To: PacifiCorp 2011 Integrated Resource Plan Team
From: Sierra Club
Date: March 24, 2011
Re: **Comments on Draft 2011 Integrated Resource Plan**

The Sierra Club respectfully submits comments based on the Draft 2011 Integrated Resource Plan, released March 7, 2011. As with our previous letters, these comments were prepared with the expert assistance of Synapse Energy Economics. Due to a compressed comment period, the comments here focus on one key provision, the incorrectly modeled "coal utilization" sensitivities, and resulting ratepayer exposure to inappropriate costs.

The Company should completely model coal plant utilization options, including retirement, for the purposes of determining a least cost solution for ratepayers. The determination of the most economically efficient choice requires a comprehensive and detailed assessment of the costs associated with a variety of options; limiting the scope of these options imposes a bias on the results, and may result in an unfair burden on consumers.

In the IRP, PacifiCorp has chosen to model a limited number of "coal plant utilization" sensitivities, which "are not intended to draw conclusions on the disposition of individual generating units or desirability of specific strategies to respond to future regulatory developments." (p151). By restricting the analysis from looking at economically favorable results, the Company unfairly and inappropriately skews the results of this IRP.

Further, in the limited cases in which existing coal plant utilization is examined, the company severely biases results by (a) failing to allow *any* environmental upgrade costs to be avoidable through coal plant retirement and (b) failing to take into account all reasonably expected environmental control costs.

To capture the avoided costs associated with environmental compliance upgrades, the Company should, in a modeling framework which includes sensitivities on natural gas and greenhouse gas prices:

1. Show all expected environmental compliance costs over the course of a reasonable analysis period (2011 – 2030);

2. Allow units to be retired or replaced as an environmental compliance mechanism, and evaluate the relative costs of these plans;

3. Allow all cost-effective resources, including efficiency, renewable energy, and gas resources to be utilized as "replacement" technologies for retiring units;

4. Evaluate costs to ratepayers and the company with and without full cost recovery for remaining plant balances on retiring units;

5. Remove contrived penalties associated with "coal contract liquidated damages".

The following points illustrate the significant shortcomings of the modeling exercise.

a) The IRP omits relevant information regarding the "incremental" environmental control costs for existing coal units that are considered in the model. Information on the estimated required environmental controls and the costs of these controls are important assumptions and factors underlying the model. The Company has steadfastly refused to discuss the exact EPA, state, and regional rules which it believes will impact its existing fleet, noting only the regulations which could be applicable, but not which ones are assumed to apply. During a stakeholder conference (March 22, 2010), requests for this information were turned down on the basis of confidentiality; however, the Company confirmed that the assumptions in the model were consistent with a November 2010 document entitled "PacifiCorp Emissions Reductions Plan", filed as a Technical Support Document (TSD) for the Wyoming Regional Haze 309(g) State Implementation Plan (SIP, January 7, 2011). [1] The reduction plan **estimates $4.2 billion in capital and operational expenses required to comply *only* with BART rules.** The plan states:

> "It is anticipated that the total costs for all projects that have been committed to will exceed $2.7 billion by the end of 2022. The total costs (which include capital, O&M and other costs) that will have been incurred by customers to pay for these pollution control projects during the period 2005 through 2023, are expected to exceed $4.2 billion, and by 2023 the annual costs to customers for these projects will have reached $360 million per year." - Reduction Plan, p1.

The Reduction Plan further notes that "…the rate increases for PacifiCorp customers associated with PacifiCorp's emission reduction strategy alone will be significant."

b) PacifiCorp has not estimated the costs of compliance with mercury or HAP MACT provisions. The Draft IRP states that:

> "The Company does, however, anticipate that additional state and federal environmental laws and regulations will necessitate further investment in pollution control and environmental compliance projects, as well as further evaluation of unit specific operational/dispatch impacts, especially with respect to pending greenhouse gas regulations and hazardous air pollutants maximum achievable control technology (HAPs MACT) requirements."

However, assuming that the modeling assumptions are consistent with the Reduction Plan, we can surmise that the model does not include mercury emissions and hazardous air pollutants (HAP) provisions under EPA's 2011 proposed Maximum Achievable Control Technologies (MACT) ruling. In the Reduction Plan, the Company notes that

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[1] Exhibit A – PacifiCorp's Emissions Reduction Plan. November, 2, 2010. Available online at http://deq.state.wy.us/aqd/308%20SIP/PacifiCorp%20Emissions%20Reductions%20Plan_11-2-10_Chap.%206.pdf

> "These cost increases do not include other costs expected to be incurred in the future to meet further emission reduction measures or address other environmental initiatives, including but not limited to: … 2. The addition of mercury control equipment under the requirements of the upcoming mercury MACT provisions." - Reduction Plan, p7.

Potential additional capital and operating expenditures to comply with these provisions could include new fabric filter baghouses, activated carbon injection (ACI), and selective catalytic reduction (SCR) for MACT compliance.

c) PacifiCorp has not estimated the costs of compliance with expected EPA rules on CCR. Both the Draft IRP and Reduction Plan do not estimate the anticipated costs of compliance with expected an EPA ruling on the proper disposal and management of coal combustion residuals (CCR) under the Resource Conservation and Recovery Act (RCRA). The Draft IRP states that:

> "Costs that have not been incorporated include potential plant regulatory compliance costs associated with the EPA's proposed rules for coal combustion residuals (CCR) and cooling water intake structures…"

The Reduction Plan notes that:

> "These cost increases do not include… 5. Regulations associated with coal combustion byproducts… It is anticipated that <u>the requirements under the final rule will impose significant costs</u> on PacifiCorp's coal-fueled facilities within the next eight to ten years." - Reduction Plan, p7.

d) PacifiCorp has not estimated the costs of compliance with expected EPA rules on cooling water intake structures. As stated above, the Draft IRP (and Reduction Plan) specifically excludes the anticipated costs of compliance with an expected EPA ruling on the use of cooling water intake structures (particularly once-through cooling) under the Clean Water Act (CWA) §316(b). The Company bears significant risk of compliance obligations at the once-through cooled Dave Johnson plant in Wyoming, as well as the open-water cooling pond structure at Cholla, in Arizona.

e) PacifiCorp has failed to appropriately estimate the costs and benefits of using coal plant retirement as an environmental compliance mechanism. A rational, forward-looking planning exercise, such as an IRP, should logically consider environmental compliance costs as part of the decision of if a plant should continue operations. The company, however, creates a model structure in which environmental <u>compliance costs cannot be avoided</u> through the retirement of coal units.

1. The Company has confirmed (in a March 22, 2011 stakeholder call) that the costs associated with these utilization runs are those set forth in the 2010 Reduction Plan. In keeping with EPA compliance deadlines, these costs are almost exclusively incurred prior to the year 2016 (see Reduction Plan, p5; Capital Expenditures graphic)

2. The model used by PacifiCorp specifically prohibits the retirement of any coal unit prior to the year 2016.[2]

3. The company has confirmed, in the same stakeholder call, that the environmental retrofit costs are unavoidable, i.e. that ratepayers will be compelled to pay for the retrofits regardless of if a lower cost plan would have retired the plant.

We conclude that PacifiCorp has excluded important potential least-cost plans, thereby dramatically increasing ratepayer exposure to regulatory risk, by failing to appropriately model both the existing fleet in addition to new fleet capacity additions.

[2] 2011 Draft IRP. p152. "System Optimizer is allowed to select the gas plant betterment option for any year after 2016."