

Rocky Mountain Power Exhibit RMP___(CAT-3R) Page 1 of 8 Docket No. 200004314-ER-10 Witness: Chad A. Teply

CAI Capital Projects Study

PacifiCorp's 10-year plan includes multiple comprehensive air initiative (CAI) projects for the coal generation fleet. This analysis addresses, on a macro basis, whether continued unit operations of the company's coal plants through the regulatory depreciation life, produces enough net value to pay for the proposed CAI capital. The present value evaluation takes a merchant plant analysis approach in that each unit's revenue requirement cost is netted against the value of the unit's generation as measured by the forward price curve at projected CO2 price levels. The results of the analyses indicate that at the \$8 per ton CO2 price level assumption basis for PacifiCorp's 2009 10-year business plan, all the coal units will be above breakeven in terms of present value revenue requirement differential (PVRR(d)).

The PVRR(d) comparison of continued unit operations with CAI capital versus market value of generation is shown in the attached charts.

Study Approach

The study represents a macro effort to analyze the economics of PacifiCorp's coal fleet with respect to PacifiCorp's plan for CAI capital projects.

The analysis calculates the cumulative incremental PVRR(d) benefit or (detriment) of operating each unit from 1/1/2009 through each successive year through its regulated depreciation life. The PVRR is derived by subtracting the operating and capital revenue requirements from the market value of generation, assuming that the unit end of life is extended in one year increments. The \$8 CO2 scenario utilizes the 2009 10-year plan capacity factors.

The PVRR(d) is calculated by subtracting fuel, O&M, environmental emissions cost, and on-going and CAI capital revenue requirement cost from revenue similar to a merchant plant valuation. The revenue is derived using forward price curves from Structure and Pricing's model runs at the \$8 CO2 price scenario.

Sierra Club/Exhibit 6

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Key Assumptions

Pricing

- 1. Forward flat price curves for the \$8/ton CO2 price scenario, as of 12/31/2008, were provided through the end of the study period.
- 2. Fuel pricing was provided through 2018 from the 2009 10-year plan; prices were escalated at the corporate escalation rate thereafter.
- 3. Forward price curves do not include the market effects of plant closure(s).

Revenues

- 1. The analysis period for calculating capital payback is assumed to begin in 2009.
- 2. Dispatch is based on annual capacity factors derived from the approved 2009 10-year plan capacity factors.
- 3. Potential extrinsic optionality value in dispatch is not included.

Capital / O&M

- 1. CAI capital dollars are taken from the approved 2009 10-year plan.
- 2. The 10-year plan contains multiple CAI projects that go into service in different years.
- 3. Existing capital is considered a "sunk cost" and is not included.
- 4. On-going capital and O&M costs from the 10-year plan have been included. Capital and O&M beyond the 10-year plan are based on the company's Strategic Asset Plan.
- Plant/Unit decommissioning costs of \$40 per installed kW (corporate assumption, 2009 dollars) are included in the year of closure, adjusted at corporate escalation rates.

Other

- 1. The capacity factors for the \$8 CO2 scenario are from the 10-year plan GRID run.
- 2. Discount rate is 7.1%.
- 3. Analysis life is assumed to be from 2009 through the Utah Commission stipulated book depreciation lives.
- 4. Full regulatory recovery of all existing and future costs is assumed.
- 5. SO2 allowance costs are included based upon corporate emission forward price forecasts.

2012

2011

2011

2014

2011

2027

2026

2024

2026

Significant CAI Capital Included

Table 1: Major pollution control equipment costs by year for PacifiCorp owned coal-fueled					
units included in economic analyses.					
Pollutant/Equipment	SOx		PM	NOx	
Unit	Phase 1 ¹	Phase 2 ²	Baghouse ³	LNB	SCR^4
Hunter 1	2010		2010	2010	2022
Hunter 2	2011		2011	2011	2023
Hunter 3					2016
Huntington 1	2010		2010	2010	2022
Jim Bridger 1	2010	2030		2010	2022
Jim Bridger 2	2009	2029			2021
Jim Bridger 3	2011	2027			2015
Jim Bridger 4	2008	2028		2012	2016

Notes

Naughton 1

Naughton 2

Naughton 3

Wyodak

1 Phase 1 implies baseline scrubber upgrades across the fleet.

2012

2011

2014

2011

- 2 Phase 2 implies new technology and/or equipment installation to achieve 95% sulfur dioxide removal rate on the Jim Bridger units.
- 3 Baghouse and scrubber installations also reduce mercury emissions and support anticipated HAPs MACT compliance as a co-benefit.
- 4 The company has included these SCRs in the economic analyses to add conservatism to the PVRR(d) results presented. The SCRs at Jim Bridger and Naughton are required; however, no company commitments or agency actions have been taken that require installation of the other SCRs listed.









