



Oregon

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OREGON PUBLIC UTILITY COMMISSION
ATTENTION: FILING CENTER
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**RE: Docket No. UM 1495 – In the Matter of PACIFICORP, dba PACIFIC POWER,
Petition for Certificate of Public Convenience and Necessity.**

Enclosed for electronic filing in the above-captioned docket is the Public Utility Commission Joint Staff's Opening Testimony.

/s/ Kay Barnes

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**PUBLIC UTILITY COMMISSION
OF OREGON**

UM 1495

**JOINT STAFF OPENING TESTIMONY
OF**

**Matthew (Matt) Muldoon
And
John R. Woerner**

**In the Matter of
PACIFICORP, dba PACIFIC POWER,
Petition for Certificate of Public Convenience and
Necessity.**

November 1, 2010

CASE: UM 1495
WITNESS: Muldoon - Woerner

**PUBLIC UTILITY COMMISSION
OF
OREGON**

STAFF EXHIBIT 100

Opening Testimony

November 1, 2010

1 **Q. PLEASE STATE YOUR NAME, OCCUPATION, AND BUSINESS**
2 **ADDRESS.**

3 A. Our names are Matthew (Matt) Muldoon and John Woerner. We are each
4 employed by the Public Utility Commission of Oregon (Commission) as Senior
5 Economists in the Economic Research and Financial Analysis Division of the
6 Utility Program. Our business address is 550 Capitol Street NE, Suite 215,
7 Salem, Oregon 97301-2551.

8 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUNDS AND**
9 **WORK EXPERIENCES.**

10 A. Our Witness Qualification Statements are found in Exhibit Staff/101-102.

11 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

12 A. On August 23, 2010 PacifiCorp, doing business in this area as Pacific Power
13 (Company), petitioned the Commission for a Certificate of Public Convenience
14 and Necessity (CPCN) for the construction of an overhead single circuit 230
15 kilovolt (kV) transmission line proposed to run from the Company's Wallula,
16 Washington (WA) substation to Bonneville Power Administration's (BPA)
17 McNary, Oregon (OR) substation near Umatilla, referenced herein as Wallula
18 to McNary or W2M. In compliance with Oregon Revised Statute
19 (ORS) 758.015 and Oregon Administrative Rule (OAR) 860-025-030
20 Commission Staff has conducted its own investigation to determine the
21 necessity, safety, and practicability of W2M as well as whether or not
22 constructing the proposed line is in the public interest. This testimony
23 constitutes Staff's response to the Company's request.

1 **Q. PLEASE SUMMARIZE STAFF'S RESPONSE.**

2 A. Staff recommends the Commission issue a CPCN for the construction of W2M
3 without a sunset provision but with the Staff conditions recommended in this
4 testimony. This decision would permit the Company to condemn land as a last
5 recourse in order to complete the W2M transmission project. If the
6 Commission grants the requested CPCN, a certified copy of the Commission's
7 order would be conclusive evidence that land required to construct W2M is
8 required as a public use and necessary for the public convenience in any
9 subsequent condemnation proceeding.

10 **Q. WHY DOES STAFF RECOMMEND THAT THE COMMISSION NOT**
11 **ATTACH A SUNSET PROVISION TO THE CPCN?**

12 A. Staff investigated the merits of a sunset provision and found that it undermines
13 the intent of the CPCN. Persons continuing to litigate past an in-service
14 deadline (which behavior may be incentivized by a sunset provision) can thwart
15 the purpose of a CPCN. Conversely, a start construction deadline is easily
16 thwarted by the Company by undertaking a small amount of construction
17 activity without full commitment to build the line.

18 **Q. WHY IS W2M LESS CONTROVERSIAL THAN OTHER LINES?**

19 A. The Company has restricted impact to land paralleling the existing right of way
20 (ROW), thereby minimizing the number of people, farms, and businesses
21 impacted. Local city and county governments strongly support W2M
22 construction. Further, the Company has made adjustments to line siting and
23 configuration to accommodate local governments and landowners. Any

1 damage to crops will be compensated by the Company or by contractors
 2 overseen by the Company. The relatively short construction time of eight
 3 months should constrain much of local landowners' inconvenience associated
 4 with construction staging, roads, and disruption of local farming and business
 5 activities to a single growing season.

6 **Q. DID YOU PREPARE EXHIBIT(S) FOR THIS DOCKET?**

7 A. Yes. We prepared Exhibits Staff/105-106 and Confidential Exhibits Staff/103-
 8 104, consisting of 4 pages.

9 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

10 A. Our testimony is organized as follows:

11 **Background Information** 4
 12 **Review Standard** 6
 13 **Need for W2M** 13
 14 Alternatives to Transmission: 15
 15 Transmission Alternatives Considered: 18
 16 **Safety Review of W2M** 21
 17 **Practicability of W2M** 23
 18 **W2M and the Public Interest** 26
 19 **Conclusion** 30

20

BACKGROUND INFORMATION**Q. PLEASE PROVIDE A SUMMARY DESCRIPTION OF THE COMPANY'S SERVICE TERRITORY AND OF HOW W2M RELATES TO THE COMPANY'S PROPOSED ENERGY GATEWAY TRANSMISSION EXPANSION.**

A. The Company is headquartered in Portland, but maintains corporate headquarters in both Portland and Salt Lake City, Utah. It provides electric service to a broad area of approximately 136,000 square miles. The Company, doing business as Pacific Power and as Rocky Mountain Power, serves approximately 1.7 million customers.

The Company owns and maintains over 15,000 miles of long distance transmission lines. This associated experience and expertise is relevant to Staff's review of the safety of constructing and maintaining the proposed W2M transmission line.

Staff believes this proposed line is best evaluated separate from the Company's Energy Gateway efforts. Though W2M is generally listed by the Company as part of Energy Gateway Segment-A, FERC determined in its EL09 series order responding to the Company's petition for a declaratory order to confirm incentive rate treatment, that W2M was effectively too disparate of a project to merit inclusion in and common treatment with the remaining Energy Gateway transmission line segments.

This recommendation in no way diminished the local Oregon and Washington value of the line. Rather, it clarifies that the purpose of the line is foremost to

1 facilitate the development of renewable generation connectivity to market or
2 load centers, overcoming local transmission capacity constraints. Secondly,
3 W2M contributes to reliably serving load growth in the Company's service
4 territory. Please note that fiber optical cable on W2M will be used exclusively
5 by the Company and does not impact local area telecommunications.

6 **Q. PLEASE PROVIDE A BRIEF DESCRIPTION OF THE COMPANY'S**
7 **PROPOSED W2M TRANSMISSION PROJECT.**

8 A. W2M is proposed as a 29.2 mile, single circuit 230 kV overhead transmission
9 line supported primarily by two-pole wooden H-frame structures with some
10 steel monopoles and more reinforced structures to accommodate water
11 crossings, altitude and directional changes, and related factors. Tower heights
12 range from 70 to 110 feet and are driven by terrain and safety requirements.
13 Right of Way (ROW) widths would be a minimum of 125 feet, and increased
14 where necessary to accommodate factors mentioned above. Over 75 percent
15 of the line distance is in Umatilla County, Oregon. Over 90 percent of the line's
16 proposed route in Oregon is on private property.

REVIEW STANDARD**Q. WHAT IS THE PURPOSE OF THIS SECTION?**

A. When an electric service provider proposes to construct an overhead transmission line that may necessitate the condemnation of land or interest therein, the provider must petition the Commission for a CPCN. The Commission is statutorily required to conduct its own investigation. This section provides an overview of the Commission's investigation criteria and review standard, serving as a checklist to ensure that all criteria of ORS 758.015 and OAR 860-025-030 were met. This statute and administrative rule each require that the applicant provide a thorough description and justification for the proposed transmission line. Based on that investigation, the Commission will issue an order presenting its decision regarding issuance of the requested CPCN.

Q. DID THE COMPANY PROVIDE A DETAILED DESCRIPTION AND GRANULAR ROUTE INFORMATION FOR THE PROPOSED LINE, CONSIDERATION OF ALTERNATE ROUTES, INTERCONNECTIONS AFFORDED BY W2M AND SUCH OTHER INFORMATION REQUESTED?

A. Yes.

Q. DID THIS INFORMATION ENABLE STAFF TO OBTAIN A FULL UNDERSTANDING OF THE PUBLIC CONVENIENCE, NECESSITY AND JUSTIFICATION IN THE PUBLIC INTEREST FOR THE PROPOSED TRANSMISSION LINE AND THE BENEFITS TO BE DERIVED

1 **THEREFROM, AND TO ENABLE A DETERMINATION OF ITS SAFETY**
2 **AND PRACTICABILITY?**

3 A. Yes, the Company complied fully with ORS 758.015. Staff was mindful that
4 this line is not subject to Oregon Department of Energy (ODOE) Energy Facility
5 Siting Council (EFSC) review because W2M is proposed to remain within 500
6 feet of existing Company or BPA rights of way. Additionally, Staff noted that
7 W2M was not heavily scrutinized as an action item within a Commission
8 acknowledged Integrated Resource Plan (IRP). Moreover, Staff closely
9 followed governing ORS and OAR guidelines. Therefore, in addition to the
10 Company's comprehensive filing, Staff submitted 98 detailed, multi-part data
11 requests (DR). The Company's DR responses developed conclusive evidence
12 used by Staff to determine the necessity, safety, practicability and justification
13 in the public interest of the proposed W2M transmission line.

14 **Q. DID THE COMPANY AND THE COMMISSION GIVE NOTICE AND HOLD**
15 **A PUBLIC COMMENT HEARING ON THIS PETITION IN A LOCATION**
16 **CONVENIENT TO PERSONS IMPACTED BY W2M?**

17 A. Yes. A public comment meeting in Umatilla, Oregon (noticed on September
18 30, 2010 and held the evening of October 14, 2010) provided an opportunity for
19 customers and the public to comment on Pacific Power's request and to ask
20 questions. This meeting also afforded Staff an opportunity to physically visit
21 the facility route and to clarify understandings derived from examining the
22 Company's maps, diagrams, descriptions and aerial photographs. County and

1 City planning staffs submitted comments strongly endorsing W2M for economic
2 development reasons in conjunction with this public comment meeting.

3 **Q. DID THE COMPANY SUPPLY SUFFICIENTLY DETAILED INFORMATION**
4 **BOTH IN ITS INITIAL FILING AND RESPONSES TO DATA REQUESTS**
5 **TO ENABLE STAFF ACQUIRING A FULL UNDERSTANDING AS**
6 **DESCRIBED ABOVE?**

7 A. Yes. While the Company did protest some data requests, and did incorporate
8 external materials from regional planning by referent internet links, the
9 Company provided requisite maps, one-line transmission diagrams and related
10 materials showing voltage and capacity of the proposed transmission line and
11 associated substations as well as existing and proposed interconnecting
12 transmission lines. While regional planning materials showed planning
13 iterations and alternate routes and line sizes considered, cost estimates were
14 provided in confidential DR responses. Staff confirmed the validity of
15 interconnection requests by reviewing the Company's Open Access Same-
16 Time Information System (OASIS) queue data.

17 Staff notes that additional wind interconnection and transmission requests on
18 the proposed line do not at this time designate specific load centers. Wind
19 plants are requesting transmission service to BPA's McNary substation and are
20 not required to state what load or market is ultimately served by plant output.
21 The flexibility afforded wind plants is consistent with Federal Energy Regulatory
22 Commission (FERC) interpretations of its 890 series orders governing
23 transmission planning. The effect is that the wind plants can seek best

1 markets for their output from a point of high transmission interconnectivity.
2 Therefore, wind plants interconnecting with W2M may contribute to meeting
3 Oregon's Renewable Portfolio Standards (RPS), but are not guaranteed to do
4 so.

5 **Q. DID THE COMPANY DETAIL THE LANDS TO BE CONDEMNED?**

6 A. The Company provided detailed information about land that could potentially
7 be condemned, mapping and creating tables of this information completely and
8 appropriately. However, many landowners have formed arrangements with the
9 Company wherein condemnation would not be necessary. Very few
10 landowners remain with whom the Company has not yet reached agreement.

11 **Q. DID THE COMPANY PROVIDE DETAILED COSTS OF DEVELOPING THE**
12 **PROJECT AND COMPARE THOSE COSTS AGAINST ALTERNATIVES**
13 **CONSIDERED?**

14 A. Yes. However, prudence of indirect and overhead costs for engineering, legal
15 expenses and contingencies, taxes, interest during construction, and itemized
16 administrative and general (A&G) expenses, as well as direct and other
17 expenditures, will require validation in future rate case proceedings. Staff
18 requested cost comparisons and estimates were supplied that clarified cost
19 differences between alternative ways to construct new transmission or
20 reinforce existing transmission over this path.

21 **Q. HAS THE COMPANY ANALYZED THE FINANCIAL FEASIBILITY OF**
22 **W2M?**

1 A. Yes. The Company provided explanation of the financial feasibility of the
2 proposed project, including projection of wind plant needs as well as discussion
3 of load growth in the larger Walla Walla, Washington to McNary, Oregon
4 transmission line area. W2M is the first and more certain (likely to be
5 constructed) segment of that proposed larger line.

6 **Q. DOES THE COMPANY HAVE AN OBLIGATION TO CONSTRUCT W2M AS**
7 **A CONDITION OF THE PURCHASE OF PACIFICORP BY MID-AMERICAN**
8 **ENERGY HOLDINGS (MEH)?**

9 A. The Company has conveyed to Staff that it views that it has the obligation to
10 review financial feasibility with respect to Docket No. UM 1209 Stipulation
11 Appendix A, to see if such a line should be constructed, but has the flexibility to
12 seek alternative projects that are more feasible as necessary. Staff did not
13 speculate on what portion, if any, of MEH TC 34, Part-c would be satisfied with
14 the energization of W2M as opposed to the larger Walla Walla to McNary
15 Company proposed transmission line.

16 **Q. DID THE COMPANY COMPLY WITH STATEWIDE PLANNING GOALS**
17 **AND PROVIDE STAFF WITH COPIES OF ALL CONDITIONAL USE**
18 **PERMIT AND JOINT PERMIT APPLICATIONS, DOCUMENTING THE**
19 **STATUS OR RESULTS OF THOSE APPLICATIONS?**

20 A. Yes. The Company is in compliance with affected city and county planning
21 agencies with conditional use permits issued as follows:
22 a. Umatilla County issued April 2, 2009
23 b. Walla Walla County issued April 1, 2009

1 c. City of Walla Wall issued March 6, 2009

2 The Company has obtained such permits as are required for the Commission
3 to issue a CPCN. The response to DR 8 outlines other federal and
4 Washington permits applied for and road and rail crossing permits required
5 with construction.

6 Staff does caution, however, that the Oregon Department of Land
7 Conservation and Development (DLCD) review and acknowledgement of
8 county and city comprehensive plans is a broad and lengthy periodic process
9 not triggered or accelerated by the Company's CPCN filing with the
10 Commission. DLCD is more likely to focus on strategic principles and rely on
11 city and county implementations of those strategic guidelines. Comments
12 received to date suggest the Company has accommodated all city and county
13 requests for adjustments to W2M specifications and that these political entities
14 favor rapid construction of W2M, consistent with local planning and land use
15 requirements as shown in exhibits filed to this effect.

16 **Q. CAN THE COMPANY INTERCONNECT W2M AT MCNARY?**

17 A. While studies are not complete, Staff sees no impediment to a single circuit
18 230 kV W2M interconnection at McNary. The request is consistent with recent
19 regional assessments of interconnection potential remaining at McNary by the
20 Transmission Coordination Work Group's (TCWG) coordinated studies for
21 Pacific Northwest path ratings conducted through the Northwest Power Pool
22 (NWPP).

23 Additionally, BPA issued a system impact study as outlined on page eight of

1 the application, which allowed the Company to enter into a Facilities Study
2 Agreement with BPA last February. Please note, however, that the Company
3 has not requested and BPA has not offered any connectivity option for either a
4 second 230 kV circuit or a 500 kV circuit at McNary. Please see the following
5 discussion of line sizing and limitations thereto in this testimony.

6 **Q. HAS THE COMPANY COMPLIED WITH EACH COMPONENT PROVISION**
7 **AND THE AGGREGATE INTENT OF OAR 860-025-0030?**

8 A. Yes. In particular, the Company provided Staff with general and detailed
9 information, description and explanation of the purpose of the proposed
10 transmission line exceeding ORS and OAR minimum requirements.
11 Throughout this investigation, the Company has complied with rigorous inquiry,
12 consistent with a single review process due to the lack of prior robust EFSC or
13 IRP Action Item scrutiny.

14

NEED FOR W2M**Q. WHY ARE THE CONSIDERATIONS SUPPORTING THE BUILDING OF THE TRANSMISSION FACILITIES?**

A. Two factors in aggregate provide compelling reason to build this line:

1. The Company has a general obligation to assess existing transmission in the area of the proposed line and to consider building a line if it is cost effective. By selecting the least cost, least risk configuration for W2M, the Company maximizes the likelihood that this line will prove cost effective.

2. PacifiCorp has entered into two transmission service request contracts to provide a total of 120 MW of transmission capacity through the Wallula area. The existing two megawatts of Operational Transfer Capacity on PacifiCorp's existing 230 kV line across this path are inadequate to meet this request. In compliance with its Open Access Transmission Tariff (OATT) and FERC governing orders, PacifiCorp must make a reasonable effort to satisfy these interconnection and transmission requests. In satisfying these two requests, the Company would facilitate additional wind-integration in the Wallula area.

Q. WHAT IS THE RELATIONSHIP BETWEEN WIND GENERATION FACILITIES IN THE WALLULA AREA AND W2M?

A. Wallula is a wind-rich area. With a proven path to market given the availability of long-term firm transmission capacity, it is very likely that additional wind plants near Wallula will be feasible. A smaller 115 kV line size would be impractical based on higher costs of transformers and substation equipment to

- 1 achieve relatively poor utilization of finite transmission corridor and would
- 2 provide minimal incremental capacity.

ALTERNATIVES TO TRANSMISSION:

1
2 **Q. DOES THE COMPANY'S PARTIAL YEARLY POINT-TO-POINT SERVICE**
3 **OFFERED IN THE COMPANY'S OPEN ACCESS TRANSMISSION TARIFF**
4 **(OATT) SCHEDULE 7 MITIGATE THE NEED FOR THE PROPOSED LINE**
5 **OVER THE PLANNING HORIZON?**

6 A. Staff investigated alternatives that do not rely on new construction. Based on
7 wind generation patterns in the area, Partial Yearly Firm Point-to-Point (PTP)
8 may not be used to postpone the need to build transmission. Additionally, the
9 Company represented, in a telephone conversation with Staff¹ on October 15,
10 2010, that developers have specifically requested Firm Yearly PTP.

11 **Q. WHAT ARE WIND PLANT FACTOR PATTERNS IN THIS AREA?**

12 A. Exhibit Staff/105 depicts wind production in the BPA Balancing Area Authority
13 (BA) for the preceding 46 months. Exhibit Staff/106 depicts area wind plant
14 capacity factors. Patterns shown including variation in average vs. peak
15 potential plant output help to explain wind plant developers and operators
16 reluctance to arrange conditional transport for energy based on average past
17 performance.

18 **Q. WHAT DOES THE CHART IN THAT EXHIBIT SHOW?**

19 A. As expected, wind production peaks in April, May, and June where plant
20 factors are 63, 47, and 72 percent, significantly above the annual average
21 capacity factor of 30 percent. These months are also those of high Pacific
22 PNW-PSW intertie loadings.

¹ A conversation between Staff and Sara Edmonds of the Company's Transmission Rates group.

1 **Q. DOES THIS PATTERN SEEM SUITED TO PARTIAL YEAR SERVICE?**

2 A. It appears to Staff to be better suited to Monthly, Weekly, or Daily short-term
3 firm service rather than Partial Yearly service.

4 **Q. AT CURRENT TRANSMISSION RATES, WHAT DOES IT COST TO**
5 **TRANSMIT POWER TO THE CALIFORNIA-OREGON BORDER (COB)**
6 **FROM WALLULA?**

7 A. The cost is the sum of the Company's, BPA's Network, and BPA's Southern
8 Intertie charges. These are \$2.025, \$1.298, and \$1.293 per kW-month, for a
9 total of \$4.616 per kW-mo. In dollars per megawatt hour (\$/MWh) and based
10 on the seasonal load factors, these charges range from \$17 in the summer
11 (June, July, and August) to \$32 in the winter (December, January, and
12 February). Pacific Gas and Electric (PG&E) would then tack on its
13 transmission charges.

14 **Q. COULD WIND PLANTS UTILIZE CONDITIONAL TRANSMISSION**
15 **INSTEAD OF NEW FIRM TRANSMISSION CAPACITY?**

16 A. Conditional Firm and Firm Contingent transmission will not satisfy wind plant
17 transmission requests and may diminish perceived value of wind plant output
18 from the buyer's perspective. The Company offered conditional transmission
19 products which were not acceptable to wind customers.

20 **Q. COULD ENERGY EFFICIENCY, DEMAND RESPONSE OR**
21 **MANAGEMENT, OR OTHER "NON-WIRES" INITIATIVES OBVIATE THE**
22 **NEED FOR NEW TRANSMISSION?**

- 1 A. No. Incremental Company efficiencies in those areas will not eliminate the
- 2 need for W2M. Those efficiencies could not satisfy the current transmission
- 3 requests or provide Wallula area wind developers with firm transmission to
- 4 market.

TRANSMISSION ALTERNATIVES CONSIDERED:**Q. IS THE PROPOSED TRANSMISSION ADEQUATELY SIZED TO SERVE
LONG-TERM NEED?**

A. Staff was very concerned on this point and looked closely at an option of rebuilding the Company's existing Walla Walla to McNary transmission line. Despite the avoidance of ROW costs and impacts, the cost of replacing existing transmission with a double circuit 230 kV line on steel monopoles was more than double the cost of the Company's proposed line configuration and would require line outage during times when no regularly scheduled outages would otherwise occur. A single circuit 500 kV replacement is not a viable option due to potential difficulty of interconnection at McNary and costs approximately 4.5 times higher, inclusive of additional transformers and substation equipment, than that of W2M as proposed.

Staff also examined the cost of the proposed line as an additional new double circuit 230 kV line on steel monopoles. This option offered several energization possibilities for a scaled development of transmission capacity to match realized wind generation growth in the Wallula area. However, the Company's confidential response to DR 1 shows an unacceptable cost in the absence of committed requests for transmission service. Though not articulated in the Company's initial filing, this option has three additional negatives:

1. Due to line height considerations and clearances as well as component differences, ROW would increase and costs would rise as summarized and

1 detailed in Exhibit Staff/103 and Exhibit Staff/104 respectively.

2 2. The line could no longer alternate routing north and south of the existing
3 BPA 500 kV line, negatively impacting agricultural activities.

4 3. A larger line would also increase the impact on wildlife in the Wanaket area
5 potentially beyond impacts acceptable to BPA management on behalf of local
6 tribes. Staff's review of the smaller line finds that it generally avoids wetlands
7 and minimally impacts this sensitive wildlife area. The low impact is partially
8 due to flexibility derived from the single circuit 230 kV line height and relative
9 clearances. Conversely, an earlier proposed BPA line (which was withdrawn
10 due to changes in generation plans) caused much greater environmental
11 concerns. Any enlargement of the W2M line is of concern to both BPA and
12 local tribes.

13 **Q. DOES STAFF BELIEVE ENVIRONMENTAL IMPACT IS ACCEPTABLE IN**
14 **THE STAGING, CONSTRUCTION, AND MAINTAINENCE OF W2M?**

15 A. Yes. The Company appears to be acting responsibly with respect to wildlife.
16 Avian protections are incorporated into line designs and costs. Wildlife surveys
17 (provided by the Company) show minimal long-term impacts, as long as the
18 Company restores temporary access and staging areas.

19 **Q. BASED ON STAFF'S REVIEW, IS THIS A VIABLE LINE**
20 **CONFIGURATION AND ROUTING BETWEEN VIABLE ENPOINTS**

21 A. Yes. The termination at McNary affords current requests and future wind plant
22 operators the choice between serving Pacific Northwest loads, serving

1 California loads, or looking for other options depending on which transmission
2 lines proposed to terminate in northeastern Oregon are constructed.

3 **Q. HOW DOES THIS LINE AFFECT SUB-REGIONAL ELECTRIC**
4 **RELIABILITY?**

5 A. This line primarily serves specific interconnection requests, likely near future
6 wind integration and potentially Walla Walla local electrical connectivity needs.
7 It has some positive impact on sub-regional reliability, but reliability is not the
8 key factor advancing this line. Without this line, given current transmission
9 requests, wind energy in the Wallula area that is excess to local need cannot
10 move to viable loads and markets in Oregon, Washington or elsewhere.

11 **Q. BASED ON THE COMPANY'S FILING AND STAFF'S INVESTIGATION,**
12 **DOES STAFF BELIEVE THIS LINE IS NEEDED?**

13 A. Yes.

14

SAFETY REVIEW OF W2M**Q. DID THE COMPANY PROVIDE INFORMATION REGARDING SYSTEM SAFETY?**

A. Yes. The Company states that it accommodated landowners' and city requests by shifting the proposed W2M line alternatively north and south of the existing BPA 500 kV line across this transmission path, by making adjustments to minimize planned commercial activity, and by adjustments to height clearances to accommodate agricultural concerns. However, the Company states it will adhere to all National Electric Safety Code (NESC) and Company standards, including those for line clearances and use. Based on the Company's size, experience and record with a like line over the same corridor Staff is confident that safety standards will be met.

Q. DID COMMISSION SAFETY STAFF REVIEW THE DIAGRAMS FOR W2M?

A. Yes. Commission Safety Staff detected no cause for safety concerns.

Q. DOES THE PROPOSED W2M LINE DISRUPT BPA, UMATILLA ELECTRIC CO-OP (UEC), OR ANY OTHER UTILITY FACILITIES OR EASEMENTS?

A. No. PacifiCorp will ensure that all line crossing are properly permitted and all electrical interconnections and clearances comply with safety standards.

Q. DID STAFF IDENTIFY ANY UNRESOLVED SAFETY OR ENGINEERING CONCERNS WITH W2M?

- 1 A. No. Generally, the Company's design was as simple as possible in part to
2 control costs. That approach also led to the least complex line with minimal
3 electrical connections, equipment, and change from existing conditions.

PRACTICABILITY OF W2M

1
2 **Q. STAFF NOTED THAT SEVERAL LINE CONFIGURATIONS WERE**
3 **STUDIED AND THAT THE COMPANY SELECTED THE LEAST COST**
4 **LINE CONFIGURATION THAT STILL ALLOWED FOR INCREMENTAL**
5 **FIRM CAPACITY BEYOND THAT CURRENTLY CONTRACTED FOR. IS**
6 **THIS PROPOSED LINE A PRACTICAL SOLUTION TO THE COMPANY'S**
7 **TRANSMISSION NEEDS IN THIS VICINITY?**

8 A. Yes. The Company explored options involving different line end points,
9 different timing, and different line sizes. While there was some initial interest
10 from Avista, no entity is prepared to partner with the Company to build a line
11 over this path.

12 **Q. DID THE COMPANY EXPLORE THE BENEFITS OF ADDING A BI-**
13 **DIRECTIONAL PHASE SHIFTER AND OTHER SUBSTATION**
14 **EQUIPMENT TO W2M?**

15 A. Yes. However, costs to better control line flows could not be justified without
16 sharing those costs with partners.

17 **Q. DID THE COMPANY EXPLORE DIFFERENT PROJECT TIMING?**

18 A. The Company delayed committing to this project until it was certain it wanted to
19 pursue this project at this time with assurance that the line would be utilized by
20 specific customers. The project has been delayed in PacifiCorp's high priority
21 projects' planning for several years until there were strong indicators that W2M
22 would be beneficial to both Company and ratepayers. With firm
23 interconnection contracts in hand, Wallula area wind developer interest and

1 strong Umatilla County endorsement, W2M can be advanced rapidly. Local
2 city and county governments, facing a severe downturn in the economy, are
3 solidly behind this project at this time. Though it is not a priority of the
4 Commission's review, construction of W2M and related wind projects would
5 add jobs to a depressed area.

6 **Q. DOES ACQUISITION OF ROW PROPERTY OR EASEMENTS CREATE**
7 **ANY NEW LIABILITY FOR THE COMPANY?**

8 A. The only issue detected to date is a \$200 arrearage in property taxes owed by
9 one property owner which may become the Company's responsibility.

10 **Q. WHY DID STAFF FOCUS HEAVILY ON BPA'S ROLE IN THIS PROJECT?**

11 A. As summarized in the response to DR 27, BPA is proposed to operate and
12 maintain equipment at BPA's McNary substation as well as a Remedial Action
13 Scheme (RAS) to facilitate W2M. Additionally, BPA is responsible for ensuring
14 adequate environmental protections for a portion of the route. BPA does not
15 appear to have concerns about the line as proposed, but would be concerned if
16 the line consumed resources at McNary over those proposed or had a greater
17 impact on environmentally sensitive lands along the Columbia River. Such
18 concerns would be triggered by a larger size; e.g., by double circuit 230 kV or
19 500 kV line configurations.

20 **Q. INFORMED BY STAFF'S REVIEW OF THE COMPANY'S FILING, FERC**
21 **ORDERS, SUBREGIONAL AND REGIONAL PLANNING**
22 **DOCUMENTATION, AND DISCUSSIONS WITH LOCAL RESIDENTS IN**
23 **UMATILLA AT THE PUBLIC COMMENT MEETING OF OCTOBER 14,**

1 **DOES STAFF FIND THAT THIS LINE IS A PRACTICAL SOLUTION TO**
2 **THE COMPANY'S TRANSMISSION NEEDS IN THE WALLULA AREA?**

3 A. Yes,

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W2M AND THE PUBLIC INTEREST

Q. HAVE INDIVIDUAL LANDOWNERS IMPACTED BY W2M INTERVENED OR EXPRESSED CONCERNS?

A. The only petition to intervene received as of October 27, 2010, was from the Citizens' Utility Board of Oregon (CUB). CUB intends to monitor Staff's investigation and proceedings, and to raise any appropriate issues. To date, the Commission has directly received only supportive comments from individuals and local governments in the area.

Q. DID PACIFICORP PROVIDE A TABLE OF CONCERNS EXPRESSED IN OPEN HOUSES HELD TO EXPLAIN THE PROJECT AND TO RECEIVE COMMENTS FROM INTERESTED PERSONS?

A. Yes. Suggestions were incorporated within the constraints of retaining proximity to existing transmission ROW and compliance with safety code and guidelines. Most comments either requested clarification regarding impacts, provided routing suggestions to consider, or were inquiries regarding subcontracting opportunities. While no long linear project can be entirely free of impacts, Staff's impression is that W2M has less impact than that of other proposed transmission because PacifiCorp appears to have been straightforward in its routing criteria, but otherwise willing to actively discuss how to minimize the impact on each landowner. The Company's planning included pole placement assessments, so as to avoid wetland impacts, thereby minimizing environmental concerns.

1 **Q. DID STAFF'S INVESTIGATION INCORPORATE WASHINGTON'S**
2 **ENERGY FACILITY SITE EVALUATION COUNCIL (EFSEC) REVIEW OF**
3 **A (SINCE CANCELLED) PREVIOUSLY PROPOSED 500 KV LINE IN THIS**
4 **AREA TO SERVE THE WALLULA POWER PROJECT?**

5 A. Yes. Staff closely reviewed Washington EFSEC and BPA findings and
6 documentation and addressed concerns raised therein as posted at
7 <http://www.efsec.wa.gov/wallula/eis/feis/wallulafeis.shtml>.

8 This earlier Washington review provided Staff a better reference point to
9 consider the response to DR 62, a Wildlife, Habitat and Rare Species Survey
10 prepared for the Company by CH2M HILL in September of 2008, and the
11 Company's environmental analysis included in its filing.

12 Staff's remaining major environmental concern was bird protection for the line,
13 which the Company confirmed will be deployed.

14 **Q. DID ANY COMMENTS RECEIVED REGARDING TRANSMISSION PAST**
15 **OR PRESENT CONTAIN ANY ADVICE THAT MIGHT BE OF VALUE TO**
16 **THE COMPANY BEYOND W2M?**

17 A. Yes. The Company may benefit by testing low-reflectivity composite pole
18 materials similar to tests of such materials for signage posts at State Parks on
19 the Oregon coast. The suggestion was to have the company identify and test a
20 durable and reliable gray weather-resistant alternative to wooden poles that
21 could be cost competitive, but minimize the visual impact of H-frame
22 transmission.

23 Generally, most comments in the earlier Washington EFSEC examination of

1 the since cancelled, larger 500 kV line through this area focused on minimizing
2 line size to that needed while minimizing impacts on property owners.

3 **Q. DID STAFF CONSIDER THAT ZERO AVAILABLE TRANSMISSION**
4 **CAPACITY (ATC) WOULD NOT BE A PROBLEM IF THERE WERE NO**
5 **DEMAND FOR SERVICE?**

6 A. Yes. Staff recognized that lack of incremental transmission capacity does not
7 necessarily trigger the need for construction without demand for new service.
8 Staff also considered seasonal and year-to-year variations in usage. Staff
9 further considered the firmness of transmission service requests. Generally,
10 Staff views queue requests without contracts as no more than a general
11 indication of interest. Zero long-term firm ATC only flags a path as one to be
12 monitored for economic congestion. However, minimal ATC and new firm
13 service request contracts generally translate as a requirement to evaluate
14 building new transmission or reinforcing existing transmission.

15 **Q. WHAT IS THE TIPPING POINT, IN TERMS OF SIMPLE BREAK-EVEN**
16 **UTILIZATION ANALYSIS, BEYOND WHICH REVENUES FROM THE**
17 **MOVEMENT OF WIND ENERGY EXCEED THE COST OF THE LINE?**

18 A. Staff Confidential Exhibit 103 summarizes confidential information provided by
19 the Company identifying the Company's proposal as the least cost alternative
20 considered. If 260 MW or more of the 400 MW capacity of W2M is contracted
21 for in long-term firm transmission contracts, this line will benefit ratepayers.
22 Staff anticipates that wind interest will help achieve this two-thirds (2/3)
23 capacity of the proposed W2M. At this time the proposed W2M configuration

1 appears to be the least cost and lowest risk alternative for both the Company
2 and ratepayers at an estimated cost of \$700,000 to \$900,000 per mile.

3 **Q. COULD THIS TRANSMISSION FACILITATE OTHER WIND**
4 **INTEGRATION?**

5 A. Yes. W2M would immediately facilitate 120 MW of wind integration, but has
6 potential beyond that. If W2M is built, there is a strong incentive for wind
7 developers to consider rapid incremental plant development near Wallula given
8 available but finite long-term firm transmission capacity to a physical exchange
9 nexus at McNary. This transmission lowers the risk and cost of financing such
10 new wind facilities.

11 Staff cautions that many of the wind integration requests without signed
12 contracts for service in the area must be viewed as speculative. W2M would
13 provide adequate capacity to meet identified Wallula area wind integration and
14 Walla Walla area load growth with additional firm transmission to serve several
15 potential future wind plants in the Wallula area.

16 **Q. DOES THIS LINE SIZE MINIMIZE BOTH NEAR- AND LONG-TERM COST**
17 **AND RISK FOR RATEPAYERS?**

18 A. Yes.

19 **Q. DOES STAFF BELIEVE THAT THE LINE, AS PROPOSED AND**
20 **CONSTRUCTED TO BE IN SERVICE AS SOON AS PRACTICAL, IS IN**
21 **THE PUBLIC INTEREST?**

22 A. Yes.

23

CONCLUSION**Q. DOES STAFF ANTICIPATE ANY CHANGES TO THE W2M
TRANSMISSION PROJECT AS PROPOSED BY PACIFICORP?**

A. Staff does not expect changes in macro factors like timing, endpoints or line size. However, the response to DR 26 indicates that \$1 Million of the estimated \$1.3 Million engineering and planning cost for W2M has not yet been incurred. There would, therefore, be minor changes to cost that reflect actual final granular engineering changes. Additionally, cost information would be refined once contracts are signed to build this line.

**Q. WHAT IS YOUR SUMMARY RECOMMENDATION TO THE COMMISSION
REFLECTING STAFF'S INDEPENDENT AND COMPREHENSIVE
REVIEW?**

A. Staff recommends that the Commission issue a CPCN for the construction of W2M, which will potentially be used to condemn land as a last recourse to complete the W2M transmission project, subject to the following conditions:

1. The Company will provide the Commission with updated component and aggregate loaded costs for W2M in electronic spreadsheet format, with cell references and formulas intact, at the time(s) when the Company signs contract(s) for W2M engineering, procurement or construction.
2. The Company will notify the Commission should line sizing, endpoints, or the target in-service date materially change.
3. The Company will notify the Commission should any required BPA, governmental entity, or utility authorization or material agreement, including

1 line or road crossing permits, be denied or established as unlikely to be
2 achieved.

3 4. Prior to energizing W2M, the Company will provide the Commission with
4 final files, in both hard copy and electronic format and containing a copy of the
5 signed, authorized, or approved copy of all permits, agreements and contracts
6 required to site, engineer, plan, construct and energize W2M in compliance
7 with all federal, state, city and county agencies, building departments and
8 governing bodies, entities described in Condition 3 above, and such other
9 entities, as are necessary to energize W2M.

10 5. Where W2M is jurisdictional to an entity's comprehensive plan, land use
11 regulations, or development codes, but does not require specific approval by
12 that entity, the Company will provide the Commission a copy of a letter from
13 the governing body indicating that W2M is either compatible with pertinent
14 regulation or that review is delegated to one or more other political subdivisions
15 in lieu of the entity's providing information otherwise required by Condition 4.
16 As an example, such a letter would be adequate from Oregon DLCD.

17 6. The Company will endeavor to provide adequate oversight of contractors to
18 minimize impacts of staging materials, construction, land restoration, and
19 operation of W2M, consistent with all agreements reached with counties, cities,
20 landowners and other entities referenced in these conditions.

21 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

22 A. Yes.

CASE: UM 1495
WITNESS: Muldoon-Woerner

**PUBLIC UTILITY COMMISSION
OF
OREGON**

STAFF EXHIBIT 101

Witness Qualification Statement

November 1, 2010

WITNESS QUALIFICATION STATEMENT

NAME: Matthew (Matt) Muldoon

EMPLOYER: Public Utility Commission of Oregon

TITLE: Senior Economist, Economic Research and Financial Analysis Division

ADDRESS: 550 Capitol Street NE Suite 215
Salem, Oregon 97301-2148

EDUCATION: In 1981, I received a Bachelors of Arts Degree from the University of Chicago. Then in 2007, I received a Masters of Business Administration from Portland State University with a certificate in Finance.

EXPERIENCE: From April of 2008 to the present, I have been employed by the OPUC. My current responsibilities include financial and rate analysis in the Economic Research and Financial Analysis Division of the OPUC's Utility Program, with a focus on transmission and wind integration. I participate in regional and sub-regional planning including activities with Western Electricity Coordinating Council, Variable Generation Subcommittee, Columbia Grid, Northern Tier Transmission Group (NTTG) and other regional and sub-regional forums.

From 2002 to 2008 I was Executive Director of the Acceleration Transportation Rate Bureau, Inc. where I developed new rate structures for surface transportation and created metrics to insure program success within regulated processes.

I was the Vice President of Operations for Willamette Traffic Bureau, Inc. from 1993 to 2002. There I managed tariff rate compilation and analysis. I also developed new information systems and did sensitivity analysis for rate modeling.

OTHER EXPERIENCE: I have prepared, and defended formal testimony in contested hearings before the ICC, STB, WUTC and ODOT. I have also prepared OPUC staff testimony in BPA and utility rate cases.

CASE: UM 1495
WITNESS: Muldoon-Woerner

**PUBLIC UTILITY COMMISSION
OF
OREGON**

STAFF EXHIBIT 102

Witness Qualification Statement

November 1, 2010

WITNESS QUALIFICATION STATEMENT

NAME: John R. Woerner

EMPLOYER: Public Utility Commission of Oregon

TITLE: Senior Economist, Economic Research and Financial Analysis Division

ADDRESS: 550 Capitol Street NE Suite 215
Salem, Oregon 97301-2148

EDUCATION: I received a Bachelors of Arts and a Masters of Arts degrees in Economics from the University of Montana in 1970 and 1975 respectively.

I minored in philosophy and math as an undergraduate and emphasized econometrics during graduate school. Following this, I worked for one year in a PhD program in geography at the University of Washington, where I studied regional economics and quantitative methods.

EXPERIENCE: I was employed as a research assistant for the Bureau of Business and Economic Research, University of Montana in 1974 -1975. From March 1980 through 2007, I worked for Bonneville power Administration (BPA) specializing in rate development and forecasting.

In BPA's 1981 and 1982 rate cases, I worked on the time-differentiation of power rates. I ran BPA's Wholesale Power Rate Design computer program in BPA's 1983 rate case.

From 1984 – 1993, I was responsible for BPA's Transmission Rate Design model. I developed a statistical wheeling energy forecast model for BPA's 1987 transmission rate case as a front-end model to the Transmission Rate Design Study (TRDS). This model was used to forecast energy sales for rate-setting purposes through the 1993 rate. I designed and populated the 1996 TRDS with responsibilities in the 2002, 2004, 2006, and 2008 rate cases.

Staff/102
Muldoon-Woerner/2

In the early nineties, I developed BPA's long-term transmission rates forecast which was published in 1993. Ultimately, I became responsible for BPA's transmission revenue forecasts.

For the Commission, my focus is on rate design and weather normalization of sales forecasts.

OTHER EXPERIENCE: I owned and had operated a grass hay farm in Central Oregon. I served as Treasurer of the Central Oregon Hays Growers' Association from 2006 – 2009.

CASE: UM 1495
WITNESS: Muldoon-Woerner

**PUBLIC UTILITY COMMISSION
OF
OREGON**

STAFF EXHIBIT 103

**Exhibits in Support
Of Opening Testimony**

**REDACTED
November 1, 2010**

STAFF EXHIBIT 103

IS CONFIDENTIAL AND SUBJECT TO PROTECTIVE

ORDER NO. 10-393. YOU MUST HAVE SIGNED

APPENDIX B OF THE PROTECTIVE ORDER IN

DOCKET UM 1495 TO RECEIVE THE

CONFIDENTIAL VERSION

OF THIS EXHIBIT.

CASE: UM 1495
WITNESS: Muldoon-Woerner

**PUBLIC UTILITY COMMISSION
OF
OREGON**

STAFF EXHIBIT 104

**Exhibits in Support
Of Opening Testimony**

**REDACTED
November 1, 2010**

STAFF EXHIBIT 104

IS CONFIDENTIAL AND SUBJECT TO PROTECTIVE

ORDER NO. 10-393. YOU MUST HAVE SIGNED

APPENDIX B OF THE PROTECTIVE ORDER IN

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CASE: UM 1495
WITNESS: Muldoon-Woerner

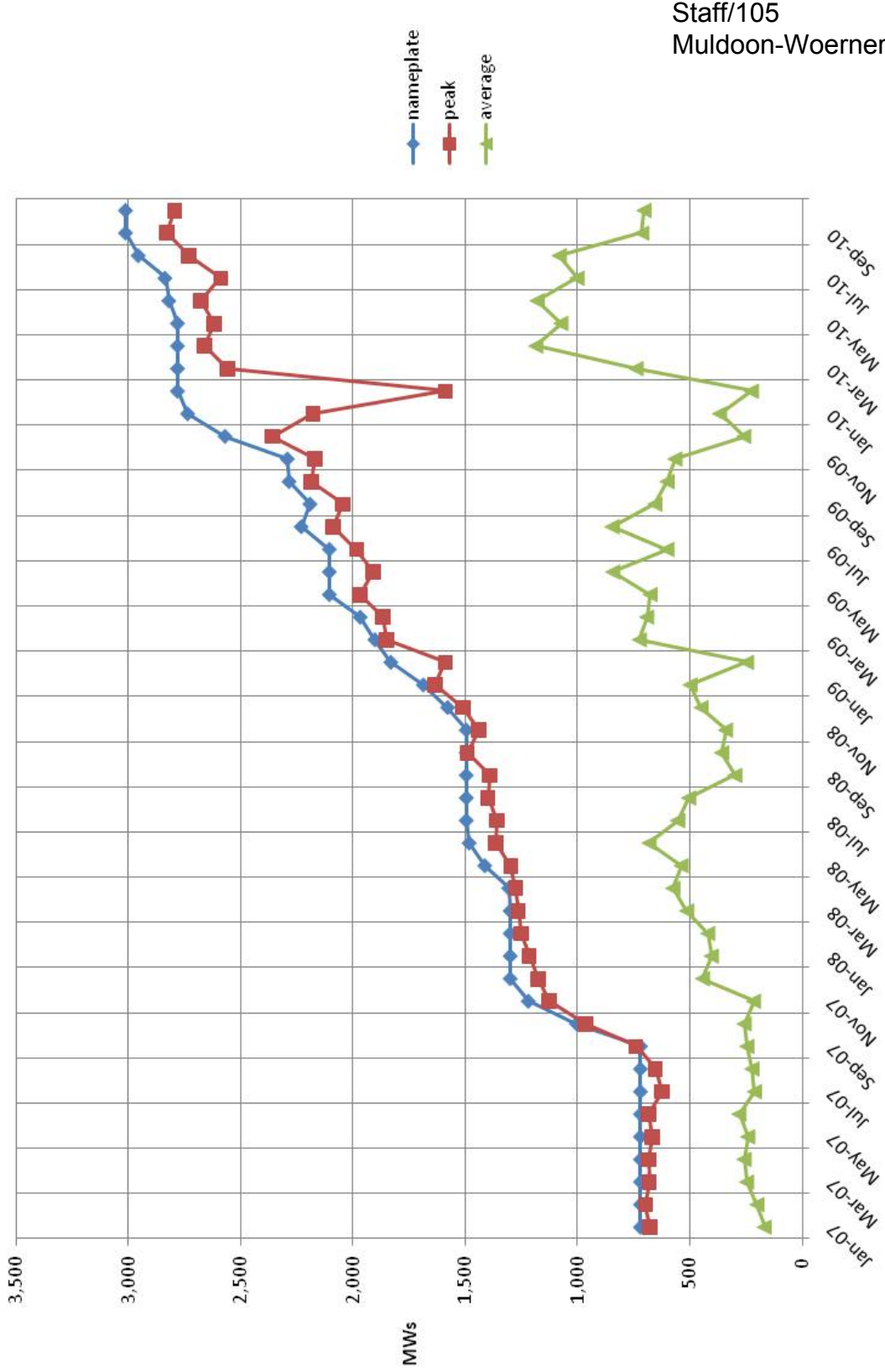
**PUBLIC UTILITY COMMISSION
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OREGON**

STAFF EXHIBIT 105

**Exhibits in Support
Of Opening Testimony**

November 1, 2010

Lower Columbia Wind Generation and Installed Capacity, Jan 2007 – Oct 26, 2010



Staff/105
Muldoon-Woerner/1

Aggregate Average BPA Balancing Authority Data

CASE: UM 1495
WITNESS: Muldoon-Woerner

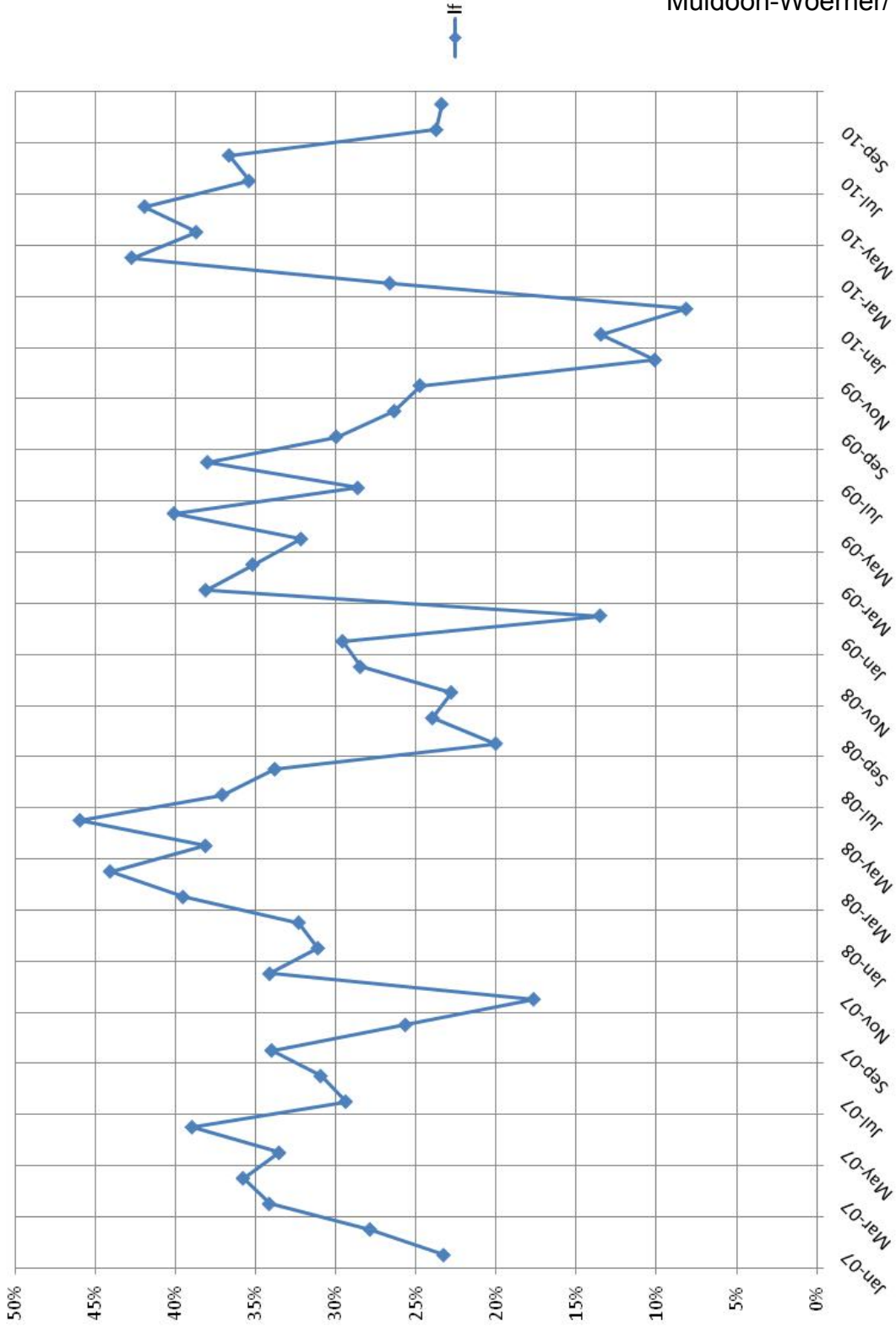
**PUBLIC UTILITY COMMISSION
OF
OREGON**

STAFF EXHIBIT 106

**Exhibits in Support
Of Opening Testimony**

November 1, 2010

Lower Columbia Wind Plant Capacity Factors



Aggregate Average BPA Balancing Authority Data

CERTIFICATE OF SERVICE

UM 1495

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 860-13-0070, to the following parties or attorneys of parties.

Dated at Salem, Oregon, this 1st day of November, 2010.

Kay Barnes

Kay Barnes
Public Utility Commission
Regulatory Operations
550 Capitol St NE Ste 215
Salem, Oregon 97301-2551
Telephone: (503) 378-5763

UM 1495
Service List (Parties)

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