Witness OCS 3D

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Application of Rocky Mountain Power for Authority for Alternative Cost Recovery for Major Plant Additions of the Ben Lomond to Terminal Transmission Line and the Dave Johnston Generation Unit 3 Emissions Control Measure	**)**	**Docket No. 10-035-13**
	)	
	)	**Direct Testimony of Randall J. Falkenberg On Behalf of the Utah Office of Consumer Services**

April 26, 2010

Direct Testimony of Randall J. Falkenberg

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
A. Randall J. Falkenberg, PMB 362, 8351 Roswell Road, Atlanta, Georgia 30350.

Q. PLEASE STATE YOUR OCCUPATION, EMPLOYMENT, AND ON WHOSE BEHALF YOU ARE TESTIFYING.
A. I am a utility regulatory consultant and President of RFI Consulting, Inc. ("RFI"). I am appearing on behalf of the Office of Consumer Services ("the OCS".)

Q. WHAT CONSULTING SERVICES ARE PROVIDED BY RFI?
A. RFI provides consulting services related to electric utility system planning, energy cost recovery issues, revenue requirements, cost of service, and rate design.

Q. PLEASE SUMMARIZE YOUR QUALIFICATIONS.
A. My qualifications and appearances are provided in Exhibit OCS 3.1.

Introduction and Summary

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?
A. My testimony addresses PacifiCorp's ("the Company") Generation and Regulation Initiatives Decision ("GRID") model study of the Net Power Costs ("NPC") impact of the Dave Johnston 3 scrubber and the Ben Lomond to Terminal transmission line.

Q. PLEASE OUTLINE PACIFICORP'S NPC REQUEST IN THIS CASE.
A. PacifiCorp requests to increase Total Company NPC by $1.635 million resulting in a Utah NPC increase of $671 thousand. These amounts would then be reflected in the alternative cost recovery for these two projects.

Q. PLEASE SUMMARIZE YOUR TESTIMONY.
A. I have identified a number of issues related to the Company's filing. Table 1 shows the impact of each issue and they are summarized below:

Table 1

Requested NPC	Total Company	Utah
Docket 09-035-23 Commission Approved NPC	1,002,942,591	410,927,346
Company Requested NPC Increase	1,635,206	671,008
Resulting Company Requested NPC	1,004,577,796	411,598,354
OCS Adjustments		
1 Compliance GRID Study Offset	(647,779)	(265,817)
2 Correct Heat Rate Error	(659,913)	(270,796)
3 Remove Heat Rate Adjustment	(291,962)	(119,807)
Total OCS Adjustments	(1,599,655)	(656,420)
Resulting NPC Increase Recommended	35,551	14,588
Total Allowed NPC	1,002,978,142	410,941,935

1. The Company proposes to increase the Commission approved Total Company NPC in Docket No. 09-035-23 ($1,002.9 million) by $1.635 million. OCS recommends an increase of only $35,551 Total Company or $14,588 Utah.

2. The Company proposes to quantify the NPC impact of the Dave Johnston 3 scrubber based on its final rebuttal GRID study from Docket No. 09-035-23. I recommend that instead the NPC impact be measured against a compliance GRID study that implements all of the Commission's approved adjustments in that case. This provides a more consistent and less subjective basis for determining NPC impacts.

3. A GRID study which implements all of the NPC adjustments approved in Docket No. 09-035-23 results in a Total Company NPC $648 thousand less than the NPC approved in the final order in that case. This is due to interaction among the Commission approved adjustments. OCS recommends the Commission offset the requested increase to account for these differences.

4. The Company acknowledges various errors in its calculation of the heat rate inputs for the Dave Johnston 3 scrubber. Correcting the heat rate inputs results in a decrease to NPC of $660 thousand ($271 thousand Utah).

5. The Company's usual method for modeling heat rates compares four year actual to predicted design heat rate results. This process would reflect heat rate degradation due to the scrubber over time. The Company has not historically made heat rate adjustments for

efficiency improvement projects. Consequently, I recommend the Commission reject the remaining heat rate degradation adjustment, reducing NPC by $291 thousand Total Company or $120 thousand Utah.

NPC Impact Analysis

Q. HOW DID THE COMPANY QUANTIFY THE NPC RESULT IN THIS CASE?

A. Dr. Shu testified on page 3 as follows:

"The Company believes that the intent and purpose of the alternative cost recovery mechanism for major plant additions is to calculate the incremental difference caused by adding the new plant addition *between base rates from the most current general rate case*. It was not the intent of this recovery mechanism to update assumptions or forecasts." (Emphasis added)

The Company used its rebuttal GRID study from Docket 09-035-23 as the basis for determining the incremental cost impacts of the Dave Johnston 3 scrubber. Dr. Shu declined to correct a minor error in the Dave Johnston 3 capacity on the basis of the reasoning quoted above.

Q. DO YOU HAVE A SIMILAR UNDERSTANDING OF THIS CASE?

A. In general, yes. Correcting the Company's errors in the GRID model, or making new updates could complicate this process substantially, possibly creating a "do-over" scenario where parties argue about points already decided or try to uncover new errors or omissions in the Company filing.

Q. HOW DID YOU MAKE THE NPC DETERMINATION IN THIS CASE?

A. I determine the NPC impact of the plant additions as they would have been determined were they a pro-forma adjustment to the prior rate case. This should be consistent with the Commission's final order. Rather than using the Company's rebuttal GRID run for determining the NPC impact of major plant additions it would be preferable to implement all adjustments approved in the final order into the GRID model, and use that study as the basis for determining

any NPC adjustment. Because the Company's filing was made prior to the decision in Docket No. 09-035-23, the Company could not follow such a procedure. As I will explain shortly, there is always the possibility of an interaction among adjustments. This means there could be differences in the final NPC results if the rebuttal position is used as opposed to a study that implements Commission approved adjustments. To be consistent with the Commission decision in the general rate case, I implement all Commission approved adjustments in the GRID model and use it as the benchmark for this case.

Q. IS THIS APPROACH CONSISTENT WITH THE COMPANY'S POSITION AS STATED IN THE SUPPLEMENTAL TESTIMONY OF MR. MCDOUGAL?

A. Yes. Mr. McDougal testifies on page 1 of his supplemental testimony that the revisions he sponsored were to "…*comport with the final revenue requirement approved by the Commission in Docket No. 09-035-23*…" However, the Company made no such changes to the GRID study, and continues to request the amount computed based on the rebuttal GRID model run.

Q. WHAT ADJUSTMENTS DID YOU MAKE TO THE GRID MODEL?

A. Listed below are the Commission approved adjustments (and supporting party) from Docket No. 09-035-23 that I included in the compliance GRID model study:

1. SMUD Contract Price (RMP)
2. MagCorp Reserves/Kennecott Incentive Contracts (DPU)
3. Wyodak Heat Rate (DPU)
4. Lewis River Corrections (OCS)
5. OCS Wind Split (OCS)
6. High Plains and McFadden Start Dates (DPU)
7. MagCorp QF, Kennecott QF, Tesoro QF (DPU)
8. BPA Wind Integration (RMP)
9. BPA Peaking and Grant PUD (RMP)
10. Gas Plant Outage Rates (OCS)
11. Outage Schedule (DPU)
12. SMUD Contract Normalization (OCS)

13. Biomass Contract (OCS)
14. Fuel Price Forecast (DPU)
15. Daily GRID Screens (OCS)

Q. HOW DID YOU PREPARE THE COMPLIANCE GRID STUDY?

A. As part of its rebuttal filing in the prior case the Company provided a GRID run which contained the first nine adjustments listed above. As a result, all of those adjustments were based on the Company's work. The input data for the remaining adjustments came directly from the workpapers provided by the Company, OCS or DPU. The only exception to that was the final adjustment which implements the daily screen adjustment approved by the Commission. Like the Company, I implemented adjusted screens for this case.

Q. HOW DID YOU DETERMINE THE SCREENS FOR THE FINAL ADJUSTMENT?

A. The screens were based on the run which included the first 14 adjustments. I used the same spreadsheets and methodologies as I used in the OCS daily screen adjustment approved by the Commission.

Q. DID THE RESULTING GRID STUDY EXACTLY MATCH THE NPC APPROVED IN THE COMMISSION ORDER IN DOCKET 09-035-23?

A. No. The result of the compliance GRID study is $648 thousand *less* than the Commission ordered Net Power Costs. This small difference is not surprising as there is always an interaction between adjustments.

Q. PLEASE EXPLAIN WHAT YOU MEAN BY INTERACTON AMONG ADJUSTMENTS.

A. In a model like GRID, the final NPC depends on the adjustments to inputs made within the model and the effect of one input may influence the effect of another. The final NPC result may differ from the sum of the values of the individual adjustments. This can happen because adjustments to two different inputs may have complimentary or non-complimentary effects.

Q. PLEASE PROVIDE AN EXAMPLE OF THIS.

A. Assume that the Commission approved adjustments to reduce the outage rate and fuel cost for a coal plant. Reducing the outage rate would increase the generation available for sales and reducing the fuel cost would increase sales margins. If both changes are made, the overall impact is larger than the sum of the two individual adjustments because there is more energy available for sale and it has a bigger margin. These would be complimentary adjustments. If the outage rate were increased, however, then the two adjustments would be non-complimentary as the larger margins would be applied to fewer sales.

This happens to some extent with nearly all GRID inputs. As a result, the only way to determine the exact final NPC result is to run the model with each of the individual inputs applicable to the Commission approved adjustments changed.

Q. HAVE YOU IDENTIFIED THE MAJOR REASON WHY THE COMPLIANCE GRID RUN PRODUCES A LOWER NPC THAN THE COMMISSION ORDER?

A. In this particular case, re-optimizing the daily screens to reflect the approved adjustments produced a larger screening adjustment which is responsible for most of this difference. This occurred because the impact of the screens (designed to correct the unit commitment logic error) depends on the constraints on the system including the market caps. The Commission adopted the daily screens adjustment I proposed, but did not adopt the market cap adjustment. Because the screens I developed for the 2009 rate case assumed the elimination of market caps, implementing screens based only on the approved adjustments yields a different result. In effect, the elimination of the market caps resulted in less uneconomic

generation being simulated within the model. With the market caps included in the compliance study, the screens have a larger error to correct. I would note that the Company appears to agree the screens should be recomputed for this case because the Company did so in its GRID study as well.

Q. HOW DID YOU DETERMINE THE NPC IMPACT OF THE MAJOR PLANT ADDITIONS IN THIS CASE?

A. Based on Dr. Shu's testimony and the discovery OCS performed I accepted the assumption that there is no immediate NPC impact from the transmission line project. As a result, I made the 4.2 MW capacity reduction for the scrubber proposed by the Company and used the corrected heat rate inputs provided by the Company in the Revised Response to OCS 2.8. The result indicates that the NPC increase from the Dave Johnston 3 scrubber would be $975 thousand on a Total Company basis, or $400 thousand Utah. This is approximately $660 thousand less than proposed by the Company in its direct testimony and in Mr. McDougal's supplemental testimony.

Q. HAS THE COMPANY ACKNOWLEDGED ANY CORRECTIONS TO ITS NPC IN THIS DOCKET?

A. In response to various discovery requests including OCS 2.8, OCS 2.8 Revised and OCS 3.11 the Company confirmed that the heat rate inputs used for Dave Johnston 3 (with the scrubber) in its filing were incorrect and indicated it would file corrected results with its rebuttal. The Company estimates the impact of the scrubber with the corrected inputs is $1.001 million Total Company. This is quite close to the result from my compliance GRID study ($975 thousand) if the corrected heat rates are included along with the scrubber capacity reduction.

In future cases, there could be a more substantial difference between use of the final Company request (in this case the rebuttal study) and the final Commission approved study, depending on the final adjustments approved by the Commission. Rather than trying to sort out which Commission adjustments should be included, and which can be ignored, or what NPC study should be used as the benchmark, I believe the better approach is to develop a specific procedure applicable to all cases. It makes most sense for that procedure to incorporate all adjustments ordered by the Commission in the last rate case.

Q. DO YOU AGREE WITH THE COMPANY'S PROPOSAL TO REFLECT THE REMAINING CORRECTED HEAT RATE IMPACT OF THE SCRUBBER?

A. No. The Company has taken a rather inconsistent approach to modeling heat rates in this and recent cases. Normally, the Company compares the predicted design heat rate for each generator to the actual input heat rate for a four year historical period. The actual average heat rate will typically exceed the design heat rate and the Company makes an adjustment to reflect heat rate degradation as plants age. Over time this approach will reflect any heat rate changes (whether improvement or degradation) as they occur. With very few exceptions, this is the approach the Company has used for heat rate modeling for many years.

While the Company did make an upwards adjustment to the Huntington 2 heat rate in recent cases and now proposes to increase the Dave Johnston 3 heat rate in this case,[1/] it has normally ignored heat rate *improvements* resulting from capital investments. OCS 2.4 and 2.7 show that the Company included close to $20 million for heat rate improvement projects for Currant Creek, Dave Johnston,

[1/] In both instances the heat rate adjustment was due to addition of scrubbers.

Hunter and Bridger in the test years used in the 2008 and 2009 cases. However, the Company didn't include the associated heat rate improvement in GRID even though they were comparable in magnitude to the heat rate adjustment proposed by the Company in this case. Consequently, there is no basis for assuming it is accepted practice to make pro-forma adjustments for heat rate changes. Because it is inconsistent to reflect assumed heat rate degradation, while ignoring heat rate improvement I recommend the Commission reject the Company's proposed heat rate adjustment.

Q. IS THE ASSUMED HEAT RATE DEGRADATION ALSO SOMEWHAT SPECULATIVE?

A. Yes. The Company made numerous errors in this case in estimating the impact of the heat rate degradation and has changed its forecast a number of times. In its February filing, Mr. Teply testified that the addition of a scrubber to Dave Johnston 3 would result in a 138 BTU/KWH heat rate increase.[2/] However, that figure was modeled incorrectly in GRID by the Company and within the next few weeks, the Company proposed three different heat rate assumptions for the scrubber addition – 204 BTU/KWH[3/], 268 BTU/KWH[4/] and finally 219 BTU/KWH.[5/] The Company has never provided the actual basis for the original heat rate assumption. This raises doubt about the Company's ability to accurately predict heat rate changes.

Further, it is not clear that the Company has realistically considered all of the impacts of the scrubber on unit performance. The analysis performed by the

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[2/] Direct Testimony of Chad A. Teply, page 5.
[3/] OCS 2.8
[4/] OCS 5.1Confidential Attachment. The Company waived the confidential designation of the quoted figure.
[5/] OCS 2.8 1st Revised.

Company merely considers the additional power requirements of the scrubber (4.2 MW). However, Mr. Tepley testifies:

> Dave Johnston Unit 3 is currently operated with a 220 megawatt net output limit to maintain compliance with state of Wyoming sulfur dioxide (SO_2) emissions limits. The new pollution control equipment will increase the auxiliary power consumption by approximately 4.2 net megawatts. Investment in the new pollution control equipment will remove the net output constraint on the unit associated with sulfur dioxide (SO_2) emissions; however, net output of the unit will likely remain below 230 megawatts even after additional minor capital investments are made during the 2014 planned maintenance outage.[6/]

Removing the constraint could potentially increase the output of Dave Johnston 3, at least some of the time and as a result improve the heat rate. In the end, the Company's calculations seem speculative and only look at part of the problem. Because the Company's method already allows for a heat rate adjustment process to take place over time, and the Company has not reflected heat rate improvements associated with capital projects, there is little justification for the Company's remaining $292 thousand heat rate adjustment in this case.

Q. RECOMMENDATIONS?

A. I recommend that the Commission measure the NPC impact against a compliance GRID study that implements all of the Commission's approved adjustments in the previous rate case and specify that this is the procedure to be used in all major plant addition cases. I also recommend that the Commission correct the heat rate inputs and remove the heat rate adjustment as described in my testimony.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

6/ Direct Testimony of Chad A. Teply, page 2.