BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

UM 1208

In the Matter of)
PACIFICORP,)
Draft 2009 Request for Proposals pursuant to Order No. 91-1383.))))

REPLY COMMENTS OF THE
CITIZENS' UTILITY BOARD OF OREGON
ECUMENICAL MINISTRIES OF OREGON
NW ENERGY COALITION
OREGON STATE PUBLIC INTEREST RESEARCH GROUP

&

RENEWABLE NORTHWEST PROJECT

November 9, 2006

BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

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)	NWEC & RNP
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I. Introduction

The Joint Parties (The Citizens' Utility Board, the Ecumenical Ministries of Oregon, the Oregon State Public Interest Research Group, the NW Energy Coalition, and the Renewable Northwest Project) have determined that PacifiCorp's revisions to its RFP are not sufficient to move us from our previous position. For the reasons that follow, we continue to believe that the Company's reliance on new pulverized coal resources is bad economically for PacifiCorp customers and bad environmentally for the planet.

II. Why We Are Still Concerned

We appreciate the changes made by PacifiCorp to its RFP in response to Staff and Intervenor comments. Despite the reduction in MW sought by this RFP, our primary concern remains unchanged, because we believe the Company's ultimate plan for a substantial addition of pulverized coal has not been significantly altered. We remain resolute in our opposition to any new pulverized coal.

Based on the benchmark resources, this RFP could still result in up to 915 MW of pulverized coal generation. The 2012 benchmark resource is 340 MW of the Intermountain Power Project Unit 3, and, if the Company finds that IGCC is not viable by 2013, one of the 2013 benchmark resources could be a 575 MW Hunter 4 plant. Millions of additional tons of CO₂ per year would be emitted from 340 MW to 915 MW of new pulverized coal generation. This represents far too great a risk for a Company already heavily reliant on pulverized coal.

The Company remains intent on acquiring new pulverized coal resources by 2012, despite what we see as a clear direction from the Commission for PacifiCorp to pursue bridging resources.¹ At the October 26 hearing, Mr. Fehrman stated that he "cannot envision" any resource strategy that does not include pulverized coal.² We worry, therefore, that the Intermountain project may well be a foregone conclusion. The Company is a development partner in the project, and plans to take 37.8% share of the

1. "Coupled with reasonable measures that could be taken to avoid outages (*e.g.*, additional short-term purchases, demand response programs and distributed resources), analysis of the coal plant delay scenarios indicates that it may be reasonable to wait a couple of years until IGCC technology is further developed before the Company commits to its next large thermal resource." Order No. 06-029 at 51.

http://apps.puc.state.or.us/agenda/audio/2006/102606/102606-9-qa2.MP3, UM 1208 (PacifiCorp's Draft 2009 Request for Proposals) - October 26, 2006 (Q & A 2), transcribed by David Wolf on 11/3/2006.

^{2.} Commissioner Baum: Follow up question. Um. What can you envision, if you assume your goal is, is uh, as you mentioned it, IGCC is one of the options out there at 500 MW. If your goal is trying to get there, can you envision a bridging strategy that includes, you know, uh, front office purchases and the renewable discussions that have been raised, and some other kind of other options that would be in line to allow the commission to consider things that wouldn't include any pulverized coal in that time period? Bill Fehrman: Not really. I mean I cannot envision anything, knowing the type of load growth that we have, uh, particularly on the east side, and knowing that the plant that we are using as our benchmark resource in 2012 is 340 MW, which is not all that great when you look at the overall load growth in the state of Utah, for instance, particularly when you look at some of the, uh, potential, uh, opportunities that are coming into the state that are looking at 90% load factor type loads for us, that there is a significant need for base load resource. Uh, with regards to IGCC, uh, our risk profile on IGCC is we're still not convinced what the timeframe is for when that will be available to us. Uh, we are very active, and as I said earlier, we are looking to try to partner with the WIA in Wyoming to to, uh, move forward on a plant. Uh, we're seeking proposals. Um, so, we are looking to find what the best, uh, potential opportunities there is for IGCC, but for right now, as we look at it, at least from our perspective, we do not think we can have an IGCC plant built for 2012.

output.³ Mr. Fehrman indicated at the hearing that the Company may, in fact, have plans to take even more of the plant's output than proposed in this RFP. When answering a question from Chairman Beyer about the ability of the Company to sell its coal resources into the market given California's new laws, Mr. Fehrman stated:

Again you're looking at a 340 MW plant in Utah where the economic growth in Utah is significant. In fact there's opportunities there that if they come to fruition and the odds are well that we'll probably take up about 60% of that plant before it's even built. [Emphasis added]

If what Mr. Fehrman said is true, that would mean PacifiCorp may actually acquire up to 540 MW of the Intermountain project. Although the Company has made changes to this RFP, we think the market may not respond with the type of bridging options suggested by the Commission in its LC 39 Order, simply because the Company has been so public about its intentions.

There was also the indication at the October 26 hearing that this RFP may be followed by other RFPs for base load resources.⁵ Further, the 2006 IRP, while it is still incomplete, includes plans for another 1 to 3 pulverized coal plants in all but one of the candidate portfolios, and this would be in addition to the resources acquired in this RFP.⁶ So, despite the changes made to this RFP, there remains the real possibility that PacifiCorp will acquire a significant level of new pulverized coal in 2012-2013 and beyond to serve its growing east-side load.

Bill Fehrman: Well, I'm not sure what you mean by rolling RFPs.

Commissioner Savage: Well, uh...

Bill Fehrman: As load changes and grows over time we may be back in for another RFP for base load in 2015 or 2016. Uh, I can't sit here and tell you that we will never be back in here for... http://apps.puc.state.or.us/agenda/audio/2006/102606/102606-8-qa1.MP3, UM 1208, (PacifiCorp's Draft 2009 Request for Proposals) - October 26, 2006 (Q & A 1), transcribed by David Wolf on 11/3/2006.

6. Oct. 31, 2006 handout entitled "2006 Integrated Resource Plan Portfolio Analysis Update," slide 15.

^{3.} Attachment 1 to the Revised RFP.

^{4. &}lt;a href="http://apps.puc.state.or.us/agenda/audio/2006/102606/102606-9-qa2.MP3">http://apps.puc.state.or.us/agenda/audio/2006/102606/102606-9-qa2.MP3, UM 1208 (PacifiCorp's Draft 2009 Request for Proposals) - October 26, 2006 (Q & A 3), transcribed 11/3/2006.

^{5.} **Commissioner Savage:** Are we facing rolling RFPs for base load facilities? Is that sort of what you are planning?

III. Global Warming - The Elephant In The Room

The enormous financial and environmental risks of global warming can no longer be one issue among many; regarding any proposal to build new pulverized coal plants, global warming is THE issue.

A. The Appropriate Balance Of Cost & Risk Is Ultimately A Policy Choice

In our earlier comments, we attempted to begin a discussion concerning how the Commission should handle the CO_2 risk inherent in the development of traditional pulverized coal. We stated that as long as the Commission treats CO_2 like other risks that can be modeled with some degree of confidence, we will continue to participate in those discussions, but that we are increasingly convinced that how we approach the costs of future CO_2 regulation is a policy decision, not a model input.

In the Northwest Power and Conservation Council's Fifth Power Plan, there is a discussion of the tradeoff between least cost and least risk. There is a way to model a number of possible portfolios and their resultant costs against a number of potential risk scenarios. Plotting the results on a graph juxtaposes increasing cost with increasing risk.

If the outcome for each plan is plotted as a point with coordinates corresponding to the expected cost and risk of the plan, one obtains the new distribution illustrated in Figure 6-8. Each point on the figure represents the average cost ... for a particular plan over all futures. The least-cost outcome for each level of risk falls on the left edge of the distribution in the figure. The combination of all such least-cost outcomes is called the "efficient frontier." Each outcome on the efficient frontier is preferable to the outcomes to the right of it, since it has the same risk as those outcomes, but lowest cost.⁷

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^{7.} Fifth Power Plan, May 2005, pages 6-12 to 6-13.

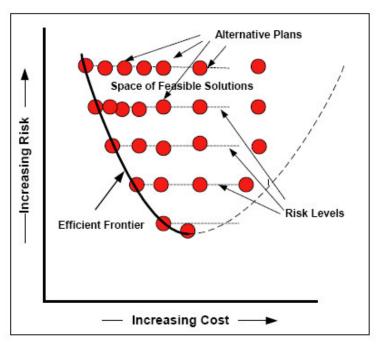


Figure 6-8: Feasibility Space

The resource plans along the efficient frontier represent the least-cost options for a given risk level. Moving down the frontier represents choosing a portfolio with higher costs, but lower risk. The Plan notes that, "[c]hoosing from among the outcomes on the efficient frontier, however, requires accepting more risk in exchange for lower cost, or vice versa. The 'best' outcome on the efficient frontier depends on the risk that can be accepted." In other words, the acceptable level of risk that will determine the portfolio choice and its costs is ultimately a policy call. There is no empirical way to decide what the acceptable cost/risk tradeoff should be.

Furthermore, the risk at issue here, the cost of CO₂ regulation, lends itself to modeling far less well than many of the other risks that are typically modeled in resource plans.⁸ Utilities have a long history of grappling with a broad range of uncertainties. For

^{8.} Other factors that defy easy analysis are also inadequately addressed by PacifiCorp's modeling. These include two related factors: (a) the value of optionality, which is the value of being able to change direction in mid-stream without suffering heavy stranded capital costs; and, (b) technology risk; *i.e.* the

most of these uncertainties, there is either historical data and/or an ability to examine the fundamentals underlying the uncertainty. Utilities examining the inherently uncertain levels of hydro generation can refer to decades of stream flow and hydro-generation data. Based on this history, certain probabilities emerge; ditto for fossil-fuel generation outage rates. Forecasting loads is something that utilities do all the time, and involves examining historical trends, elasticity, economic factors, etc. Forecasting fuel costs can be aided by examining the fundamentals of the market and emerging trends.

Forecasting the political reaction to global warming and the cost attached to that political decision, however, is like throwing darts in the dark. Most of us assume that ultimately at the state, regional, federal, or international level, there will be a regime of binding CO₂ regulations, but when, what, and how much are still unknown. Of course, forecasting the actual cost to Oregon (and the world) of global warming *damage* is even more difficult – though a recent U.K. study pegged it at 5-20% of *global GDP* – a significant number when compared with the relatively small 20-year PVRR differences that PacifiCorp is using to choose its resources.

Scientists have generally estimated that in order to stabilize the climate and avoid the most catastrophic consequences of global warming, reductions on the order of Governor Kulongoski's goals for Oregon will be necessary. Those goals entail a reduction to 10% below 1990 levels by 2020 and 75% below 1990 levels by 2050. So that, while we do not know with any certainty what policies will be put in place or when, we do know that any meaningful policy will require significant reductions in pollution by

risk (or benefit) that advances in technology, both generating and demand-side, will occur that create stranded costs either through reduced loads, customer-side distributed generation, and/or new types of central-station generation or pollution control.

PacifiCorp, which translates into significant risk for PacifiCorp ratepayers if any new pulverized coal investment is made.

A further case can be made that, while utilities have some experience in managing the traditional utility risks – load forecasting, resource availability and the like – utilities have no experience managing CO₂ risk. A complicating political factor is that the only way a coal-heavy utility like PacifiCorp could "manage" CO₂ regulation risk in the short term (presumably on behalf of its customers) would be to lobby very hard at all levels against any CO₂ regulation. We do not want to create incentives for the utilities to be both a source of the problem, as well as an obstruction to the solution.

Of course, the real problem is that PacifiCorp need not concern itself with the risk of future CO₂ regulation costs if it assumes that customers will bear the entirety of that risk. Which brings us back to the policy question of how much risk is the risk-taker willing to take?

Is PacifiCorp's plan to build new pulverized coal resources an indication that the utility cannot plan to an unknown risk (so they build a coal plant anyway), or is the utility simply abdicating its responsibility to plan to rational expectations? PacifiCorp has repeatedly said that the Company is working within the least-cost, least-risk paradigm, and if there is a different policy, then PacifiCorp will work to that. First, our arguments here demonstrate that the consideration of least-cost is a policy decision, and that these arguments are firmly embedded in the least-cost, least-risk paradigm. All the modeling in the world cannot answer the question of which resource portfolio is the "right" one, until we address how much risk customers are willing to take.

Second, if PacifiCorp needs a policy directive in order to complete its resource acquisition efforts, let's tee up that process so we can begin to move forward with a resource portfolio that is right for PacifiCorp customers in Oregon. Surely the Commission cannot approve multi-billion-dollar investments in early 20th century technology without answering these questions.

B. Revised RFP Fails To Address Parties' Global Warming Concerns

As we have repeatedly stated in this and related dockets, global warming is a threat the cost of which would be difficult to overstate. Increasing sea levels on the Oregon Coast have already been measured and attributed by scientists to global warming, as has a 50% decline in the Cascade snow pack. This risk to our environment translates into a direct risk to Oregon ratepayers proportional to Oregon utilities' investment in fossil fuels, and for that reason, any new pulverized coal is encumbered with exceedingly high risks.

The Company's revised RFP reduces the total global warming pollution of its original proposal somewhat by delaying two plants a few years, but it avoids the hard reality of science. Any new pulverized coal plant will constitute a significant increase in global warming pollution, and thereby a significant risk to Oregon ratepayers, the very circumstance that the Commission was working to avoid in its decision on the Company's 2004 IRP. A rough calculation indicates that the two benchmark resources in the revised RFP would represent 5 million metric tons (MMT) of new carbon dioxide pollution if one of them is built as non-sequestering IGCC, 5.7 MMT if it is not. The global warming pollution attributed to Oregon customers would increase by between 1.3 and 1.5 MMT.

To put this figure in context, the total emissions of Oregon's electric utilities in 2005 are estimated to be approximately 24 MMT, according to documents produced for the Governor's Carbon Allocation Task Force, of which 13.03 MMT are due to PacifiCorp's system. PacifiCorp's revised proposal reflects an 11.5% increase in the global warming pollution from its Oregon electricity sales and a 6% increase in pollution from Oregon's total electric sector.

The Governor's stated goal is to have Oregon reduce its global warming pollution to 10% below 1990 levels by 2020. The Carbon Task Force considers this to be a 3.8 MMT decline statewide; PacifiCorp would need to reduce pollution from its system by roughly 2.1 MMT. Rather than preparing to meet this reduction, which could be required of the Company within the next several years, PacifiCorp is proposing to increase its pollution by an amount equal to 70% of the necessary reduction. These numbers would indicate that PacifiCorp does not believe it will ever have to comply with substantive global warming regulations.

C. Revised RFP Fails To Address Changes In The Regulatory Environment

In only the 2 years since the 2004 IRP was filed, the operating environment for power plant development serving West Coast load has shifted profoundly in parallel with the increasing scientific certainty of the tremendous costs we face if greenhouse gases are not controlled. Not only has the calculation changed for sales to California under SB 1368, but the idea that a 50-year time horizon need not consider absolute restrictions on greenhouse gas performance is nothing short of ludicrous. We believe there is some risk that, if built, conventional coal plants may not even be allowed initial start-up, much

less a 40-year amortization period. The likelihood of large stranded costs has not been accounted for in the Company's modeling.

That the Revised RFP still installs an antiquated technology as a base load benchmark that cannot mitigate the problem of global warming pollution, demonstrates that the following developments which have occurred since 2004 have not been incorporated adequately into a least-cost, least-risk analysis:

- The Kyoto Protocol going into effect;
- The European CO₂ Trading System;
- The Regional Greenhouse Gas Initiative of the Northeastern States;
- The West Coast Governor's Initiative:
- California's AB 32, which mandates statewide reductions in global warming pollution, including from electric utilities;
- California's SB 1368, which prohibits any new long-term contract for base load generation sources with pollution rates greater than a combined-cycle gas plant;
- Governor Kulongoski's stated goal of reducing Oregon's global warming pollution to 10% below 1990 levels by 2020; and now
- Passage of an RPS in Washington.

We would like to again focus on the power plant Emission Performance Standards set by California SB 1368. Its passage, along with related activities by other western states, will have two likely effects that PacifiCorp has not considered when it claims the new California regime will not have appreciable impacts (due to the Company's small footprint in that state). First is the likelihood that market prices will bifurcate, producing one price for power that meets California's standards, and a separate, lower price for power that does not. This will mean that surplus sales from any new coal plants will not fetch the prices that the Company is expecting.

The Company claims it can get around this problem by selling in a short-term to medium-term market (less than 5 years), because such sales are not *currently* covered by

SB 1368. However, this clever strategy is likely to be cut off if California sees its standard being undermined, and as California's statewide carbon-emission policies (including AB 32) clamp down on all carbon sources coming into the state.

The second effect that the region should expect from California's lead is a very real probability that a similar performance standard or cap on carbon emissions will apply to resources for Oregon by 2012, as well as other western states. Unlike PacifiCorp's claims in its Reply Comments, these developments will have a "material impact" on the Company's operations. The Company may not understand the operating environment in Oregon (or Washington) if it places the risk of this type of regulation at zero. To make this evident, the Company states, "the RFP is designed to acquire resources to serve primarily east-side customers, where there is currently no legislative activity on emissions regulation." Unless the Company is contemplating a renegotiation of the Revised Protocol, however, Oregon, Washington, and California ratepayers are allocated their share of the costs, emissions, and future emission risks of all PacifiCorp resources, regardless of which load they are acquired to serve. The omission of Oregon (and Washington) from this statement speaks volumes about the actual risks the Company faces for regulation of pulverized coal by the West Coast states.

In due time, and more likely than not before the 2012-13 construction timeframe for these plants, the State of Oregon is likely to initiate, or participate in, a regulatory structure that effectively limits the State's greenhouse gas emissions. The Joint Parties and the Oregon Department of Energy have all come to the same conclusion. The Oregon Commission expressed parallel reservations when it noted PacifiCorp's IRP 2004

9. PacifiCorp Reply Comments, October 4, 2006.

was "reasonable" with "exceptions." Of course, the exceptions referred to the thermal resources planned for the East Side: "...the Commission does not acknowledge the choice of one fuel type, gas or coal, over the other. Both fuel types present significant risks – fuel price certainty and volatility for gas ... and possible CO₂ regulatory costs for pulverized coal." Yet the Revised RFP is still completely silent on how the least-cost, least-risk analysis for the reduced resources moves in any way to address the fundamental failure of the RFP to align with the actual on-the-ground expectations in today's world as noted by the Parties and the Commission. There can be no question but that the risks since the Commission issued Order No. 06-029 (much less at the time the IRP's analysis was actually done) have increased significantly for pulverized coal's exposure to regulatory costs. This needs to be explicitly acknowledged in the analysis to make an informed comparison to any resource alternative, including natural gas or IGCC.

While these comments are not the place for a detailed discussion of the Company's 2006 IRP, it is important to note that the results of the base run 2006 IRP preliminary candidate portfolios show that the \$8 baseline adder has little impact on the results. In every candidate portfolio, except for the one (CP6) where pulverized coal is artificially excluded, the portfolios look remarkably similar except for small changes in timing. Therefore, one must conclude that the \$8 adder is not a useful surrogate for future carbon risk, because applying it yields no change in the resource mix. One cannot imagine that policy-makers reacting to the threat of global warming would implement a regulatory regime that would have no effect on utility actions. So while \$8 per ton was

4.0

^{10.} Order No. 06-029 at 2 and 60.

^{11.} Id. at 50.

perhaps a reasonable starting point, it can no longer be accepted given the changes we have seen in the past few years.

IV. Additional Modeling Errors

There are additional weaknesses in the Company's modeling that undervalue the flexibility of bridging resources and the potential of IGCC, DSM, and renewable resources.

A. The Bridging Strategy Analysis Is Inadequate

PacifiCorp has greatly underestimated the value of a bridging strategy. The Company's analysis simply values that strategy as one more deterministic portfolio that is heavy on gas and power purchases. This treatment fails to value the ability to change course for either regulatory or technological reasons. The Commission favored a bridging strategy for the main purpose of preserving optionality in the face of uncertainty, but the Company's analysis fails to capture that value – thus undervaluing this option. We are on the cusp of changes in the regulation of carbon emissions. Those changes most likely will spur even more technological innovation – even beyond that already taking place due to high energy prices – on both the demand and supply side.

There are a number of ways that have been suggested to value optionality, and undoubtedly the Company's modelers can improve on them. The Power Council's model, for example, chooses resources much more dynamically than does the CEM. The Council's model chooses different resources depending upon mid-term changes in scenarios. That is, if a possible future changes from a high to a low gas price scenario, the model starts choosing more gas resources. Most important for this discussion, if a strict carbon-control scheme were instituted in a number of years, the model will start to

choose resources that better fit that scenario. By running many scenarios, the result will be to show that flexible (bridging strategy) resources will result in a lower PVRR, especially if the future is very uncertain.

We understand that Pacific's current modeling cannot be made to mirror the Council's, but that does not mean there cannot be acceptable ways to value optionality. One way would be to constrain the model to amortize coal plants over only 15 years or so, under the assumption that there is a high probability it may not be run very often, if at all, after that time. Another would be to give an adder to capital-intensiveness (apart from renewables), thus rewarding gas plants and smaller coal plants. Another way would be to analyze a number of the Council's highest performing portfolios to see why they do so well when faced with an uncertain future. Some insight could be then brought to help solve this modeling problem.

Clearly the Commission has requested that a bridging strategy be thoroughly analyzed; currently the Company's modeling gives it short shrift by failing to capture in any way the value of such a portfolio.

B. When Will IGCC Be Viable?

As for the 2013 resource, we were pleased to see the addition of an IGCC resource as one of the benchmark resources in the RFP. We believe this is much more consistent with the IGCC commitments made by MidAmerican in the Utah and Oregon settlements. However, given that the 575 MW Hunter 4 plant is the alternate benchmark, there is obviously the possibility that the 2013 resource will be pulverized coal and not IGCC. PacifiCorp has stated that the timing of an IGCC option is still uncertain, but that the Company does not think IGCC is an option for 2012. See footnote 2. Given that

position, it is not a stretch to reason that the Company may also conclude that IGCC is not commercially viable for its 2013 resource need either. It should be noted that while we are strongly in favor of investigating the possibility of IGCC, and therefore requiring a strategy that allows the time for its commercialization, our support would require a commitment to capture and sequester CO₂ emissions.

As noted above, PacifiCorp has stated that it does not believe IGCC is an option for its 2012 resource need. We know the Company has an IGCC working group and is actively following the development of this technology. Although none of the Joint Parties are experts in IGCC, we question PacifiCorp's conclusion about its availability in 2012.

In 2005, PacifiCorp intervened in a Utah Environmental Appeals Board proceeding to argue against consideration of IGCC as part of the air permit analysis for the expansion of the Intermountain Power Project. PacifiCorp and the other participants prevailed on this issue, and IGCC was never considered as a technology option for that plant. This case is now on appeal to the Utah Supreme Court, in part because of the failure to consider IGCC. IGCC may not be viable by 2012, but it certainly could have been more viable if the Company hadn't intervened in this case to argue against it.

The Joint Parties agree that there are many uncertainties regarding the feasibility and costs of IGCC and Carbon sequestration, especially in this early timeframe. So while we object to how the Company has dealt with this issue, the more important conclusion should be that these uncertainties strengthen even more the case for a bridging strategy.

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^{12.} In the Matter of Appeal of Servier Power Co. Permit and Appeal of IPP Unit 3 Permit, Utah Air Quality Board.

C. DSM Assumption Too Low

The Company's modeling assumes DSM penetration levels on the east side that are lower than those routinely met in its Oregon territory. While programs are commendably being ramped up in Utah (though we are unaware of any in Wyoming), they are still being funded at levels lower than that provided by the Energy Trust. In addition, a recent evaluation of Oregon's public purpose funding level has recommended almost doubling spending for DSM. There is no reason that these more aggressive goals cannot be accomplished on the east side.

D. Renewables Assumption Too Low

The Company assumes only 1400 MW of renewables in its baseline. This level has no real empirical basis. Even the 2006 IRP has candidate portfolios with more renewables (600 MW). We recommend that the Company allow its model to choose renewables in the process to select a short list.

E. Treatment Of CO₂ Inconsistent Across Bidding Options

In the RFP, the Company treats CO₂ emissions differently for power purchase agreements (PPA) than for other resource types:

If a Bidder proposes an arrangement wherein a specific facility is not identified (such as may be the case with a PPA), the resulting contract shall explicitly state that the buyer (PacifiCorp) shall not be liable for any CO₂-related expenses, and the Bidder will be required to enter into a CO₂ Indemnity Agreement. For bids with a specified facility, which would include an asset backed PPA, the potential CO₂-related expenses will be included in the Company's evaluation.¹³

This treatment means bidders of PPA will have to absorb CO₂ risk but the Company, presumably through the ratepayers, will be taking the carbon risk for other

¹³ Revised RFP, page 38.

resources. This mixed treatment allows asset-backed bidders an advantage, since they will not be incorporating carbon risk into their bids.

V. Conclusion

The fundamental question before the Commission is whether this state and its customers are willing to absorb the risk inherent in allowing PacifiCorp to build more conventional coal plants on top of the Company's already coal-heavy fleet. We have seriously questioned the Company's modeling of Carbon risk in these and previous comments, but as we stated above, all the modeling in the world cannot answer the question of which resource portfolio is the "right" one, until we address how much risk customers are willing to take. That question has not been answered.

Respectfully Submitted, November 9, 2006

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CERTIFICATE OF SERVICE

I hereby certify that on this 9th day of November, 2006, I served the foregoing Reply Comments of the Citizens' Utility Board of Oregon, The Renewable Northwest Project, the Ecumenical Ministries of Oregon, the Oregon State Public Interest Research Group, and the Northwest Energy Coalition, in docket UM 1208 upon each party listed below, by email and, where paper service is not waived, by U.S. mail, postage prepaid, and upon the Commission by email and by sending 6 copies by U.S. mail, postage prepaid, to the Commission's Salem offices.

Respectfully submitted,

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Attorney for Citizens' Utility Board of Oregon

W=Waive Paper service C=Confidential HC=Highly Confidential

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