

**Comments of Merrimack Energy as Utah Independent Evaluator  
Regarding the Methodology for Portfolio/Resource Selection  
December 29, 2008**

**Background**

In the Commission's Suggested Modifications and Order in Docket NO. 07-035-94, issued on May 23, 2008, the Public Service Commission of Utah directed the Company, IE, and interested parties to meet to address modeling and evaluation methods associated with the solicitation process to see if there is a way of designing a mechanism that would allow portfolios to be put on an equal footing. The Commission directed the Company, IE, and interested parties participating in this effort to also review the method the Company uses to select the resources in the highest performing portfolios that it will include in the final shortlist. The Commission stated in the Order:

Since the metrics for determining top performing portfolios are solely based on the performance of a group of resources in a portfolio rather than the performance of an individual resource within the portfolio, we question the reasonableness of the Company's proposal for selection of final shortlist resources. If all resources in the top performing portfolios were to advance to the final shortlist, then there would be no issue. However, the Company states it selects for the final shortlist "resources most commonly included in the highest performing portfolios." We do not at this time understand how frequency of occurrence of an individual resource relates to the performance characteristics of an entire portfolio and therefore can be singled out as a least cost, risk-adjusted, resource. Therefore, we direct this workgroup to review, and make recommendations regarding the Company's criteria for selecting the resources from the highest performing portfolios that will advance to the final shortlist. We direct the Company, prior to bid evaluation, to report to the Commission on these two issues, i.e. a method(s) for comparison of alternative portfolios and criteria for the selection of resources in top performing portfolios for inclusion in the final shortlist.

PacifiCorp Energy convened a workshop on December 11, 2008 to review and make recommendations regarding:

1. The mechanism to be used to compare alternative portfolios; and
2. The criteria to be used for selecting final short list resources from the highest performing portfolios.

The Company provided a document for discussion which described Steps 2 and 3 of the bid evaluation process, which would be applied after establishment of the initial shortlist of bidders (Step 1). These modeling steps are:

- Step 2 – Portfolio Development/Optimization
- Step 3 – Risk Analysis
  - Step 3a: Stochastic Analysis

### Step 3b: Deterministic Scenario Analysis.

Several of comments during the workshop focused on the selection of individual proposals based on frequency of occurrence in different portfolios rather than on the selection of specific portfolios. An example of the comments from interested parties included:

1. PacifiCorp's approach effectively gives equal weight to all scenarios. What is the basis for using equal weights? Why do equal weights make sense? Should scenarios be weighted differently based on probability of occurrence? PacifiCorp should justify the basis for equal weights.
2. It is not clear if PacifiCorp's approach will lead to the selection of the least cost adjusted for risk resources. Do resources which have the greatest frequency of occurrence in different portfolios necessarily meet this objective? PacifiCorp needs to demonstrate this is the case.
3. What does "best performing" portfolios really mean?
4. Is the existing process designed to select the most robust resources or the most robust portfolios?

### **Comments on the Bid Evaluation Process**

One of the primary tasks of the Independent Evaluator is to review and assess PacifiCorp's solicitation process to assure it will most likely result in the acquisition, production, and delivery of electricity at the lowest reasonable cost to PacifiCorp's retail customers taking into account risk, reliability and the financial impacts on PacifiCorp. PacifiCorp's bid evaluation and selection process is intended to select those resources that meet the above requirements.

In Merrimack Energy's view, the experiences associated with the Step 2 and Step 3 processes from the 2012 RFP highlighted the uncertainty associated with the use of the output information from Step 2 and Step 3 in selecting preferred resources and the lack of specific criteria for selecting a portfolio of resources. In that process, PacifiCorp selected bids for the conditional short list based primarily on the frequency of occurrence of the three resources selected in a number of portfolios, rather than a specific portfolio of resources that performed best in a range of scenarios.

During the conference call with interested parties on December 11, 2008, several participants raised the concern shared by Merrimack Energy that the detailed evaluation and selection process may not be designed to select the optimal portfolio or best portfolio of resources but rather bids that are frequently included in a range of portfolios. This approach could serve to limit the value of resource diversity and may not result in the selection of resources that perform well in a portfolio with other different types of resources (e.g. combination of gas-fired resources with a more volatile pricing pattern

and coal or renewable resources with a more stable pricing pattern). Furthermore, these resources may also not be the least cost adjusted for risk resources.

While we believe the three resources selected for the conditional short list in the 2012 RFP were the appropriate resources given the policy of PacifiCorp regarding rejection of coal options, we were concerned that the approach could lead to a higher cost solution in another competitive solicitation process. We also believe that the methodology used by PacifiCorp overall is a very sophisticated and detailed methodology and exceeds industry standards for portfolio evaluation. Merrimack Energy also wishes to note that we have no problems with the Step 2 Portfolio Development/Optimization process. Our concern is largely with Step 3 of the process.

An example of our concerns can be highlighted based on the results from Step 3 of the 2012 RFP process. While it was clear that the three selected resources were present in most of the Resource Sets evaluated in Step 3a, the top ranked portfolio in all four Cases (i.e. Low CO<sub>2</sub> cost, Medium CO<sub>2</sub> cost, High CO<sub>2</sub> cost, and High+ CO<sub>2</sub> cost cases), based on Risk-adjusted PVRR included these three bids plus IPP3.<sup>1</sup> Another portfolio with the same three gas-fired resources and another coal resource was ranked 2<sup>nd</sup> in both the low and medium CO<sub>2</sub> cases, and 4<sup>th</sup> in the high and high+ CO<sub>2</sub> case. A third example is a portfolio with four gas-fired resources, including the same three resources noted above. This portfolio was ranked 6<sup>th</sup> in the low CO<sub>2</sub> case, 5<sup>th</sup> in the medium CO<sub>2</sub> case, and 2<sup>nd</sup> in the high and high+ CO<sub>2</sub> cases. It is also interesting to note that a portfolio of the three short listed resources only was never considered as a portfolio option because all the portfolios evaluated generally contained between 1,600 MW and 2,000 MW of capacity.<sup>2</sup> Thus, the three selected resources were selected only because they appeared in a large number of the higher ranking portfolios. However, it was not demonstrated that these three proposals, in and of themselves or in combination with front office transactions, actually represented the least cost adjusted for risk portfolio. The concern of Merrimack Energy is that if a similar circumstance occurs for the 2008 All Source RFP, there are no established criteria for making an informed decision about portfolio choice.

The issue discussed above is also applicable for the Step 3b CEM Deterministic Scenario results process. In the 2012 RFP process, PacifiCorp combined the three resources which occurred in most portfolios with one additional resource (bottom tier bids) to form 3 separate portfolios. These three portfolios were then evaluated for a number of cases that included different CO<sub>2</sub>, natural gas, and coal price scenarios. Again, no meaningful pattern emerged regarding a portfolio that performed best under a range of scenarios and there were no criteria for distinguishing between portfolios.

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<sup>1</sup> Since PacifiCorp decided to withdraw the IPP3 benchmark from the process for several reasons, this portfolio was not under consideration but is presented for illustration only.

<sup>2</sup> A portfolio containing only the three short listed projects totaled about 1,300 MW. Presumably, PacifiCorp could have evaluated this portfolio with the inclusion of Front Office Transaction to account for the difference in capacity requirements.

Since the three selected resources were dominant and PacifiCorp decided not to pursue coal resources, the Company, with the concurrence of the IEs, selected the three resources that met the frequency or robustness principle.

As noted, while we agreed with the selection of the three short listed resources, we did have concerns about this methodology and the ability of the evaluation and selection process to select the lowest cost adjusted for risk portfolio for future RFPs. Several of the questions we feel need to be addressed include:

1. Should this evaluation process be designed to select a portfolio of resources as opposed to individual resources?
2. Will a process designed to select individual resources fail to achieve the benefits inherent in a portfolio, such as fuel diversity, price diversity, etc.?
3. What is the appropriate methodology or criteria for portfolio selection?
4. Is Risk Adjusted PVRR the preferred risk metric?
5. How should the results derived from the Step 3b process be combined with the results from the Step 3a process to select the preferred portfolio?
6. What does it mean by the term “best performing portfolio”?

### **Options/Recommendations**

One of our original concerns was that the size of the individual portfolios differed based on the capacity and associated energy from the resources included in each portfolio. However, PacifiCorp affirmed during discussions at the December 11, 2008 workshop that all portfolios are balanced through the use of Front Office Transactions. By this, we assume PacifiCorp means that any excess capacity and/or energy are sold into the market and any capacity/energy shortages are acquired from the market to balance resource requirements with load for all portfolios evaluated. We would request that PacifiCorp affirm this conclusion.

One mechanism used by other utilities is to establish weights or probabilities for each scenario. PacifiCorp inherently has assumed equal weight for each scenario. Is that reasonable or does PacifiCorp believe that different scenarios have different probabilities of occurrence? While we are not necessarily advocating establishing different weights or probabilities, this is certainly one approach that should be considered and evaluated. We would request that PacifiCorp address the weighting issue for each portfolio, even if the decision is to maintain equal weights or probability of occurrence for each Case/Scenario.

Merrimack Energy does believe that PacifiCorp should develop criteria for selecting the preferred portfolios based on a range of cases/scenarios.<sup>3</sup> One option would be to sum the ranking of all the portfolios for all cases and select the portfolio that has the lowest sum. For example, a portfolio that ranks 2<sup>nd</sup> in all four scenarios or cases would have a score of 8. If another portfolio ranks 1<sup>st</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup>, it would have a score of 13. All portfolios evaluated could be ranked accordingly.

An option we would prefer is to select only those portfolios that are in the top quartile in all cases/scenarios. Each portfolio that meets this criterion will be an eligible portfolio for selection. If multiple portfolios are included in the top quartile, the eligible portfolios would be rated based on their rankings in all cases/scenarios, as described above. If no portfolio is in the top quartile, then the next selection criteria would be the top one-third of the portfolios. Only those portfolios that are consistent performers among the top ranked portfolios would be eligible for consideration. This mechanism could be applied to both Step 3a and 3b. We would recommend selecting individual, robust resources only if there are no consistently performing portfolios (i.e. the best ranked portfolios are not in the top quartile or top one-third of the portfolios under all cases/scenarios).

The issue we had with the use of the risk metric was that the risk metric selected by PacifiCorp (i.e. Risk Adjusted PVRR) was changed from the time of issuance of the RFP to the evaluation of bids. We would recommend that the risk metric should be established and maintained throughout the evaluation process, unless interested parties and bidders are notified of such a change. With regard to the use of risk-adjusted PVRR, we feel this is a reasonable risk metric. We are not aware of any industry standard metrics used by other utilities for planning purposes. However, we would recommend that PacifiCorp develop a brief white paper providing a list of risk metric options considered and outline the basis for selecting risk adjusted PVRR and rejecting others. In other words, PacifiCorp should clearly define why it believes the Risk Adjusted PVRR is the preferred risk measure for this evaluation.

Finally, we also believe PacifiCorp should maintain a viable back-up list of bids in case bids selected for the top ranked portfolio fail or are eliminated if they do not meet conditions required for inclusion. During the short list selection stage we would recommend that PacifiCorp inform bidders on the back-up list of their status and ask the bidder if it wishes to remain on the back-up list. This approach is used by a number of utilities who do maintain a back-up list of resources to ensure the process remains a competitive process.

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<sup>3</sup> We have defined a case/scenario to be the three or four CO2 cases used by PacifiCorp in the Step 3a process.