**BEFORE THE PUBLIC UTILITY COMMISSION**

**OF OREGON**

**UM 1182 – PHASE II**

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| In the Matter of<br><br>PUBLIC UTILITY COMMISSION OF OREGON<br><br>Investigation Regarding Competitive Bidding. | STAFF'S OPENING COMMENTS |

In Docket UM 1276, the Commission accepted the premise that a bias exists in the utility resource procurement process that favors utility owned resources over Power Purchase Agreements (PPAs) due to the nature of ratemaking, which provides a utility the opportunity to earn return on plant investments but not on PPAs.[1]

In its Order No. 11-001, the Commission re-opened Docket UM 1182 to, in relevant part, explore methods to aid the "independent evaluator" (IE) in their evaluation of the risks and advantages of utility "benchmark" (Benchmark) resources. More specifically, the Commission invited parties' comments on the analytic framework and methodologies that the IE should use under Guideline 10(d), set forth in Order No. 06-446, to evaluate and compare a utility's ownership of a generating resource to a utility's purchase of power from an "independent power producer" (IPP).[2]

Subsequently, the parties have participated in two workshops aimed at initially identifying comparative risk and advantage topics (referred to as "Items"), which would then be more fully analyzed, with the end goal of developing analytic tools to aid the IE in their evaluation made pursuant to Guideline 10(d). At the first workshop held on November 18, 2011, the parties developed and agreed on a list of 12 factors for further in-depth evaluation to determine the risks and advantages of utility-owned resources compared to resources offered by IPPs in a competitive bid process and evaluation. Staff 2012 Comments at 1-2. The parties agreed on initially addressing four issues: Cost Over-runs, Wind Capacity Factors, Heat Rate Degradation, and Counterparty Risk.

The Commission resolved these four risk items and clarified in Order No. 13-204[3] its goal in this docket, stating that:

> we reopened this investigation to explore improvements in the RFP process to address the unique risks and advantages of utility benchmark resources. Because our goal is to address any utility incentive to select benchmark resources instead of PPAs, **we must first determine whether the identified**

[1] Order No. 11-001 at 5 (Docket UM 1276).
[2] Order No. 11-001 at 6 (Docket UM 1276).
[3] Order No. 13-204 at 8-9 (Docket UM 1182).

> **risk item is related to resource ownership.** We look for evidence that the risk factor is dependent upon whether the utility or third party is developing the new resource.
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> If the risk item is related to ownership, we then examine how those particular risks should be evaluated in the RFP process. We examine whether changes should be made to the IE's comparative analysis of a utility's benchmark resource and other resource options to ensure that the bid evaluation process is fair and reasonable. **Because the comparative risks associated with different resource options are generally dependent on the facts specific to each particular bid, we generally focus on improvements that are qualitative in nature. Although we will also consider quantitative changes, such as the use of generic bid adjustments, we would require persuasive evidence that the proposed adder accurately captures the risk addressed by the adder.** (Emphasis added)

In the same order, the Commission stated its belief that the risks and benefits associated with a comparative risk item should be evaluated based on the individual characteristics of each resource.[4] Staff interprets this to mean that any analysis comparing benchmark resources and PPAs should rely on relevant data for existing PPAs and benchmark resources and should evaluate and compare the risks and benefits associated with each type of resource. In the absence of such data, Staff believes that a qualitative analysis should be performed based on sound economic and regulatory principles.

In this phase of the investigation, there are eight remaining comparative risk items:

- Changes in Forced Outage Rates
- End Effect
- Environmental Regulatory Risk
- Increases in Fixed Operations & Maintenance (O&M) Costs
- Capital Additions
- Changes in Allowed Return on Equity
- Verify Output, Heat Rate and Power Curve
- Construction Delays

The Commission gave the following instructions regarding the analysis of these risk items:[5]

> (1) The parties' comments should follow the framework we used above to analyze each risk item.
> (2) Parties should initially address whether the risk factor is related to resource ownership, and provide support for any conclusion reached. If a party believes the risk factor is related to ownership, the party should provide recommendations to help the IE' s comparative analysis of that risk item for utility benchmark resources and other resource options.

[4] Order No. 13-204 at 10 (Docket UM 1182).
[5] Order No. 13-204 at 11 (Docket UM 1182; numbering added).

(3) The parties should focus on qualitative recommendations, rather than propose quantitative adjustments.

At the conclusion of this phase, the Commission will make any necessary changes to Guideline 10(d) to incorporate the resolutions reached in all the phases of this docket.

**Summary Description and Comments on the Remaining Issues**[6]

1. **Changes in Forced Outage Rates**

**Summary Description of the Issue:** If a Benchmark resource becomes less available than anticipated over time, customers bear the associated opportunity cost. An IPP could relieve customers of this risk by contracting to pay damages, or other compensation, if actual availability is less than a contractually specified level (i.e. in regulatory terms, for an increase in the forced outage rate).

Staff believes this risk item is related to both utility owned and IPP-bid PPA resources. While a PPA could address better this risk factor by mitigation through contract and market purchases, a utility's benchmark resource will impose greater risks to customers.

A PPA contract may include clauses for damage mitigation and compensation mechanisms to account for any service unavailability due to forced outages throughout the length of the contract. Thus a PPA could include incentives for the IPP to maximize availability such that power unavailability should result in refunds of received energy and capacity payments. Because there is a wide range of outcomes over which a PPA could address changes in forced outage rates for an IPP, Staff recommends the IE conduct an assessment of PPAs to determine whether the contract includes clauses intended to address plant availability during the length of the PPA.

Similarly, benchmark resources should be evaluated to account for costs for future forced outages. For a utility benchmark resource, changes in forced outage rates are reflected in the utility's annual power cost. In this case, utility customers bear the risks associated with forced outages.

In its March 19, 2012 Comments, NIPPC proposed to estimate plant availability based on forced outage factors at the plants for gas-fired generation plants. However, NIPPC was unable to propose a proper adjustment due to data limitations. For wind power, "NIPPC developed a capacity factor adjustment for "utility-owned wind projects and other renewable projects based on the observed performance of PacifiCorp's wind plants compared to the capacity factors that PacifiCorp originally anticipated for the plants. For this analysis, NIPPC examined data associated with all 12 of PacifiCorp's wind plants that began operating prior to 2010." NIPPC 2012 Comments, Attachment 1 at 17.

[6] Staff adopts the summary descriptions of the issues contained in Staff's March 19, 2012 Comments, Docket UM 1182.

Then, NIPPC determined the average actual capacity factor for each plant and used data from various regulatory filings and regulatory Commission staff reports. NIPPC 2012 Comments, Attachment 1 at 17.

Using the difference between the weighted average of expected capacity factors and the weighted average of actual capacity factors, based on the nameplate capacities for each plant, NIPPC found that actual average capacity factors for the set of projects were 15 percent lower than expected. NIPPC then recommended that the IE reduce the capacity factor for proposed utility-owned wind generation projects by 15 percent when comparing utility-owned projects against IPP bids. NIPPC recommended that this adder could also be applied to solar, geothermal, and other types of utility-owned renewable generation. NIPPC 2012 Comments, Attachment 1 at 18-19.

Staff does not agree with NIPPC's methodology. In utility power cost proceedings, forced outage rates are calculated on a rolling four-year average which takes into account year-to-year variability in forced outage rates. Furthermore, the power cost proceedings provide a structured process for all interested parties to scrutinize outage events for prudency before any cost recovery is authorized by the Commission. It is not clear if the four-year average forced outage rates used for the benchmark resource will be higher or lower than the fixed forced outage rate assumed for the IPP resource. For these reasons, Staff believes that no bid evaluation adder is required for the risks associated with forced outage rates.

### 2. End Effect

**Summary Description of the Issue:** Under an IPP contract to provide power for a set time period, customers incur no additional costs, nor do they receive additional benefits once the term of the contract is reached unless otherwise specified in the contract. On the contrary, a Benchmark resource often includes costs and benefits beyond its expected end of life. Those include value of continued operation, market value of assets, cost of site restoration and others.

In their March 19, 2012 Comments, Investor-Owned Utilities (IOUs) define "terminal value" as "the benefit to customers when the utility holds the rights to the future value associated with the generation project and site. In other words, when comparing a long-term PPA to a utility-owned resource, any analysis must consider whether the customers will retain something of value at the end of the PPA term or estimated useful life for the utility-owned generation."[7]

The IOUs stated that the holder of the terminal value is the utility for its customers or the IPP for their shareholders. Further, IOUs also indicated:

[7] The terminal value of utility-owned assets is inherently held by the utility, for the benefit of customers. If desired by the Commission, each utility can provide examples of hydro or thermal assets or PPAs where customers have benefited by the utility holding the terminal value. March 19, 2012 Comments of Investor-Owned Utilities at 8-9.

> The remaining worth of assets and their associated attributes is a concept widely used in the financial industry. Parties can provide evidence of established quantification methods that can be used and considered by the Commission during this docket. In addition to more traditional discounted cash-flow (DCF) and real-option methodologies, market indications of generation terminal value may also be obtained through future request for proposal processes where sellers provide bids for both a PPA and asset sale for the same project.
>
> The core issue of terminal value as it relates to generation resource evaluation and selection is what party receives the benefit of the asset's residual value. Customers inherently receive the benefit of terminal value when the cost of utility-owned generation is included in rates. Therefore, in order to fairly compare the benefits and risks of the utility-owned resource vs. a PPA, residual value (or absence of residual value) must be considered. In the case of a typical long-term PPA, the utility and its customers provide the revenue stream that enables the underlying generation assets to be financed; however, at the end of the PPA term, they receive no further benefit. IOUs 2012 Comments at 9.

Contrary to the IOUs, NIPPC's March 19, 2012 Comments discuss the need of an obsolescence adder to capture plant economic retirement when it becomes obsolete such that its total "going forward" costs exceed the value of its output. NIPPC claimed that "Because future O&M costs, capital additions, plant efficiency improvements, new technologies, and fuel price changes are inherently uncertain, there is a risk with any new plant that it will cease to be economically viable at some point during its useful life. Failure to account for this risk underestimates the total levelized net cost of that plant." NIPPC 2012 Comments, Attachment 1 at 20.

NIPPC stated that "existing modeling software is capable of projecting plant economic retirements based on a set of input assumptions. Using a market model such as AURORA, one can estimate the likelihood that a plant constructed today will be retired for economic reasons in a future year, given a set of assumptions about the future. Given the need for agreement on which market model to use and the key input assumptions for that model, NIPPC has not attempted to calculate a specific adder at this time." *Id*.

Staff believes that the risk and reward of terminal value is related to resource ownership. Ratepayers face this risk with a utility benchmark resource and do not with an IPP resource. Staff agrees with the IOUs in principle that the terminal value of a benchmark resource should be taken into consideration by the IE in the bid evaluation. However, Staff does not recommend using an adder to reflect the end effect of the benchmark resource.

Staff does not consider this risk to be relevant in the case of a PPA as the IPP and its shareholders should bear the risk or collect the benefits associated with the end effect. Staff reasons that at the end of the PPA, either the plant requires additional cost (e.g., for site remediation and disposal costs) or the plant retains some value, either because the plant remains operationally viable, or because there is salvage value in the plant. In either

case, the cost or benefit is borne completely by the IPP and has no impact on customers unless otherwise specified in the contract.

In the case of a utility owned plant, the same two possibilities exist – that either the plant has cost or benefit associated with it at the end of the life of the benchmark resource. However, although all of the risk is borne ultimately by the customers, it is impossible to accurately predict whether the end-of-life effect will be negative or positive. Since the end effects are not clearly well-defined as a benefit nor as a cost to customers, but could be either, Staff believes no further adjustment is necessary.

Further, Staff recognizes the potential future benefits of more efficient generation technologies and specific attributes of the assets (for example the site of an existing wind resource may be more valuable than any alternative sites for new wind resources) that may provide ratepayers benefits from an extension of the PPA beyond its term.

Therefore, while Staff does not recommend using a bid evaluation adder, we may recommend on a case-by-case basis to invite PPA bidders to offer an option to renew the PPA at the end of the initial term. Were the utility to execute the PPA renewal then the cost or benefit provided by a PPA would be passed on to ratepayers thus equalizing a utility owned resource and PPAs. Receiving bid adders for PPA renewal would allow parties and the IE to consider bids with and without end effect adders which will aid in determining which resource is in the best interest of ratepayers.

### 3. Environmental Regulatory Risk

**Summary Description of the Issue:** With a Benchmark resource, customers simply pay for the costs associated with changes in environmental regulations. Conceptually, an IPP might contractually offer to cover costs associated with potential changes in environmental regulations. However, it is very unlikely that an IPP would agree to cover unlimited costs associated with potential changes in environmental regulations.

Staff is of the opinion that environmental regulations are a risk associated with the utility benchmark resources as well as a PPA offer. Changes in environmental regulations are a driver for higher Operations & Maintenance (O&M) costs for generating units. The Commission's Integrated Resource Plan (IRP) environmental costs Guideline 8 (Order No. 08-339) requires the utility to construct several environmental "compliance scenarios ranging from the present $CO_2$ regulatory level to the upper reaches of credible proposals by governing entities… The analysis should recognize significant and important upstream emissions that would likely have a significant impact on its resource decisions." Staff conjectures that this significant impact is not unique to utility benchmark resources but also exists for IPP resources.

Given this background, Staff recommends that expected environmental risks be included in PPAs as a possible "change in law." As with other unanticipated circumstantial changes beyond the control of the IPP, the contract should contain clauses which either expressly hold the IPP harmless for these changes, or provides for a contract

renegotiation in the event of such a change. However, if customers pay costs for capital improvements at an IPP resource in order to comply with environmental regulations, this further complicates the end effect issue addressed in Section 2. Staff notes that this is common practice in contract law and if provided for in the contract requires no adjustment during the RFP process.

For all the above reasons, Staff does not recommend use of an adder to level the playing field between PPAs and utility benchmark resources. Rather, Staff recommends the IE reviews and evaluates any "change in law" clause associated with the IPP resource. The best that can be done here is to provide a comprehensive description of the risks and benefits to ratepayers.

### 4. Increases in Fixed O&M Costs

**Summary Description of the Issue:** Customers generally pay for prudently incurred fixed Operation and Maintenance (O&M) costs associated with a Benchmark resource, regardless of expectations at the time of bid evaluation. Under a "power purchase agreement" (PPA), an IPP could effectively guarantee an expected level of fixed O&M costs over the contract period.

In its March 19, 2012 Comments, NIPPC derived separate O&M adders for gas-fired generation and for renewable generation. Using a limited dataset covering at most a 19-year period and not the full plant lifetime, NIPPC derived a fixed O&M adder for gas-fired generation using the same database and the same general approach used to derive the heat rate adder. NIPPC used linear regression and found "that over the course of the available data, the average fixed O&M cost across all plants was 83% higher than the O&M costs experienced during the first year of data for the plants… Based on these findings, NIPPC recommends that the IE should include a fixed O&M adder of 83% when evaluating proposed utility-owned gas projects." NIPPC 2012 Comments, Attachment 1 at 10-11.

Similarly, using data from five utility-owned wind farms, NIPPC compared the current increase in O&M costs for these wind farms and the O&M costs reported for the first five years of the wind projects' lives. Based on this comparative analysis, "NIPPC proposes an adder to O&M costs for utility-owned wind projects for years 6 and beyond of 283% of the wind project's expected average O&M costs for the first five years of operation." NIPPC 2012 Comments, Attachment 1 at 11. NIPPC recommends to apply this adder to solar, geothermal, and other project types of utility-owned renewable generation. *Id*. at 14.

When a utility builds a benchmark resource, all prudent costs are passed through to the ratepayers. When an IPP builds a resource, the IPP is responsible for any future O&M costs necessary to maintain efficient operation of the underlying facility. However, Staff does not recommend using an adder in order to level the playing field between these resources. Rather Staff suggests that the IE compare the fixed O&M costs included in the

PPAs and the utility benchmark resources to the escalation factor for O&M costs recently used in utility Integrated Resource Plans and general rate cases.

### 5. Capital Additions

**Summary Description of the Issue:** Customers generally pay for prudently incurred and cost-effective capital additions to a Benchmark resource, regardless of expectations at the time of bid evaluation. Under a PPA construct, an IPP could effectively guarantee an expected level of capital additions and associated performance standards over the contract period.

Staff believes this risk factor is related to the IPP and the utility benchmark resource. As explained below, Staff does not recommend using an adder to address this issue.

In its March 19, 2012 Comments, NIPPC proposed a capital cost adder of 8 percent derived "based on a comparison of the recorded installed costs for Utility-Owned Generation (UOG) with the initial projection of these costs as disclosed by the utility to its regulator. In particular, the adder is the capacity-weighted average percentage change in the installed cost relative to the cost that was initially announced or proposed." NIPPC 2012 Comments, Attachment 1 at 5. However, NIPPC proposed that this adder be adjusted to account for capital additions and if possible incorporate data pertaining to the Oregon utilities' plants.

While resolving the cost over-run risk factor, the Commission stated that "utilities can minimize any cost over-run risk by seeking fixed price guarantees or contingency reserves, and generally adjust self-build bids to account for possible work orders and other risks. Consequently, we conclude that the application of generic bid adders to every utility-owned resource would only serve to distort the IE's comparative analysis."[8]

Then, the Commission directed the IE "to provide a more comprehensive accounting of the risks and benefits to ratepayers for construction cost over-runs and under-runs."[9]

Staff postulates that the Commission's resolution of the cost over-runs risk factor in its Order No. 13-204 applies also to this capital additions risk factor: utilities can minimize any costs related to capital additions by seeking fixed price guarantees or contingency reserves, and generally adjust self-build bids to account for possible work orders and other risks. Similarly, IPPs can minimize any costs related to capital additions by including in the PPAs a clause that protects them from against any risks associated with capital additions above an expected level of capital additions and associated performance standards over the contract period. Therefore, Staff recommends against using a cost adder to reflect capital additions for a utility benchmark resource or a PPA.

[8] Order No. 13-204 at 9 (Docket UM 1182).
[9] Id.

### 6. Changes in Allowed Return on Equity

**Summary Description of the Issue:** An IPP bid effectively includes a required return on investment. Selection of the bid does not change the required return. However, a Benchmark resource goes into a utility's rate base, which is subject to allowed rates of return which can increase or decrease over time, (i.e. may be different than what was assumed at the time of bid evaluation).

Staff believes that this risk is tied to resource ownership. Over time, the internal rate of return for new projects may go up or down depending on numerous economic factors. As economic conditions change, the IPP will capture any gains or losses relating to changing economic conditions, instead of those gains being flowed through to customers. A utility benchmark resource goes into a utility's rate base, which is subject to allowed rates of return which can increase or decrease over time, (i.e. may be different than what was assumed at the time of bid evaluation). With some regulatory lag, changes in the cost of capital are flowed through to retail customers in the Commission-approved rates customers pay for energy services.

Because capital markets may experience increases or decreases in financing costs, there does not appear to be a bias as to whether financing costs are locked in or allowed to float over time. Staff does note that regulated utilities have lower costs of debt and equity compared to IPPs due to the nature of cost-based regulation and being granted exclusive service territories.

Order No. 11-001 states clearly the underlying premise of this docket: "Most of the parties in this proceeding accept the premise that a bias exists in the utility resource procurement process that favors utility owned resources over PPAs."[10] To mitigate this bias, eleven other risk factors will be considered by the Commission in an attempt to level the playing field between the PPAs and utility benchmark resources. For this reason, Staff concludes that the resolution of the other eleven risk factors lessens the need to make any changes to allowed return on equity. Indeed, the resolution of the other risk factors is an attempt by the Commission to provide investors in IPPs and in utility benchmark resource an opportunity to receive a fair rate of return on their investments. Stated differently, the resolution of the other eleven risk factors allows IPPs and a competing utility benchmark resource to attract capital, be fair to all investors, and protect shareholders and ratepayers against unexpected changes in the PPAs or the benchmark resources over the life of the transaction. Thus, Staff recommends against using an adder to reflect changes in allowed rate of return.

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[10] Order No. 11-001 at 2 (Docket UM 1276).

### 7. Verify Output, Heat Rate and Power Curve

**Summary Description of the Issue:** For various resource types, there are well established performance verification protocols. These should be applied to either IPP or Benchmark resources. This can only be done upon resource completion, not at the time of bid evaluation.

The objective of performance verification related to output, heat rate and power curve is to allow early detection of underperformance by offering a baseline against which the performance of resource can be verified and remedies can be put in place in order to limit the negative impacts on ratepayers. These performance measures will be industry technology-specific.

Although the industry-established performance verification protocols can be applied to both resources, Staff finds that the PPAs should provide more specific clauses as to the total output to be supplied, the average annual generation, and a performance band (with a minimum and a maximum kWh of net output to be produced during the duration of the contract). Rather than imposing an arbitrary adder to reflect the differences in resource ownership and risks, Staff recommends that the IE verify that the RFP includes the same performance measures in terms of total annual output, average annual output, minimum and maximum net output to be produced by the IPP and the utility benchmark resource.

### 8. Construction Delays

**Summary Description of the Issue:** An IPP can essentially guarantee a completion date by contracting to pay damages in the case of a delay. If a Benchmark resource experiences a similar delay, customers will be impacted in two ways. They will not have to begin paying for the capital costs of the Benchmark resource until the end of the delay (when it is “used and useful”). However, customers will also not receive the benefits of the resource’s availability during the delay period. Whether these two opposing factors result in a net benefit or a net cost to customers in the case of a Benchmark resource delay depends on several factors. For example, in the case of a combustion turbine, the time of year during which the delay occurred would be very important. The opportunity cost of not having the resource available is much less in the spring than in the winter.

Staff is of the opinion that this factor applies to both utility-owned and to IPP-bid PPA resources.

PPA contracts should contain an opportunity to cure in case the IPPs experience construction delays (except in case of a force majeure or due to events beyond their control). In case the IPPs cannot cure the failure within a period specified in the contract, then they will possibly be liable for liquidated damages for delay or late completion of the IPP facility. PPA contracts also include provisions for terminating the contract for failure to deliver the product. However, even with payments of liquidated damages, not all risk is shifted away from the ratepayers and the shareholders. It is possible that the utility may

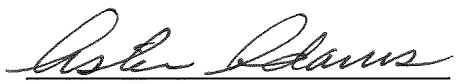
have to replace the expected IPP capacity, at least temporarily. The liquidated damages imposed in most IPP contracts approximate the cost of purchasing short-term capacity.

This actually may provide a revenue windfall to the utility (if the replacement capacity is cheaper than the capacity included in the contract), the ratepayers and shareholders, assuming that short-term capacity is readily available. This is the case where the utility actually ends up benefiting from construction delays.

As stated above, if a benchmark resource experiences a similar delay, customers may experience a net benefit or a net cost. In any case, the resource will not be approved for cost recovery until after it is found to be "used and useful" by the Commission. Thus, since the net impact of construction delays for benchmark resources is not clearly well-defined as a benefit nor as a cost to customers, but could be either, Staff believes no further adjustment to the price bid for this resource is necessary.

This concludes Staff's Opening Comments.

Dated at Salem, Oregon, this 30th day of September, 2013.



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| MEGAN WALSETH DECKER **(W)** | 421 SW 6TH AVE #1125<br>PORTLAND OR 97204-1629<br>megan@rnp.org |
| **RICHARDSON ADAMS, PLLC** | |
| GREGORY M. ADAMS **(C) (W)** | PO BOX 7218<br>BOISE ID 83702 |

CERTIFICATE OF SERVICE

UM 1182
Phase II – Opening Comments

I certify that I have, this day, served the foregoing document upon all parties of record in this proceeding by delivering a copy in person or by mailing a copy properly addressed with first class postage prepaid, or by electronic mail pursuant to OAR 860-001-0180, to the following parties or attorneys of parties.

Dated this 30th day of September, 2013 at Salem, Oregon

Kay Barnes

Kay Barnes
Public Utility Commission
3930 Fairview Industrial Drive SE
Salem, Oregon 97302
Telephone: (503) 378-5763