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GENERAL COUNSEL DIVISION

March 19, 2012

Traci Kirkpatrick  
Administrative Law Judge  
Public Utility Commission of Oregon  
550 Capitol St NE – Suite 215  
Salem OR 97301

Re: UM 1182

Dear ALJ Kirkpatrick:

Enclosed please find PUC Staff's Comments for the above-referenced docket. If you have any questions, please feel free to contact me.

Sincerely,

Michael T. Weirich  
Assistant Attorney General  
Business Activities Section

MTW:na/3283953-v1  
Enclosure

## STAFF'S RECOMMENDATION FOR INITIAL TOPICS FOR FURTHER ANALYSES

UM 1182

March 19, 2012

### Introduction:

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). *See* Order No. 11-001 at 6 (stated broadly, the concept at issue is commonly referred to as “build versus buy”).

Subsequently, in Phase II of UM 1182 the parties have participated in two workshops aimed at: (1) initially identifying comparative risk and advantage topics (referred to as “Items”), (2) which would then be more fully analyzed, (3) 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 a list of 12 risk/advantage Items to consider for further in-depth analysis. Various parties then performed preliminary analyses or explored conceptual approaches for several of the Items. The parties shared their work products prior to the second workshop, which was held on February 9, 2012.

As an agenda item for the second workshop, staff recommended that the parties reduce the list of 12 Items down to two or three for initial further extensive analyses. Staff’s goal in making this recommendation was (and still is) to keep the docket focused, manageable and productive. Under staff’s recommended approach, the parties would submit their competing analyses on the agreed-upon two or three Items, along with their respective recommendations, to the Administrative Law Judge (ALJ) through the usual process of witness testimony, an evidentiary hearing, and final briefing.

Unfortunately, at the conclusion of the February workshop, the parties were not able to agree upon a short-list of Items for further analyses. Given the lack of consensus, the parties agreed to submit one round of comments to the ALJ with their respective recommendations on how to further proceed in this docket. While the parties are free to structure their comments as they desire, staff requested that parties consider including in their comments their recommendations for a short-list of Items as discussed above.

Accordingly, staff's comments include the following:

- Descriptions of each of the 12 Items;
- Staff's identification of the three Items it recommends for further analyses in Phase II and the reasons behind staff's choice; and
- A matrix containing information on various attributes of each of the 12 Items.

Summary Descriptions of the 12 Items:

**Item 1: Cost Over- or Under-Runs**

If an IPP contractually guarantees construction cost, then that guaranteed amount is what customers will pay. However, if a Benchmark resource has either cost over- or under-runs, and the actual, rather than the bid, cost is allowed into rates, then customers will pay an amount different than that anticipated at the time of bid evaluation.

**Item 2: End Effects**

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**Item 4: Wind Capacity Factor**

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whereas, they would pay all of the capital costs of the Benchmark resource.<sup>1</sup> If actual wind is more than expected, then by similar reasoning, customers will “overpay” capital costs under the IPP contract by a factor of [Actual Wind / Expected Wind], i.e. would be better off with a Benchmark resource.

Staff believes that past estimates of wind capacity factors have generally been too high.<sup>2</sup> If one learns from past errors, future estimates might sometimes be too high and sometimes too low, but approximately correct on average. Given that experts are still “on a learning curve,” use of past data to project the future could be quite controversial in this case.

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<sup>1</sup> Note that the physical problem of having to cover for the lack of wind output would be the same for either the IPP contract or the Benchmark resource.

<sup>2</sup> Factors that have resulted in “systematic” overestimation of wind capacity factors in the past include failure to incorporate the wake effects inherent in large-scale wind farms.

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### **Item 10: Verify Output, Heat Rate, and Power Curve at the Start of Resource Life**

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.

### **Item 11: Counterparty Risk**

For a Benchmark resource, customers assume the financial performance risks associated with the utility itself. However, the financial performance risks associated with an IPP bid can be either higher or lower depending upon whether the IPP's financial strength is worse, or better, than that of the utility.

### **Item 12: Heat Rate Degradation**

If the heat rate of a Benchmark thermal resource increases more than anticipated over time, customers generally bear the associated costs. Under a PPA, an IPP could relieve customers of this risk by effectively guaranteeing the heat rate through contractual provisions.

### **Staff's Recommendation for Selected Items to Pursue:**

Of the 12 Items under consideration, Staff recommends the Commission focus near-term analysis efforts on the following three (numbers correspond to the Item numbers used earlier in these comments): Item 1 Cost over- and under-runs; Item 11 Counterparty risk; and Item 12 Heat rate degradation. Staff's reasons for its choices are as follows.

Staff used four major criteria in deciding which of the Items to further analyze at this time: (i) Interest shown by the parties at the February workshop in pursuing them; (ii) Whether the Item could have a substantial effect on bid scoring; (iii) Whether data is

available for an Item; and (iv) Whether the necessary analysis on an Item can be performed in a reasonable period of time.

Using these four criteria, as further explained below, staff selected Items 1, 11 and 12 for further study and analysis. Staff also attaches a matrix which evaluates all 12 Items according to the four major criteria as well as other considerations.

### **Item 1: Cost Over- and Under-Runs**

Cost over- and under-runs, particularly the former, are of potentially significant size and have already been the subject of extensive discovery in this docket over the past few weeks. Most, if not all parties, expressed an interest in this Item and the Northwest & Intermountain Power Producers Coalition (NIPPC) and PacifiCorp have already presented preliminary analytical approaches and results on this topic.

### **Item 11: Counterparty Risk**

The utilities have indicated that counterparty risk is a very important Item for them, and may have a significant effect on the bid scoring. The utilities have also stated that data, such as the prices of credit default swaps, are readily available to quantify the expected costs associated with differences between IPPs' and utilities' financial conditions. Staff notes that, although the utilities have expressed particular interest in the case of counterparties (IPPs submitting bids) whose financial conditions are worse than those of the utilities, this could also go the other way. An IPP whose financial condition is stronger than a utility's should receive favorable treatment in the bid evaluation process.

### **Item 12: Heat Rate Degradation**

NIPPC, Staff, and PacifiCorp have all performed analyses on heat rate degradation based on a data set developed by the authors of an article published in the American Economic Review. Thus, data is available and the analysis should be able to be completed in a reasonable period of time. Depending on how observations are weighted and "outliers" treated, preliminary analyses show estimates ranging from 0.1 percent to 5.5 percent. A 5.5 percent assumption would significantly affect bid scoring, whereas a 0.1 percent assumption would have almost no impact at all.

This concludes Staff's comments.

Dated at Salem, Oregon, this 19th day of March, 2012.



Stephen Schue  
Senior Economist  
Electric Rates & Planning

| <b>Item</b>                                         | <b>Potential Impact on Bid Scoring</b> | <b>Data Availability</b> | <b>Time Required for Analysis</b> | <b>Broad Applicability</b> | <b>Staff's Assessment of Parties' Level of Interest</b> | <b>Other Issues</b>                                |
|-----------------------------------------------------|----------------------------------------|--------------------------|-----------------------------------|----------------------------|---------------------------------------------------------|----------------------------------------------------|
| <i>1. Cost Over- and Under-Runs</i>                 | Medium to Great                        | Yes                      | Short to Medium                   | Yes                        | High                                                    |                                                    |
| <i>2. End Effects</i>                               | Medium                                 | Limited                  | Short to Medium                   | No. Resource Specific      | Medium                                                  |                                                    |
| <i>3. Environmental Regulatory Risk</i>             | Great                                  | No                       | NA                                | No                         | Medium                                                  | IPPs Unlikely to Cover Full Extent of Risk         |
| <i>4. Wind Capacity Factor</i>                      | Great                                  | Yes                      | Medium                            | No. Varies by Location     | High                                                    | Past Experience might not be Relevant <sup>1</sup> |
| <i>5. Construction Delays</i>                       | Small                                  | Limited                  | Short                             | Yes                        | Small to Medium                                         |                                                    |
| <i>6. Changes in Forced Outage Rates</i>            | Small <sup>2</sup>                     | Unclear <sup>3</sup>     | Medium, if Data Available         | Yes                        | Medium                                                  |                                                    |
| <i>7. Changes in Fixed O&amp;M</i>                  | Medium <sup>4</sup>                    | Yes <sup>5</sup>         | Short to Medium                   | Yes, by Resource Type      | Medium                                                  | Analytical Approach might be Complex               |
| <i>8. Capital Additions</i>                         | Medium to Great                        | Unclear <sup>6</sup>     | Medium, if Data Available         | Maybe, by Resource Type    | Medium                                                  | Likely to be Controversial                         |
| <i>9. Changes in Allowed Return</i>                 | Small                                  | Yes                      | Short                             | Yes                        | Low                                                     |                                                    |
| <i>10. Verification of Technical Specifications</i> | NA Simply Must be Done at Completion   | NA                       | NA                                | Yes                        | Low                                                     |                                                    |
| <i>11. Counterparty Risk</i>                        | Medium <sup>7</sup>                    | Yes                      | Short to Medium                   | Yes                        | Medium to High                                          |                                                    |
| <i>12. Heat Rate Degradation</i>                    | Small to Medium                        | Yes                      | Short to Medium                   | Yes                        | Medium to High                                          |                                                    |

<sup>1</sup> Disagreement over relevance of past experience could make this Item very controversial.

<sup>2</sup> Forced outage rates for combustion turbines are very low and do not vary widely enough to make this a large factor in overall scoring.

<sup>3</sup> Relevant data might be available from NERC. However, it might not be free.

<sup>4</sup> Medium is a place holder. More analysis and discussion would be needed to determine whether the impact might be small or medium.

<sup>5</sup> However, the data is for overall O&M, i.e. combined fixed and variable, rather than simply fixed, O&M.

<sup>6</sup> FERC Form 1 data might be used. However, data would likely include both capital additions to the base resource and capital improvements.

<sup>7</sup> Medium is a place holder. Staff has not yet seen and discussed analyses.

1 **CERTIFICATE OF SERVICE**

2 I certify that on March 19, 2012, I served the foregoing STAFF COMMENTS upon the  
3 parties in this proceeding by sending a true, exact and full copy by electronic mail only as all  
4 parties waive paper service:

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Neoma Lane  
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For a Benchmark resource, customers assume the financial performance risks associated with the utility itself. However, the financial performance risks associated with an IPP bid can be either higher or lower depending upon whether the IPP's financial strength is worse, or better, than that of the utility.

### **Item 12: Heat Rate Degradation**

If the heat rate of a Benchmark thermal resource increases more than anticipated over time, customers generally bear the associated costs. Under a PPA, an IPP could relieve customers of this risk by effectively guaranteeing the heat rate through contractual provisions.

### **Staff's Recommendation for Selected Items to Pursue:**

Of the 12 Items under consideration, Staff recommends the Commission focus near-term analysis efforts on the following three (numbers correspond to the Item numbers used earlier in these comments): Item 1 Cost over- and under-runs; Item 11 Counterparty risk; and Item 12 Heat rate degradation. Staff's reasons for its choices are as follows.

Staff used four major criteria in deciding which of the Items to further analyze at this time: (i) Interest shown by the parties at the February workshop in pursuing them; (ii) Whether the Item could have a substantial effect on bid scoring; (iii) Whether data is

available for an Item; and (iv) Whether the necessary analysis on an Item can be performed in a reasonable period of time.

Using these four criteria, as further explained below, staff selected Items 1, 11 and 12 for further study and analysis. Staff also attaches a matrix which evaluates all 12 Items according to the four major criteria as well as other considerations.

### **Item 1: Cost Over- and Under-Runs**

Cost over- and under-runs, particularly the former, are of potentially significant size and have already been the subject of extensive discovery in this docket over the past few weeks. Most, if not all parties, expressed an interest in this Item and the Northwest & Intermountain Power Producers Coalition (NIPPC) and PacifiCorp have already presented preliminary analytical approaches and results on this topic.

### **Item 11: Counterparty Risk**

The utilities have indicated that counterparty risk is a very important Item for them, and may have a significant effect on the bid scoring. The utilities have also stated that data, such as the prices of credit default swaps, are readily available to quantify the expected costs associated with differences between IPPs' and utilities' financial conditions. Staff notes that, although the utilities have expressed particular interest in the case of counterparties (IPPs submitting bids) whose financial conditions are worse than those of the utilities, this could also go the other way. An IPP whose financial condition is stronger than a utility's should receive favorable treatment in the bid evaluation process.

### **Item 12: Heat Rate Degradation**

NIPPC, Staff, and PacifiCorp have all performed analyses on heat rate degradation based on a data set developed by the authors of an article published in the American Economic Review. Thus, data is available and the analysis should be able to be completed in a reasonable period of time. Depending on how observations are weighted and "outliers" treated, preliminary analyses show estimates ranging from 0.1 percent to 5.5 percent. A 5.5 percent assumption would significantly affect bid scoring, whereas a 0.1 percent assumption would have almost no impact at all.

| <b>Item</b>                                         | <b>Potential Impact on Bid Scoring</b> | <b>Data Availability</b> | <b>Time Required for Analysis</b> | <b>Broad Applicability</b> | <b>Staff's Assessment of Parties' Level of Interest</b> | <b>Other Issues</b>                                |
|-----------------------------------------------------|----------------------------------------|--------------------------|-----------------------------------|----------------------------|---------------------------------------------------------|----------------------------------------------------|
| <b>1. Cost Over- and Under-Runs</b>                 | Medium to Great                        | Yes                      | Short to Medium                   | Yes                        | High                                                    |                                                    |
| <b>2. End Effects</b>                               | Medium                                 | Limited                  | Short to Medium                   | No. Resource Specific      | Medium                                                  |                                                    |
| <b>3. Environmental Regulatory Risk</b>             | Great                                  | No                       | NA                                | No                         | Medium                                                  | IPPs Unlikely to Cover Full Extent of Risk         |
| <b>4. Wind Capacity Factor</b>                      | Great                                  | Yes                      | Medium                            | No. Varies by Location     | High                                                    | Past Experience might not be Relevant <sup>1</sup> |
| <b>5. Construction Delays</b>                       | Small                                  | Limited                  | Short                             | Yes                        | Small to Medium                                         |                                                    |
| <b>6. Changes in Forced Outage Rates</b>            | Small <sup>2</sup>                     | Unclear <sup>3</sup>     | Medium, if Data Available         | Yes                        | Medium                                                  |                                                    |
| <b>7. Changes in Fixed O&amp;M</b>                  | Medium <sup>4</sup>                    | Yes <sup>5</sup>         | Short to Medium                   | Yes, by Resource Type      | Medium                                                  | Analytical Approach might be Complex               |
| <b>8. Capital Additions</b>                         | Medium to Great                        | Unclear <sup>6</sup>     | Medium, if Data Available         | Maybe, by Resource Type    | Medium                                                  | Likely to be Controversial                         |
| <b>9. Changes in Allowed Return</b>                 | Small                                  | Yes                      | Short                             | Yes                        | Low                                                     |                                                    |
| <b>10. Verification of Technical Specifications</b> | NA Simply Must be Done at Completion   | NA                       | NA                                | Yes                        | Low                                                     |                                                    |
| <b>11. Counterparty Risk</b>                        | Medium <sup>7</sup>                    | Yes                      | Short to Medium                   | Yes                        | Medium to High                                          |                                                    |
| <b>12. Heat Rate Degradation</b>                    | Small to Medium                        | Yes                      | Short to Medium                   | Yes                        | Medium to High                                          |                                                    |

<sup>1</sup> Disagreement over relevance of past experience could make this Item very controversial.

<sup>2</sup> Forced outage rates for combustion turbines are very low and do not vary widely enough to make this a large factor in overall scoring.

<sup>3</sup> Relevant data might be available from NERC. However, it might not be free.

<sup>4</sup> Medium is a place holder. More analysis and discussion would be needed to determine whether the impact might be small or medium.

<sup>5</sup> However, the data is for overall O&M, i.e. combined fixed and variable, rather than simply fixed, O&M.

<sup>6</sup> FERC Form 1 data might be used. However, data would likely include both capital additions to the base resource and capital improvements.

<sup>7</sup> Medium is a place holder. Staff has not yet seen and discussed analyses.