on December 31, 2008. All interconnection requirements have been met and the Kennecott facility is fully integrated with the Company's system.

Kennecott estimates that the average net monthly output of the facility will be about 14,000 megawatt-hours (MWh) to PacifiCorp, or about 18.5 MW per hour on average.[3] Kennecott has the option, but not the obligation, to deliver approximately 31.8 MW per hour (the nameplate capacity) to PacifiCorp.[4] This contract differs from the prior contract in that the pricing varies by month. In the previous contract pricing was "flat" throughout the year. Other than monthly variations, there is no variation in price for time-of-day. Kennecott has indicated that it tentatively plans for maintenance downtime of approximately 10 hours every six weeks.[5]

The Agreement before the Commission is expected to run for a term of 12 months: beginning January 1, 2010 and ending December 31, 2010. The current contract expires December 31,

[1] PPA, page 1.
[2] Op. Cit. page 5, section 3.2.6
[3] Op. Cit. page 1
[4] Op Cit. section 4.2.
[5] PPA, Exhibit D.

2009. Like the existing contract, this contract contemplates that Kennecott will sell to PacifiCorp all of its electric generation.[6]

Under the terms of the Commission order in Docket No. 03-035-14, non-firm QF resources are not entitled to a capacity payment. Therefore, this Agreement contains energy-only prices. As set forth in Section 5 and Exhibit E of the contract, the price per megawatt hour (MWh) varies by month. The average annual price is approximately $40.50 per MWh.[7] To this MWh price is added an adjustment for avoided line losses. The avoided line losses payment amounts to an additional 3.01 percent added to the price per MWh.[8] The relatively high prices during the months of July through September provide an incentive for Kennecott to provide as much power as possible during those months of relatively high demand on PacifiCorp's system.

The prices for next year's contract are based upon PacifiCorp's June 2009 forecast price curves. In June 2009 energy prices were significantly down from the historical during the previous year. Due, in part, to the current economic recession, energy prices are expected to be more stable during 2010 than they were in 2008.

The general terms and conditions of the Agreement appear to be generic in nature and closely mirror those in prior, similar contracts. The main differences appear to be the price to be paid for delivered energy. The non-price related conditions within the Agreement appear to be generic and reasonable.

Avoided Energy Costs

This PPA with Kennecott is represented to comply with the Commission's QF pricing methodology ordered in Docket No. 03-035-14. The Division has tested the contract pricing for

[6] PPA, Sections 4.2 and 6.5.
[7] PPA, Exhibit E.
[8] PPA, Section 5, p. 6.

compliance with the approved methodology by performing its own GRID run. The Division's GRID run was able to verify the contract pricing.

In its GRID run the Company assumed that Kennecott would be making available approximately 27 MW each hour throughout the year, apparently based upon taking 85 percent of the nameplate capacity of 31.8 MW. This amount is contrary to the historical operations of Kennecott of about 18.5 MW.[9] The Division determined through its own analysis that changing the assumed output to be in line with the 18.5 MW historical average would result in a higher price, but the price change would only be about 20 cents per MWh. The Division does not consider this price change to be material.

Therefore, the Division determined that based upon the conditions present at the time the PPA was negotiated, the avoided costs are reasonable. The spreadsheets showing the results of the Division's GRID run are available to the Commission upon request.

<u>The PPA's Avoided Transmission Losses</u>

In Docket No. 03-035-14, the issue of avoided transmission line loss adjustments for non-firm QF contracts was raised and discussed by several parties. In the end, the Commission was not satisfied with any of the proposed solutions and declined to adopt guidelines for non-wind QFs.[10] In that Docket, the Division argued that avoided cost transmission line loss adjustments should not be given to QFs with non-firm or "must-take" contracts in applying the methods that were proposed. The Division indicated that it would be open to consider giving QFs avoided transmission line loss adjustments if ratepayer neutrality could be assured.[11,12] The Division and Company proposals in that Docket were similar in that they involved comparing distances from

[9] PPA, p. 1.
[10] See Order dated April 19, 2006, pp. 13-15, Docket No. 03-035-14.
[11] Direct Testimony on Rehearing of Andrea Coon, February 10, 2006, lines 99-101, Docket No. 03-035-14.
[12] PacifiCorp also recommended that no line loss adjustment be given non-firm QFs. The agreement to give Kennecott a line loss adjustment appears to be at variance with the Company's position. See Reconsideration Direct Testimony of Bruce W. Griswold, February 10, 2006, lines 86-91, Docket No. 03-035-14.

the QF and a proxy plant to the load center (i.e. the Wasatch Front). The adjustment was to be calculated against the Company's FERC approved Open Access Transmission Tariff (OATT) percentage. The Commission appears to have left the issue open to be dealt with on a case-by-case basis.

This PPA provides for an avoided line loss adjustment that is calculated in a similar fashion to the line loss adjustment that was in the previous contract. This adjustment is made by increasing the avoided costs by 3.01 percent. The 3.01 percent figure is based upon the Company's current FERC OATT effective April 1, 2006, of 4.48 percent with two adjustments. The first adjustment was made by using the GRID model to calculate the percentage of the total megawatt hours that the Kennecott QF had avoided that were outside the Utah North and South transmission bubbles. Then, the Company multiplied it by the PacifiCorp FERC OATT transmission level line loss rate 4.48 percent. The Kennecott QF avoided resources were outside the Utah North bubble 80.13 percent of the time, so the OATT rate of 4.48 percent was multiplied by 80.13 percent.

The second adjustment was based upon the calculated differential between energy plus capacity prices and energy-only prices, which is essentially made by taking the ratio of non-firm to firm pricing per Utah Electric Schedule No. 37. This results in a further reduction of 16.25 percent. The rationale for this adjustment was explained in the docket for the previous contract, but is essentially an attempt to compensate other ratepayers for inefficiencies that may be introduced into PacifiCorp's system by the non-firm nature of the contract.

Because Schedule No. 37 was developed for small QFs, the Division recommends that if this method is used in the future, that the capacity and energy prices be obtained from the same GRID analyses that lead to the avoided cost calculations in the first place so that there is a direct relationship between the QF and the pricing adjustments that are made.

The Division believes that PacifiCorp's approach has a reasonable basis. That is, the analysis is relatively easy to perform and to check by use of the GRID model. The FERC OATT will be reviewed and updated by PacifiCorp and the FERC from time to time. For a one year QF contract such as Kennecott's, the Division believes that it would be unreasonable to expect the Company to go to time and expense of performing a detailed line loss analysis.

In Docket 07-035-71, the Division in its memo discussed in detail the historical generation output from the Kennecott QF facility. The Division's analysis indicated that Kennecott output varies widely in an approximately random, and hence essentially unpredictable, fashion over the course of a day. Kennecott's output in 2009 has continued to show similar patterns as in past years. This output pattern is driven by the variability in the Kennecott operations "upstream" from the QF generating plant; this pattern is expected to continue in the future. The Division concluded that the Kennecott QF could not be considered to be operating as if it were a firm resource. However, in the 2007 docket the Division agreed that it appeared to be reasonable to give Kennecott the benefit of avoided line losses albeit at a reduced rate from the OATT. The Division is taking the same position this year with respect to avoided line losses and has accepted, for purposes of this year's contract only, the Company's proposed adjustments to avoided line losses.

A question can be raised regarding applying the line loss adjustment to the off-peak hours. During some of the off-peak time, it may be that PacifiCorp already has surplus power, and that the Company cannot back-down its base load generating plants, presumably the only ones operating at certain off-peak times. In such a scenario, Kennecott would simply add to the surplus and there would be little or no avoided line losses. The extent, if any, to which this type of scenario might apply, is not known; however this type of issue was previously brought up in testimony in Docket No. 03-035-14.[13] The use of the GRID model in this case may mitigate the effect of this issue somewhat, since during low-load hours, the costs of the resources backed off are presumably relatively low cost as well.

[13] Rebuttal Testimony of Andrea Coon, September 8, 2005, Docket No. 03-035-14. The document was submitted without page or line numbers; however the issue is discussed on approximately page 4 and is the eleventh Q & A pair in the document.

Based upon the foregoing, the Division believes the avoided line loss adjustment in this PPA has a reasonable basis. In general, however, the Division is unconvinced at this point that allowing an avoided transmission line loss adjustment to QFs providing non-firm power is appropriate for all qualifying facilities. The Division recommends that PacifiCorp provide, at least quarterly, the hourly power purchased under this contract to the Division so that the Division may monitor the contract and be better prepared to make recommendations in the future.

While the Division believes that the method for calculating line losses in this matter is both reasonable and practical, absent definite Commission guidelines regarding the policy with respect to non-wind QFs with a non-firm PPA, or the calculation of avoided transmission losses in QF contracts, various methods and assumptions may be employed by PacifiCorp and its counterparties as they negotiate their contracts. Since each QF contract will be unique in many ways, the Division does not view its position on line losses in this case as setting any precedent.

CONCLUSION

The Division concludes that the terms of the Kennecott Power Purchase Agreement generally are generic and comply with the Commission's guidelines and order in Docket No. 03-035-14. Assuming avoided line loss adjustments are permissible in non-firm QF contracts, the Division concludes that there is a reasonable basis for the transmission line loss adjustment in this PPA. However, the Division does not necessarily endorse a line loss adjustment for all non-firm QF contracts. The other contractual arrangements and facts in this matter, in particular the method for calculating the avoided energy costs, have been previously found to be just and reasonable and in the public interest. The Division recommends that the Commission approve the Power Purchase Agreement between Kennecott and PacifiCorp.

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