

## MEMORANDUM

To: Public Service Commission of Utah

From: Western Resource Advocates  
John Nielsen, Energy Program Director  
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Utah Clean Energy  
Sarah Wright, Executive Director

Date: December 3, 2009

Subject: Comments of Western Resource Advocates and Utah Clean Energy regarding Rocky Mountain Power's Bid Evaluation Process; Docket No. 07-035-94

Western Resource Advocates (WRA) and Utah Clean Energy (UCE) appreciate the opportunity to comment on the bid evaluation process for the resumed All-Source RFP. Resource decisions made today will continue to affect Utah customers and this planet's water, air, and climate for years to come.

The evaluation process and economic modeling as proposed do not appear to lead to a least-cost, risk-adjusted outcome for the reasons outlined below.

First, WRA and UCE question the need to screen bids based on price factors in addition to the non-price factors in Step 1. Presumably, the purpose of the economic modeling in Steps 2 and 3 is to assess the price characteristics of the bid and benchmark resources in combination with PacifiCorp's existing system and other bid and benchmark resources. While using a price screen appears reasonable to solicit a particular resource type for service in an identified year, its applicability to an All-Source RFP appears limited. An all-source solicitation may attract a range of technologies (including geothermal and concentrating solar power with thermal storage, both of which are dispatchable resources as required by this RFP), and the use of a price screen prior to economic evaluation could prescreen dispatchable renewable technologies that mitigate the risks of high and volatile market and natural gas prices and compliance with potential environmental regulation of carbon dioxide and might otherwise be chosen. If these resources would be selected in Step 2, their risk mitigating benefits assessed and their respective portfolio chosen in Step 3, then prescreening will not result in a least-cost, least-risk adjusted outcome and will not be in the public interest. This shortcoming requires redress either by eliminating the price evaluation component of Step-1 or by automatically advancing resources with no fuel expense to Step 2.

Second, use of the Company's 2008 preferred portfolio as the starting point will likely result in a suboptimal resource selection. The document titled "Final Short List Development for the All Source Request for Proposals" dated November 16, 2009 indicates that "the starting point for System Optimizer portfolio development is the set of preferred

resources and input assumptions from PacifiCorp's 2009 business plan and the 2008 IRP." It further states that "[t]he preferred portfolio resources ... will be removed as resource options in order to create a capacity deficit that the model must fill with combinations of bid and benchmark resources."

The set of preferred resources identified by PacifiCorp as the starting point for the economic modeling in Steps 2 and 3, is not the least-cost, least-risk set identified by PacifiCorp's IRP modeling in the 2008 IRP. (See Attachment. Also see WRA/UCE comments submitted June 18 in docket no. 09-2035-01.) Significantly it has fewer renewables and less distributed generation than Portfolio 8.<sup>1</sup> Since the removed resources determine the resource need that System Optimizer will attempt to fill, over acquiring fossil-fuel resources at the expense of DSM and renewable resources is likely.<sup>2</sup>

Finally, PacifiCorp has not resolved the economic modeling issues the Public Service Commission of Utah (Commission) identified in its May 23, 2008 Suggested Modifications and Order.

In the May 23, 2008 Order, the Commission stated:

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 with 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 include 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.

The current proposal continues to use the same frequency counting, both implicitly and explicitly, to determine the most "robust resources".<sup>3</sup> We believe the better approach is to use the portfolio of resources identified either by the Risk-Adjusted PVRR or by the Scenario Risk assessment (Step 3b) as directed by the Commission in its last IRP Order.

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<sup>1</sup> Over the 2012 to 2016 time period covered by this RFP, PacifiCorp's preferred portfolio adds 450 MW of wind; Portfolio 8 adds 1,993 MW. PacifiCorp's preferred portfolio adds 49 MW of distributed generation, while Portfolio 8 adds 72.

<sup>2</sup> This assumes that the renewable resources identified as part of the preferred portfolio are not removed. If they too are removed and the restriction against intermittent resources is retained, then the result will assuredly be suboptimal.

<sup>3</sup> In the May 23 Order in this docket, the Commission directed that a workgroup be established to review and develop a recommendation. Two technical conferences were held nearly a year apart. It is unclear whether these technical conferences met the Commission's expectations.

## Attachment and Exhibit

Table 1 on the next page provides performance metrics for four portfolios developed in the IRP 2008 process.

Portfolio 8 and 5 were developed in the original modeling. The Company identified Portfolio 5 as its preferred portfolio.<sup>4</sup> Public participants developed a weighted metric that identified Portfolio 8 as the optimal portfolio. As compared with Portfolio 5, Portfolio 8 has twice the amount of wind, more geothermal, more distributed generation, and more DSM—all risk mitigating resources. Portfolio 5 includes more front office transactions and more gas-fired generation—resources with substantial price risk.

In February 2009, the Company terminated its construction contract for a Lake Side II CCCT resource, which had been treated as an existing resource in all modeling runs. It also modified its transmission and market depth assumptions and created new portfolios out of its top performers.

The Company created two new Portfolio 5s, one with a dry-cooled CCCT and one with a wet-cooled CCCT. Table 1 on the next page displays results for the wet-cooled option only because the Company identified it as its preferred option. Portfolio 5-W includes less DSM and less distributed generation than Portfolio 5 and does not perform as well.

As compared with Portfolio 8, Portfolio 8B is missing a CCCT, has an additional natural gas peaking unit, less wind, more front office transactions, but slightly more DSM and distributed generation. As one can see in Table 1, Portfolio 8B did not perform as well as Portfolio 8.

In Table 1, portfolios are displayed across the top and performance metrics down the left-hand column. Metrics are displayed for \$0/ton, \$45/ton, and \$100/ton. Average Scenario Risk metrics and reliability metrics are displayed at the bottom of the table. Lowest values for each metric are considered best and are indicated by a box.

At \$0/ton, Portfolios 5 and 8 each perform best on 4 metrics. However Portfolio 8 performs best on the risk metrics: Risk Adjusted PVRR, Upper Tail Risk, Production Cost Standard Deviation, Net Power Cost, and CO2 emissions.

At \$45/ton and \$100/ton, Portfolio 8 is clearly superior. Portfolio 8 also performs better than the Portfolio 5 series in Scenario risk and Energy Not Served. Portfolio 5 performs best for Loss of Load Probability.

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<sup>4</sup> On page 234 of Volume 1 of the 2008 IRP, the report states: “the Company would have chosen the case 5 portfolio as the basis for its preferred portfolio.”

**Table 1**

**Comparison of Performance Metrics Provided in IRP 2008**

Metrics not found in IRP Volumes 1 or 2 are left blank  
Boxes reflect the lowest value for the results available for each metric

**CO2 TAX LEVEL (\$0/TON)**

<b>Metric</b>	<u>Portfolio 8</u>	<u>Portfolio 8b</u>	<u>Portfolio 5</u>	<u>Portfolio 5-W</u>
Expected Cost (Million\$)	23,092	23,402	22,417	22,457
Risk Adjusted PVRR (Million\$)	24,942		24,365	
Upper Tail mean (Million \$)	49,843	50,203	53,047	52,874
Production Cost Standard Deviation (M\$)	8,083	8,267	9,067	9,103
Net Power Cost (Billion \$)	16.80		18.30	
Capital Cost (Billion\$)	6.30		4.10	
Customer Rate Impact (\$/MWh)	3.08	3.19	2.95	3.05
CO2 Emissions (1000 short tons)	1,020,539		1,036,052	

**CO2 TAX LEVEL (\$45/TON)**

<b>Metric</b>	<u>Portfolio 8</u>	<u>Portfolio 8b</u>	<u>Portfolio 5</u>	<u>Portfolio 5-W</u>
Expected Cost (Million\$)	39,244	39,315	39,289	39,369
Risk Adjusted PVRR (Million\$)	42,138		42,270	
Upper Tail mean (Million \$)	70,581	70,946	74,487	74,029
Production Cost Standard Deviation (M\$)	10,534	10,593	11,549	11,433
Net Power Cost (Billion \$)	33.00		35.20	
Capital Cost (Billion\$)	6.30		4.10	
Customer Rate Impact (\$/MWh)	6.19	6.31	6.11	6.20
CO2 Emissions (1000 short tons)	818,050		841,758	

**CO2 TAX LEVEL (\$100/TON)**

<b>Metric</b>	<u>Portfolio 8</u>	<u>Portfolio 8b</u>	<u>Portfolio 5</u>	<u>Portfolio 5-W</u>
Expected Cost (Million\$)	57,311	58,751	58,700	58,664
Risk Adjusted PVRR (Million\$)	61,628		63,154	
Upper Tail mean (Million \$)	101,048	101,179	106,969	106,144
Production Cost Standard Deviation (M\$)	16,156	16,038	17,422	17,142
Net Power Cost (Billion \$)	51.00		54.60	
Capital Cost (Billion\$)	6.30		4.10	
Customer Rate Impact (\$/MWh)	9.48	9.62	9.54	9.62
CO2 Emissions (1000 short tons)	746,063		772,358	

**Averages**

Scenario Risk: PVRR (Million \$)	42,133		42,990	
Scenario Risk:PVRR Standard Deviation	15,278		15,968	
Energy Not Served (Avg Annual GWh)	143.00	154.50	145.00	152.40
Probability of ENS event	19%	18%	17%	18%