BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Application of US Magnesium LLC for Determination of Rates and Conditions for Interruptible Service From and QF Sales To Rocky Mountain Power	**DOCKET NO. 09-035-20**

PREFILED DIRECT TESTIMONY OF PAUL H. CLEMENTS

August 20, 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 five year electric service agreement ("ESA") between Rocky Mountain Power and US Magnesium LLC ("US Mag") dated August 17, 2009. I will also present information in support of

the one year qualifying facility power purchase agreement ("QF PPA") executed by the parties on August 19, 2009.

TESTIMONY OVERVIEW

Q. Please provide a brief overview of the items you will address in your testimony.

A. The focus of my testimony will be in two areas: 1) issues related to the ESA and 2) issues related to the QF PPA. Regarding the ESA, I will first provide a brief overview of how past agreements between the parties have been structured. I will then provide a summary of the structure and the material terms and conditions of the proposed new ESA. I will then provide more specific details regarding certain key components of the new ESA, including the initial energy rates, the mechanism to be used to adjust the rates throughout the term, and the interruptible terms and conditions included in the ESA. Regarding the QF PPA, I will first provide a summary of the terms and conditions of the QF PPA. I will then provide some comments on the line loss adjustment included in the QF PPA.

TESTIMONY RELATED TO THE ESA

Q. Please provide a brief overview of past electric service agreements between the parties.

A. It is my understanding that Mr. Roger Swenson intends to provide an overview of the past agreements between the parties and the unique history and operating characteristics of US Mag as part of his direct testimony filed on behalf of US Mag. I will also provide a brief overview, focusing mostly on the current agreement which will expire at the end of 2009, in order to provide additional

context for how the parties arrived at the proposed new ESA. US Mag has been an interruptible customer of the Company since the late 1960s. The specific structure and terms of the electric service agreements between the parties have varied somewhat over the years, but the interruptible nature of the contract has been constant. In late 2004, the Commission approved the existing agreement between the parties, which is set to expire on December 31, 2009, in Docket No. 03-035-19. That agreement contained to following material terms and conditions:

1. US Mag's initial rates were set based on the cost of service study. The cost of service study accounted for interruptible rights granted to the Company by US Mag for the purpose of reducing peak demand.
2. US Mag's rates adjusted during the term of the contract based on changes to Utah Schedule No. 9.
3. The agreement included interruptible rights that allowed the Company to interrupt US Mag's load during periods of peak demand. The Company had the right to curtail US Mag's load for up to four hours per day during the summer months of June through September when the day-ahead temperature forecast reached a certain level. The Company could curtail US Mag's load an additional two hours per day in the event the temperature forecast was above 99 degrees Fahrenheit. The Company also had the right to curtail US Mag's load during the months of December and January for up to four hours per day regardless of temperature.

4. The agreement included additional interruptible rights that allowed the Company to interrupt US Mag's load at any time in the event of a system emergency.

Q. Please provide an overview of the structure and the material terms of the new ESA.

A. The structure and the terms of the new ESA are similar to those found in the existing agreement which was approved by the Commission in Docket No. 03-035-19 and described earlier in my testimony. The initial rates in the new ESA are based on the cost of service study resulting from the Company's most recently decided general rate case, Docket No. 08-035-38. The cost of service study accounts for the interruptible rights set forth in the agreement for the purpose of reducing peak demand. The agreement includes automatic step increases that result in US Mag arriving at the targeted cost of service study rate within four years. The step increases are front end loaded, which results in US Mag closing the gap between the current and the targeted rate in a more accelerated manner. In addition to the automatic step increases, the agreement includes a rate adjustment provision that provides for additional rate increases over the term of the agreement based on changes to the Utah Schedule No. 9 rates. The agreement also includes interruptible provisions similar to the existing agreement, in which the Company is allowed to interrupt US Mag's load in the summer months based on the day-ahead temperature forecast and in the winter months regardless of temperature. As a modification from past agreements, the Company will now be allowed to bank curtailment hours during times when interruption is allowed by

the agreement but not needed by the Company and then use those banked hours during times when interruption is not otherwise allowed by the agreement but the Company deems interruption is needed for operational flexibility.

Q. How were the initial rates in the ESA determined?

A. The initial rates were set based on the cost of service study resulting from the Company's most recently decided general rate case, Docket No. 08-035-38. The cost of service study showed a required increase of 31.26%, or $7.2 million, for US Mag. Given the magnitude of the required increase, the parties agreed to a concept of gradualism in the implementation of the increase, with the conditions that a schedule be set forth that resulted in the implementation of the full increase in a reasonable time period and that a mechanism be put in place to prevent such large deviances from the cost of service study in the future. The new ESA accomplishes both of these objectives. The new ESA includes automatic step increases that result in US Mag arriving at full rates based on the cost of service study within four years. The step increases are front end loaded, with 30% of the required increase occurring effective January 1, 2010, 25% of the required increase occurring effective January 1, 2011, 20% of the required increase occurring effective January 1, 2012, 15% of the required increase occurring effective January 1, 2013, and 10% of the required increase occurring effective January 1, 2014. This results in automatic increases of 9.4% in 2010, 7.1% in 2011, 5.3% in 2012, 3.8% in 2013 and 2.4% in 2014. With these automatic step increases, US Mag will close the current 31.26% gap between its 2009 contract rates and the rates required by the cost of service study in the most recently

decided general rate case within four years. US Mag will be subject to incremental rate changes during this term as well, which I will describe next in my testimony.

Q. In addition to the automatic step increases, how else will US Mag's rate adjust over the term of the new ESA?

A. Similar to the existing ESA, the new ESA contains a rate adjustment mechanism that calls for US Mag's rates to adjust annually based on changes that occurred in the prior year to the Utah Schedule No. 9 rates. In the existing agreement, the adjustment was based on 50% of the change to the Utah Schedule No. 9 rates. In the new ESA, the adjustment is based on 100% of the change to the Utah Schedule No. 9 rates. This means US Mag's rates will adjust annually by the same percentage change that other large industrial customers receive who take service under Utah Schedule No. 9. This adjustment mechanism will result in US Mag's rates being more closely aligned with the cost of service study rates throughout the term of the agreement.

Q. Are there other provisions in the agreement which may lead to additional changes to US Mag's rate over the term of the agreement?

A. Yes. Similar to what has been done with other recent retail special contracts in Utah, the parties agreed to add language to the agreement to address how contract rates may be affected by the following items: a potential energy cost adjustment mechanism ("ECAM"), applicable demand side management costs, and potential future greenhouse gas related costs.

Q. Please describe the new contract language addressing an ECAM.

A. In response to the recent Company filing regarding an ECAM, the parties agreed to include language in the new ESA that addresses how a potential ECAM will apply to US Mag. The language states, in summary, that in the event the Commission adopts an ECAM for the Company in Utah and applies the ECAM to US Mag, the agreement will be amended as necessary, as determined by the Commission in the ECAM proceeding.

Q. Please describe the new contract language addressing demand side management costs.

A. The parties agreed to include in the ESA language that states, in summary, that US Mag will be subject to demand side management surcharges if so ordered by the Commission.

Q. Please describe the new contract language addressing potential future greenhouse gas related costs.

A. In response to potential future greenhouse gas related legislation or costs, the parties agreed to include language that states, in summary, that if any greenhouse gas costs are imposed on the Company or on US Mag, the agreement will be amended as necessary, as determined by the Commission in an appropriate proceeding.

Q. Please provide a summary of the interruptible terms and conditions in the new ESA.

A. The new ESA contains interruptible terms and conditions that are similar in structure to those found in the existing agreement. For the winter months of December and January, the Company has the right to curtail US Mag for two

blocks of two hours each for a total of four hours each weekday. For the summer months of June through September, the Company has the right to curtail US Mag for up to four consecutive hours each weekday if the day-ahead forecasted temperature at the Salt Lake City International Airport exceeds certain triggers. The table below shows the temperature triggers, in degrees Fahrenheit, for each month:

Month	Temperature Trigger
June	87° F
July	93° F
August	91° F
September	83° F

The temperature triggers in the new ESA were developed using historical data for the 20 year time period 1988 through 2007. The trigger for June reflects the average historical data for the last 15 days of June in each year, and the trigger for September reflects the average historical data for the first 15 days of September in each year. The triggers for July and August reflect the average historical data for the entire month. The triggers were structured in this manner to better coincide with the Company's peak demand periods in these months. When provided with a notice to curtail, US Mag may elect to either physically curtail or to buy through at market prices, if energy is available.

The new ESA also includes new provisions that allow the Company to bank curtailment hours for use at a later date instead of using the hours on the date allowed by the agreement under the terms described above. On days in which

curtailment is normally allowed under the terms described above, the Company, at its sole option, can provide notice to US Mag that it desires to bank the allowed curtailment hours. US Mag is then not required to interrupt on that date but instead will be required to interrupt on a later date when provided notice by the Company. Then, on a later date when ordinary curtailment under the terms described above is not available but the Company is in need of curtailment for operational flexibility, the Company may elect to use the banked hours and can provide notice to US Mag that it must interrupt. This additional flexibility in the use of interruptible rights provides the Company with even greater ability to respond to periods of high demand.

TESTIMONY RELATED TO THE 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 US Mag prices which were calculated using the methodology approved by the Commission in a Report and Order in Docket No. 03-035-14. US Mag will be paid, on average, a price of $39.93 per megawatt hour. The pricing in the agreement is structured as on peak and off peak prices for each month. The contract includes an avoided line loss adjustment of 4.36% applicable to all deliveries.

Q. How was the avoided line loss adjustment determined?

A. The avoided line loss adjustment was determined using a methodology that is similar to what has been used in recent years for other short term QF contracts.

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

A. The methodology used to determine the avoided line loss adjustment for the US Mag 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 US Mag 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 US Mag 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 US Mag QF PPA, the Company calculated the percentage of

the total megawatt hours that the US Mag 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 US Mag QF PPA avoided resources which were outside the Utah North and Utah South bubbles 79.46% of the time. Therefore, the starting point for the US Mag QF PPA contract line loss adjustment should be an increase to the contract price of 3.56% (4.48% x 79.46%.)

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 US Mag QF PPA, such a characteristic exists. The US Mag QF is located at the end of a radial line that initiates at the Terminal substation and terminates at the US Mag facility. The load at the US Mag facility is greater than the output of the US Mag QF. Therefore, when the US Mag QF is operating and the US Mag facility is drawing its typical load, energy that would normally be transmitted across this radial line from the Terminal substation to the US Mag facility to serve load is being avoided by the energy that is produced by the US Mag QF, which is adjacent to the US Mag facility. Therefore, the operation of the US Mag QF results in the avoidance

of energy being transmitted from the Terminal substation to the US Mag facility, which results in a line loss savings across that particular radial line. The parties agreed the line losses associated with that line equate to .8%. Therefore, .8% should be added to the starting point adjustment of 3.56%, resulting in a total proposed avoided line loss adjustment of 4.36% for the US Mag QF PPA.

Q. Does a further adjustment need to be made to reflect the fact that the US Mag 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. Does this conclude your testimony?

A. Yes.