BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Application of PACIFICORP for Approval of an IRP Based Avoided Cost Methodology For QF Projects Larger than 1 Megawatt	))))	Docket No. 03-035-14

REBUTTAL TESTIMONY OF GREGORY N. DUVALL

September 19, 2005

Q. Are you the same Gregory N. Duvall that filed direct and rebuttal testimony in this case?

A. Yes.

Q. What is the purpose of your testimony?

A. I will respond to issues brought up by Mr. Swenson, Mr. Henrie, Dr. Collins, Mr. Hayet and Ms. Coon.

Q. Would you please summarize your testimony?

A. I will show the following:

- The DRR Method using GRID is reasonable and the assumptions are supported;
- The Partial Displacement DRR Method is a reasonable approximation of re-optimizing the IRP; and
- Issues that parties have identified with the use of GRID can be solved in a reasonable manner.

The DRR Method using GRID is Reasonable and the Assumptions are Supported

Q. What is the basis for Mr. Swenson's claim that the results of the DRR method using GRID are unreasonable?

A. He claims that the avoided costs that result from using the DRR are unreasonable because they are lower than the results of a simple proxy method during hours when the Company would not normally dispatch the proxy resource. He therefore concludes that the model is not modeling the system in a manner that replicates how the Company would actually operate the system.

Q. What is the basis of this claim?

A. It is simply his opinion and it is wrong. GRID has been designed to simulate the hourly operation of the PacifiCorp system using a linear programming engine to minimize system costs based on the loads, resources, transmission rights and market access available to the Company. It is a reasonable representation of how the Company runs its system and is surely a more accurate model than that assumed by Mr. Swenson.

Q. Does Mr. Swenson have a specific concern with the model results?

A. Yes. He doesn't think it is reasonable to turn down coal plants in the middle of the night when there is low demand for power. He also doesn't believe that market sales should be capped during these hours of low demand. He claims that the results have not and can not be explained and that PacifiCorp has not provided any specific evidence to support these results.

Q. Has the Company provided evidence to support the assumptions and explain the results of the DRR method?

A. Yes. The Company has provided a market cap study that is used as the basis of setting market caps during the graveyard period in GRID. This is the same study used for setting market caps in GRID for purposes of setting rates and is based on the Company's actual experience. The Company has also provided historical data that shows that its coal plants run less in the graveyard hours than during all other hours. I discussed this in my Rebuttal Testimony. Finally, as shown in Surrebuttal Exhibit UP&L ___ (GND-1S), generation from the Company's coal units is greater in GRID than in actual operations by about 1.3 million MWh's per year. Increasing generation from coal units in GRID, as proposed by

Mr. Swenson, would be unreasonable. While it is clear that Mr. Swenson's claim that the Company has provided no evidence is unfounded, it is also clear that Mr. Swenson has provided no evidence to support his view of how the system is operated.

Q. Is Mr. Swenson's claim that the Company is creating a "wasted value" of $1.2 billion by turning down coal plants at night reasonable?

A. No. For the reasons cited above, there is no "wasted value". In addition, the calculations made by Mr. Swenson are wildly incorrect. They overstate the backed down coal generation ten fold and fail to recognize, for avoided cost purposes, the GRID results for both the base case and the second run would need to contain this adjustment. He fails to account for changes in the base case in his calculation.

Re-optimizing the IRP for the QF addition

Q. Mr. Swenson, Mr. Henrie and Dr. Collins all indicate that the preferred method for calculating avoided costs is to add the QF and then re-optimize the IRP. Please comment.

A. This seems to be the preferred theory by many parties, but it is impractical. Although the DRR Method is criticized because it does not accomplish this goal it does a better job than a simple proxy method. The Partial Displacement DRR Method, outlined in my Rebuttal Testimony, is intended to make the fewest disruptions to the IRP expansion plan. The various forms of simple proxy method don't even attempt to address this issue.

Q. In addition, would you comment on Dr. Collins erroneous attribution of a statement to PacifiCorp regarding optimatization?

A. Dr. Collins erroneously states the Company agreed that the avoided cost that would result from a re-optimization study would be equal to the cost of the QF resource. This is not what the Company said. In fact, what the Company said was that the differential between a DRR run with a wind plant with all costs and a DRR run with the same wind plant with no costs would be exactly equal to the costs of the wind plant removed from the second run.

Based on misunderstanding of the Company's statement, Dr. Collins concludes that the re-optimization, DRR and simple proxy method all produce the same avoided cost, and given the principle of Ockham's Razor, the simplest method should be used. This leads to his ill-founded recommendation to use a simple proxy method for wind. The Company believes that results from such a re-optimization study would not approximate the proxy method across all hours.

Q. How does Mr. Swenson address this issue?

A. He suggests replacing the 2012 coal plant in the preferred portfolio with a CCCT. This is apparently suggested by Mr. Swenson to adjust for the 100 percent capacity factor, 525 MW no-cost QF that was originally proposed in my Direct Testimony. Since the 100 percent capacity factor QF is not used in the Partial Displacement DRR Method, this adjustment is no longer supported by Mr. Swenson's stated reasoning and certainly not warranted.

Q. How does Mr. Henrie address this issue?

A. He simply says the DRR Method fails to optimize the QF portfolio. He categorizes this as an unreasonable and unsupported assumption, but does not offer any solution. In fact, his testimony revisits several issues that were addressed in the direct testimony of other witnesses with a recommendation to do nothing except to have parties continue to address these issues in the future.

Q. Do the DRR Method and the simple proxy method result in the same avoided cost for wind?

A. No. Using a simple proxy method for wind has the same limitations as using a simple proxy method for any other QF resource. The DRR method will reflect how the system is operated, while the simple proxy method will not.

Issues with GRID

Q. Mr. Henrie explains that GRID is not the answer if the Commission wants an avoided cost model that is simple, transparent and understandable. What are your views on using GRID?

A. First, GRID is not simple, and appropriately so because the operation of PacifiCorp's system is not simple. GRID matches the Company's system operations much better than a simple proxy method. Second, the Company has made every effort to make GRID transparent and understandable. Parties to this case have been provided with GRID computers with comprehensive documentation on how to use GRID and how the algorithms work. Training and support have also been made available by the Company. What is most illuminating about Mr. Henrie's observations is what is not said. He does not say that GRID is not accurate.

Q. Mr. Henrie identifies six of what he calls "unreasonable and unsupported" assumptions with GRID. Please comment on these issues.

A. The first three issues are the use of non-firm transmission, market caps and re-optimization of the IRP. These have already been discussed. The fourth issue is the unknown implications of a zero-cost resource. This is no longer relevant under the Partial Displacement DRR Method. The fifth issue is that he believes that validation of the GRID model is incomplete. He offers no suggestions as to what needs to be done to reach completion, other than continue studying. His final issue is that he has found a function in GRID that he has not tested, and absent testing, he is uncertain how the calculation of avoided costs might be affected. The Company has no control over what Mr. Henrie tests or doesn't test.

Q. Does Mr. Henrie offer any evidence to support his issues?

A. No, he only asserts his opinion with no support. For example, he says "I understand that non-firm transmission is often available" and by not including non-firm transmission in GRID it "reduces the avoided cost pricing produced by GRID in an unreasonable and unsupportable manner". He produces no studies to support this claim. With regard to market liquidity, he says "we are not persuaded that the information provided by PacifiCorp to date supports GRID's market liquidity restrictions." Yet, this is the same information that has persuaded parties to utilize market caps for setting rates. In this case, he suggests that the Company has not done enough, but doesn't offer any suggestions on what additional evidence would persuade him nor does he offer any evidence to refute the evidence provided by the Company.

Q. Mr. Hayet recommends changes that would result in all CCCT units having similar data assumptions and also including wind resources in the base case. Do you agree with these recommendations?

A. Yes.

Q. Ms. Coon notes that the Division has had some storage problems with the GRID model and would like the Company to explain how it intends to solve this problem. Please comment.

A. PacifiCorp understands that insufficient storage has been an issue with the GRID models provided to the parties in this proceeding. PacifiCorp is currently working on storage solutions and will correct this problem. I will have more information on the correction by the time of the hearing.

Q. Does this conclude your rebuttal testimony?

A. Yes.