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IDAHO PUBLIC
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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION OF ROCKY MOUNTAIN POWER FOR APPROVAL OF CHANGES TO ITS ELECTRIC SERVICE SCHEDULES AND A PRICE INCREASE OF $27.7 MILLION, OR APPROXIMATELY 13.7 PERCENT	)))))))	**CASE NO. PAC-E-10-07** **Rebuttal Testimony of Peter C. Eelkema**

ROCKY MOUNTAIN POWER

CASE NO. PAC-E-10-07

November 2010

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

A. My name is Peter C. Eelkema. My business address is 825 NE Multnomah, Suite 600, Portland, Oregon 97232. My present position is Senior Consultant in the Load Forecasting Department.

Q. Are you the same Peter C. Eelkema who submitted direct testimony in this proceeding?

A. Yes.

Q. What is the purpose of your testimony?

A. My testimony in this case rebuts the testimony of Idaho Irrigation Pumpers' Association ("IIPA") witness Mr. Anthony J. Yankel and the testimony of the PacifiCorp Idaho Industrial Customers ("PIIC") witness Mr. Greg A. Meyer:

- I will explain why this Commission should not accept Mr. Yankel's adjustment to irrigation sales.
- I will also point out why this Commission should not accept Mr. Meyer's proposed residential revenue adjustment.

Irrigation Sales Adjustment

Q. Please summarize Mr. Yankel's testimony and the issues you are rebutting.

A. Mr. Yankel is recommending an increase in test year irrigation sales to 662,167 MWh. The Company's annual irrigation sales included in the test year are 545,290 MWh. Mr. Yankel's recommendation increases irrigation sales revenues by approximately $7,049,436. This adjustment should be rejected by the Commission.

Q. Please explain.

A. First, Mr. Yankel did not recognize that there was a distinct change in weather normalized irrigation sales starting in 2002. Second, Mr. Yankel did not make a compensating adjustment to reflect the increase in power costs associated with the additional energy requirements which would increase net power cost by $6,119,173. And finally, Mr. Yankel does not make an adjustment for jurisdictional or class cost of service demand factors. Mr. Steven R. McDougal addresses the jurisdictional impacts of Mr. Yankel's proposal.

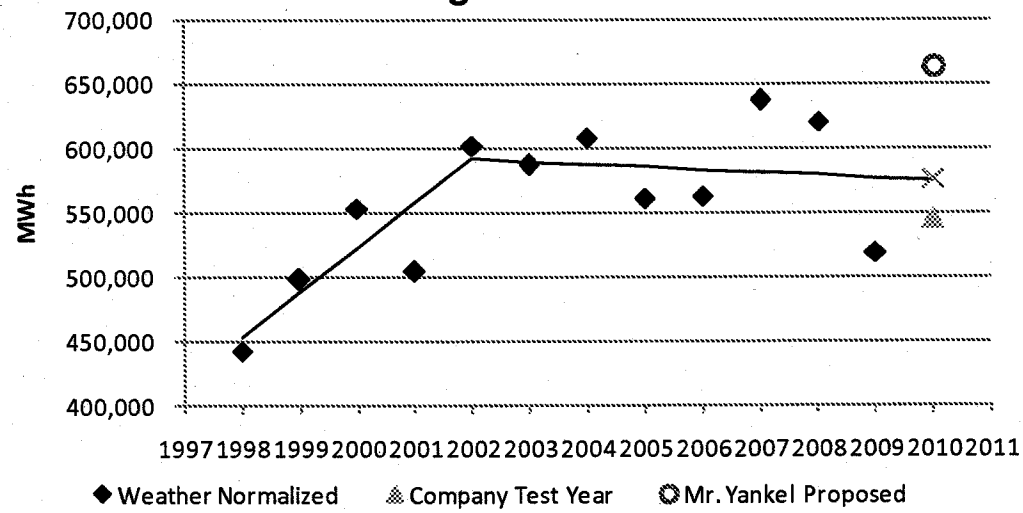
Q. Is there a statistical test of whether there is a change in the rate of irrigation growth?

A. Yes. While the Company cannot be certain of the cause, our analysis demonstrates to more than a 95 percent confident level, that there has been a statistically significant decrease in the rate of growth.

Q. Is Mr. Yankel's conclusion that there is an upward trend in Idaho irrigation weather normalized sales correct?

A. No. Mr. Yankel used a simple time trend from 1998 to 2008 to estimate the change in irrigation sales for that period. The result of Mr. Yankel's specification is an upward trend in irrigation sales. However, this specification does not reflect a change in the rate of irrigation sales growth around 2002. As shown in Figure 1 below, a time trend variable that is fit to annual weather normalized data from 1998 through 2009 indicates that since 2002 irrigation sales have been declining instead of increasing as concluded by Mr. Yankel.

Figure 1
Normalized Irrigation Sales 1998 to 2010



1 **Q. What is your estimate of 2010 irrigation sales based simply on a 1998-2009**
2 **trend line which allows for a change in the rate of irrigation growth?**
3 A. Test year 2010 irrigation sales would be 574,609 MWh instead of 662,167 as
4 proposed by Mr. Yankel. 2010 irrigation sales based on the time trend is much
5 closer to the sales amount included in the Company's filing.
6 **Q. Should the Commission adopt 574,609 MWh as test year irrigation sales?**
7 A. No. The Commission should adopt the Company's original test year sales of
8 545,290 MWh. A trend line based on annual sales is an oversimplified method to
9 develop test year sales and highly influenced by the period of time chosen for
10 analysis. A better approach is to model monthly irrigation sales through a
11 structured model which allows more flexibility. An example of the increased
12 flexibility is the ability to recognize a change in the trend. The Company has used
13 this approach to develop test year sales.

Q. What other observations can you glean from Figure 1?

A. First, as noted earlier, there is a slight downward trend to the data in recent years. Second, Mr. Yankel's recommended sales level is above even the highest level of weather normalized sales and clearly not consistent with recent experience.

Q. Are there other reasons that irrigation sales have been decreasing?

A. Yes. The Company has an energy efficiency program targeted to Idaho irrigators. The Company has a program encouraging the installation of variable frequency drive ("VFD") pumps. These pumps allow irrigators to use electric energy more efficiently by better controlling the amount of water being pumped.

Q. Is there an upward trend in Idaho irrigation number of customers as concluded by Mr. Yankel?

A. Yes. First, I would also note that what the Company tracks and labels "customers" are actually sites or points of service. One customer may be taking service at more than one site.

Q. Please explain why the number of sites is increasing.

A. As mentioned earlier, a customer may have multiple sites serving the same acreage. A customer may have one meter for the pump to bring water to the surface and another meter for the pivot irrigation system. If a customer installs a pivot system on land which previously had a wheel line, the number of sites may increase even though the amount of land being irrigated has not increased. So the upward trend in the number of sites is not an indicator of increasing irrigation sales.

Q. How can changing irrigation of land from wheel line to pivot system not increase irrigation sales?

A. There are a number of reasons. For example, as farmers convert their irrigation systems, they may upgrade to more efficient VFD pumps and pivot systems that apply water much more efficiently. Therefore, the change from wheel lines to a pivot system will likely reduce irrigation energy sales because the pivot system applies water more efficiently. Looking only at the growth in sites, while ignoring these other factors, is over-simplified and an inaccurate approach. The increased number of sites with virtually no change in the amount of land being irrigated is not a legitimate indicator of increasing irrigation sales.

Q. Has there been a change in the amount of agricultural land in the Company's service territory?

A. No. Although the Company has not been able to find statistics on the amount of land under irrigation in the service territory, discussions with the county agricultural extension agents and a representative of the Idaho Department of Water Resources, indicate there is virtually no new land being irrigated.

Q. Mr. Yankel states that weather normalized 2009 sales volume is an outlier based on his time trend. Is Mr. Yankel correct that 2009 weather normalized sales are an outlier?

A. No. Once Mr. Yankel's regression time period is changed to reflect the shift in sales, 2009 weather normalized irrigation sales are not an outlier. In fact, with the corrected time period, as I note above, Mr. Yankel's test year sales are the outlier that does not fit into the trend line as shown in Figure 1.

Q. Please describe the Company's methodology for weather normalization.

A. The Company performs several steps in developing Idaho irrigation weather normalization. First, the Company uses a model to identify the relationship between weather and irrigation sales. The Company utilizes load research data for this modeling because it provides a view of the relationship between sales and weather on a daily basis. Based on five years of data this provides approximately 525 observations (daily observations for five summers) of this relationship. From load research data, the Company analyzes the sensitivities of sales at different temperature levels to see if there are any breakpoints or changes in this sales/weather relationship. Also, the Company can analyze which weather variable best explains variations in irrigation sales.

The Company then uses the identification of the weather variable that provides the best fit in the monthly model. This is done by properly matching the temperature variable to the billing cycles and estimating monthly sensitivity of irrigation sales to weather. The weather normalization adjustment is the estimated coefficient which reflects weather sensitivity multiplied by the difference between actual and normal weather.

Q. Why doesn't the Company include precipitation as the weather driver in its model?

A. The Company has chosen temperature as measured by Cooling Degree Days with a base of 50 degrees ("CDD50") as its weather driver. The Company recognized that CDD50 is a better indicator of irrigation need than other variables such as precipitation, humidity, wind speed, and cloud cover. One of the main reasons is

that CDD50 (or a measure of temperature) will be more evenly distributed over a geographic area than precipitation. Summer precipitation, especially associated with thunderstorms, can result in one area of the service territory receiving precipitation and another area not receiving any precipitation. While temperatures in the region will be influenced by the thunderstorms, the temperature difference will be less.

Q. Why didn't the Company include both CDD50 and a measure of precipitation as the weather drivers in its model?

A. CDD50 and precipitation are highly correlated. The Company used a regression model to measure the level of correlation, and found that we can be more than 99 percent confident that they are correlated. Including two highly correlated variables in a model will yield biased estimates and a biased forecast.

Q. Mr. Yankel states on page 2, lines 11 through 13 of his testimony, "the unusually low sales data in 2009 that was due to an unusually wet spring, was in fact not normalized for the weather anomaly that occurred." Do you agree that 2009 was not normalized?

A. No. As I pointed out earlier, CDD50 is the more appropriate measure of weather so irrigation sales have been appropriately weather normalized.

Q. Is reasonable to assume Mr. Yankel's adjustment to irrigation sales would have no impact on system demand?

A. No. It is completely illogical to assume an increase in sales volume of approximately 117,000 megawatt hours has no impact on coincident peak. Mr. Yankel's imputation of irrigation sales revenues is flawed for all the reasons I

have discussed and should be rejected by the Commission.

Q. Please summarize Mr. Yankel's criticism regarding the Company's test year residential sales.

A. Mr. Yankel is not recommending an adjustment, but he believes that the Company's test year residential sales are understated.

Q. Do you agree with Mr. Yankel's statement on Yankel DI-12, lines 6-7 that the Company's test year forecast for residential sales are too low?

A. No. Mr. Yankel relied on a comparison of weather normalized residential sales January 2010-June 2010 on a **cycle month** basis (388,366 MWhs) against the Company's filed residential sales forecast January 2010-June 2010 (365,652 MWhs) which is on **calendar month** basis. The correct comparison using weather-normalized actual sales on a calendar basis (as shown in Table 1) demonstrates that the Company's residential sales forecast for the first six months of test year is very reasonable.

Table 1

Residential Sales in MWH: Jan 2010-Jun 2010	
PacifiCorp's Forecast	365,652
Weather Normalized Actuals-Calendar Basis	365,288
Difference	364
% Difference	0.1%

Residential Sales Adjustment

Q. Please summarize PIIC's position on the Company's proposed level of residential revenues.

A. Mr. Meyer recommends that the level of residential revenues be increased by

approximately $1.2 million. He claims that the Company's test year temperature normalized usage per bill of 12,309 kWh, is too low when compared to the average actual residential use per bill of 12,675 kWh as measured over the five-year period 2005 through 2009. To compute the higher residential use per bill, Mr. Meyer makes two changes to the Company's filing. First, he removes the temperature normalization adjustment from the historical data. Second, he averages five years (2005-2009) of data to calculate the test year use per bill.

Q. Have you quantified the impact of these changes?

A. Yes. Table 2 identifies the cumulative effect of the two changes proposed by Mr. Meyer.

Table 2

Increase from Company (millions)	Use per Bill (kWh)	Description
NA	12,309	Company proposal
$0.68	12,518	Use 5-year average instead of 2010 test period
$1.2	12,675	Remove temperature normalization

Q. Is it reasonable to remove the Company's temperature normalization of residential loads?

A. No. Mr. Meyer's proposal implicitly assumes that residential loads in Idaho are not affected by temperature. Mr. Meyer provides no rationale as to why it is appropriate to ignore temperature normalization for the residential class.

Q. Would Mr. Meyer's adjustment reduce the accuracy of the residential load forecast?

A. Yes. Removing the Company's temperature normalization of residential loads

would decrease the accuracy of the forecast.

Q. Doesn't use of a five-year average account for temperature fluctuations?

A. No. Obviously a five-year average is not an appropriate surrogate for weather normalization. The Company's weather normalization is based on 20-year average weather period. Furthermore, a five-year average mixes the effect of weather, efficiency, growth, and changes in habit. An integrated model such as the Company uses to develop test year sales accounts for these effects in a more comprehensive framework.

Q. How do you respond to the other aspects of Mr. Meyer's proposal?

A. Mr. Meyer presents no evidence, rationale or precedent for using a five-year average rather than the Company's more robust approach of using an integrated model to develop test year sales. The Commission has traditionally weather-normalized sales by using a long-term definition for normal temperatures. In contrast, Mr. Meyer's proposal uses a simple average of actual sales over a much shorter time period of five years.

Q. Are there other errors in the adjustment proposed by Mr. Meyer?

A. Yes. While he attempted to account for the NPC effect, Mr. Meyer's over-simplified approach was inaccurate. Mr. Meyer also ignored the impact these increased sales would have on jurisdictional allocation factors. Mr. McDougal discusses these to errors in his testimony and demonstrates that if they were correctly modeled Mr. Meyer's proposed adjustment is essentially negated.

Q. Please summarize your rebuttal testimony.

A. Mr. Yankel's adjustment for irrigation sales ignores the change in irrigation sales

starting about 2002. The Commission should reject this adjustment.

In addition, Mr. Meyer is recommending an adjustment for residential sales volume which should not be adopted. Mr. Meyer's adjustment is based on a simple five-year average and does not recognize weather or other drivers of the change in residential sales.

Q. Does this conclude your testimony?

A. Yes.