BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Application of Rocky Mountain Power for Approval of a Power Purchase Agreement between PacifiCorp and Tesoro Refining and Marketing Company	**DOCKET NO. 09-035-__**

PREFILED DIRECT TESTIMONY OF PAUL H. CLEMENTS

November 3, 2009

Q. Please state your name, business address and position with PacifiCorp dba Rocky Mountain Power (the Company).

A. My name is Paul H. Clements. My business address is 201 S. Main, Suite 2300, Salt Lake City, Utah 84111. My present position is Originator/Power Marketer for PacifiCorp Energy. PacifiCorp Energy and Rocky Mountain Power are divisions of PacifiCorp (the Company).

QUALIFICATIONS

Q. Please briefly describe your education and business experience.

A. I have a B.S. in Business Management from Brigham Young University. I have been employed with PacifiCorp for five years as an originator/power marketer responsible for negotiating qualifying facility contracts, negotiating interruptible retail special contracts, negotiating renewable energy contracts, and managing wholesale energy and capacity contracts with other utilities and power marketers. I also worked in the merchant energy sector for 10 years in pricing and structuring, origination, and trading roles for Duke Energy and Illinova.

PURPOSE OF TESTIMONY

Q. On whose behalf are you testifying in this proceeding?

A. I am testifying on behalf of PacifiCorp, dba Rocky Mountain Power.

Q. What is the purpose of your testimony?

A. I will be presenting information in support of the one year qualifying facility power purchase agreement between PacifiCorp and Tesoro Refining and Marketing Company (the "QF PPA") executed by the parties on October 27,

2009. I will be providing an overview of the contract terms and the method used to determine the avoided line loss adjustment.

OVERVIEW OF THE TESORO QF PPA

Q. Please provide a brief overview of the terms and conditions of the QF PPA.

A. The parties executed a one year QF PPA for calendar year 2010. Under the agreement, the Company pays Tesoro prices which were calculated using the methodology approved by the Commission in a Report and Order in Docket No. 03-035-14. Tesoro will be paid, on average, a price of $39.00 per megawatt hour. The pricing in the agreement is structured as on peak and off peak prices for each month. Tesoro will use the output of the QF generation to first offset their own retail load and will sell only the amount of energy that exceeds the retail load to the Company under the proposed QF PPA. The contract includes an avoided line loss adjustment of 3.46% applicable to all deliveries to the Company.

Q. Is this avoided line loss methodology consistent with other short term QF contracts executed in 2009 having terms for calendar year 2010?

A. Yes. This underlying methodology is identical to that used in other short term Utah QF contracts executed in 2009 having terms for calendar year 2010. Each contract may have minor additional adjustments as a result of characteristics unique to that particular QF customer or as a result of negotiations between interested parties. However, the starting point methodology is identical. The remainder of my testimony will explain the methodology.

OVERVIEW OF THE AVOIDED LINE LOSS METHODOLOGY

Q. Why is the Company required to address avoided line losses for the Tesoro QF PPA?

A. In its clarification order dated May 26, 2006 in Docket No. 03-035-14, the Commission set forth on page one the procedure through which avoided line losses for qualifying facilities (QFs) should be considered:

> "First, we clarify the April Order did not preclude consideration of payments for avoided transmission losses to QFs. The April Order did not approve a generic method for calculating losses. The Commission rejected the two proposed methods due to insufficient evidence upon which to conclude that either method was generally reasonable and met the ratepayer indifference standard. The Commission will consider the reasonableness of payments to QFs for avoided transmission losses on a case-by-case basis when QF contracts including such payments are presented for our approval."

In consideration of the Commission's order to determine line losses on a case by case basis, the Company evaluated the circumstances unique to the proposed one year Tesoro QF PPA and made the determination that an adjustment to the price to account for avoided line losses was reasonable and necessary.

The Company acknowledges that the methodology and analysis used to determine the recommended avoided line loss adjustment for this particular contract does not set precedence for future QF contracts and does not restrict either the Company or any other interested party from recommending a different methodology or position in future proceedings.

Q. What are the general steps the Company proposes be used to determine if an avoided line loss adjustment is necessary for the Tesoro QF PPA?

A. The methodology used to determine the avoided line loss adjustment for the Tesoro QF PPA is summarized in the following general steps:

1. Determine if the QF is located in the Wasatch Front load center, as defined by the combination of the "Utah North" and the "Utah South" transmission nodes/bubbles in the GRID topology.
2. If the QF is located in the Wasatch Front load center, an adjustment for avoided line losses may be justified. If the QF is not located in the Wasatch Front load center, no adjustment for avoided line losses will be made, unless unique circumstances justify an adjustment (see step 4.)
3. If the QF satisfies the location condition in step 2, proceed with the "QF Avoided Line Loss Calculation" explained in more detail below.
4. Review any unique circumstances applicable only to that particular QF that may impact line losses. For example, is the QF at the end of a long isolated radial line or does the QF utilize any project-specific transmission lines that may impact line losses?

Q. Why is a line loss adjustment analysis necessary?

A. Line losses are a physical reality that occurs when electricity flows from the generator source to the load sync. The avoided cost principle provides for the payment to a QF to equal the value or benefit that the QF brings to the system such that the ratepayer is indifferent as to whether the energy comes from the QF or from another source. Therefore, if the QF contract provides a line loss savings

(or, conversely, additional cost) when compared to the avoided resource, an adjustment to the price is justified.

Q. Are line losses calculated in the GRID model run that is used to calculate the avoided costs?

A. No. The GRID pricing model used to determine the avoided costs, or price, for QF contracts determines the avoided cost of generation only. While the GRID model does take into account transmission constraints when determining which resource is avoided, the model does not calculate or address any potential benefit or detriment attributable to line losses when the QF is added to the resource portfolio. Therefore, any adjustment for avoided line losses must be done outside of the GRID model.

Q. Is there a definitive method that can be used to precisely measure the impact a QF has on line losses on the PacifiCorp system?

A. The Company evaluated several methods to measure the impact a QF has on avoided line losses. The only way to precisely measure line losses is to put one meter at the source point and another meter at the sync point and calculate the losses on that isolated path. This is not feasible or possible on an integrated system with multiple sources and syncs. Nor is it cost effective or practical for the issue at hand. All other approaches are subject to the impact of assumptions and inputs which can greatly influence the results. Therefore, the Company set forth to establish a methodology that utilizes reasonable and applicable assumptions and inputs to reasonably estimate the impact a QF has on line losses.

Q. Is there a means by which the impact a QF contract has on line losses can be reasonably estimated?

A. Yes. The Company has developed a methodology that it recommends be used to determine the avoided line loss adjustments to be included in the Tesoro QF PPA. The Company has defined this method as the "QF Avoided Line Loss Calculation." The Company acknowledges that this method contains concepts that are a result of prior collaborative discussions between interested parties in other QF dockets, and, as such, no party is bound by this method, either in part or in whole, in future QF proceedings.

Q. **What are the detailed steps included in the QF Avoided Line Loss Methodology?**

A. The QF avoided line loss methodology utilizes, as a starting point, output from the GRID model run that was used to calculate the avoided costs for the specific QF contract. PacifiCorp's FERC OATT rate for line losses is also used in the calculation.

The GRID model includes several transmission nodes or bubbles that represent major locations of load and/or resources. These locations are often connected by high voltage transmission paths, which are also modeled in GRID consistent with their rated capacities and other constraints. When calculating the avoided cost, GRID determines which resource is backed down or avoided when the QF is added as a resource. The avoided resource may or may not be in the same transmission bubble as the QF resource, as GRID will optimize the available transmission between all bubbles and dispatch the system economically. The

GRID output file contains a summary of the number of megawatt hours that were avoided in each transmission bubble as a result of the addition of the QF. The sum of the avoided megawatt hours in all the bubbles equals the total amount of megawatt hours provided by the QF. Therefore, it is possible to determine the percentage of the total megawatt hours that the avoided resource was a resource outside the transmission bubble where the QF is located.

The Tesoro QF is located in the Utah North transmission bubble, which, along with the Utah South transmission bubble, defines the Wasatch Front load center. The Utah North transmission bubble consists primarily of the northern Salt Lake valley and parts of southeast Idaho and southwest Wyoming, and the Utah South transmission bubble consists of the area from approximately Mona to the south half of the Salt Lake valley. After reviewing the GRID output, it was determined that there are no current transmission constraints between the Utah North transmission bubble and the Utah South transmission bubble, so these two bubbles were considered to be a single bubble representing the Wasatch Front load center in this analysis. This particular area contains a significant sized load but is primarily a large importer of energy from the other bubbles. Therefore, it is reasonable to assume that locating a resource inside this Wasatch Front load center (the Utah North and Utah South bubbles) will reduce the need to import energy from outside this area, thus decreasing the amount of physical losses that will occur as power does not have to travel as far to serve the load in this area.

To calculate a reasonable estimation of the amount of avoided line losses attributable to the Tesoro QF PPA, the Company calculated the percentage of the

total megawatt hours that the Tesoro PPA avoided that were outside the Utah North and Utah South transmission bubbles (the Wasatch Front load center) and multiplied it by the PacifiCorp FERC OATT transmission level line loss rate of 4.48%. The Company incurs the "cost" of line losses at the tariff rates contained in PacifiCorp's FERC OATT. The tariff does not differentiate line loss rates based on any factor other than delivery voltage. Therefore, the tariff rate is an appropriate reflection of the financial avoided cost of line losses and is used in these calculations.

The Tesoro QF PPA avoided resources which were outside the Utah North and Utah South bubbles 77.24% of the time. Therefore, the starting point for the Tesoro QF PPA contract line loss adjustment should be an increase to the contract price of 3.46% (4.48% x 77.24%.)

Once this starting point has been determined, the Company evaluated whether a further adjustment is required to account for any project specific characteristics that impact line losses. In the case of the Tesoro QF PPA, no such characteristic exists. Therefore, no further adjustment is needed to the starting point adjustment of 3.46%, resulting in a total proposed avoided line loss adjustment of 3.46% for the Tesoro QF PPA.

Q. Does a further adjustment need to be made to reflect the fact that the Tesoro QF PPA is a non firm PPA, meaning there are no minimum delivery obligations?

A. No. The Company does not believe that the level of "firmness" of a contract has any impact on the physical reality of line losses. Line losses occur when physical

power actually flows. The actual flow of power is not affected by the firmness of a resource, so line losses are not impacted by whether a resource is firm or non firm. Therefore, no further adjustment is required.

Q. Was a further adjustment made in past Tesoro contracts to reflect the fact that the Tesoro QF PPA is a non firm PPA?

A. Yes. A further adjustment was made to the 2009 contract as a result of settlement discussions between interested parties. For the 2010 contract at issue in this docket, Tesoro advised the Company that it would not support such an adjustment. Since the Company also does not believe a further adjustment is required, no such adjustment was made to the proposed 2010 QF PPA.

Q. Does this conclude your testimony?

A. Yes.