

**EXHIBIT NO. \_\_\_(MLJ-1CT)**  
**DOCKET NO. UE-07 \_\_\_/UG-07 \_\_\_**  
**2007 PSE GENERAL RATE CASE**  
**WITNESS: MICHAEL L. JONES**

**BEFORE THE  
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND  
TRANSPORTATION COMMISSION,**

**Complainant,**

**v.**

**PUGET SOUND ENERGY, INC.,**

**Respondent.**

**Docket No. UE-07 \_\_\_**  
**Docket No. UG-07 \_\_\_**

**PREFILED DIRECT TESTIMONY (CONFIDENTIAL) OF  
MICHAEL L. JONES  
ON BEHALF OF PUGET SOUND ENERGY, INC.**

**REDACTED  
VERSION**

**DECEMBER 3, 2007**

**PUGET SOUND ENERGY, INC.**

**PREFILED DIRECT TESTIMONY (CONFIDENTIAL) OF  
MICHAEL L. JONES**

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1 **PUGET SOUND ENERGY, INC.**

2 **PREFILED DIRECT TESTIMONY (CONFIDENTIAL) OF**  
3 **MICHAEL L. JONES**

4 **I. INTRODUCTION**

5 **Q. Please state your name, business address, and position with Puget Sound**  
6 **Energy, Inc.**

7 A. My name is Michael L. Jones. My business address is 10885 N.E. Fourth Street,  
8 Bellevue, WA 98004. I am Manager, Colstrip Project Operations & Fuels for  
9 Puget Sound Energy, Inc. (“PSE” or the “Company”).

10 **Q. Have you prepared an exhibit describing your education, relevant**  
11 **employment experience, and other professional qualifications?**

12 A. Yes, I have. It is Exhibit No. \_\_\_(MLJ-2).

13 **Q. What are your duties as Manager, Colstrip Project Operations & Fuels for**  
14 **PSE?**

15 A. I am responsible for the management of PSE’s ownership and contract interests in  
16 the four-unit Colstrip Steam Electric Station in Colstrip, Montana. My  
17 responsibilities include oversight of plant operations, environmental issues,  
18 budget performance and the Colstrip Steam Electric Station’s fuel supply  
19 contracts. Additionally, I am actively involved in PSE’s generating resource

1 development and acquisition efforts, focusing on solid fuel technologies.

2 **Q. Please summarize the purpose of your prefiled direct testimony.**

3 A. My prefiled direct testimony provides background regarding the Colstrip Steam  
4 Electric Station in Colstrip, Montana. It describes PSE's due diligence activities,  
5 consideration of alternative supply options, and negotiations for an additional  
6 supply of coal for Colstrip Steam Electric Station Units 1 and 2. Finally, my  
7 testimony explains the current capacity levels of the four Colstrip Steam Electric  
8 Station units and the scheduling of major plant maintenance overhauls.

9 **II. BACKGROUND REGARDING THE**  
10 **COLSTRIP STEAM ELECTRIC STATION**

11 **Q. What is the Colstrip Steam Electric Station?**

12 A. The Colstrip Steam Electric Station is a four-unit, mine mouth, coal-fired  
13 electricity-generating facility operated by PPL Montana, LLC ("PPL") in  
14 Colstrip, Montana, about 120 miles southeast of Billings. The Colstrip Steam  
15 Electric Station is capable of producing a total of up to 2,094 megawatts of  
16 electricity. Units 1 and 2 each has about 307 megawatts of generating capacity  
17 and began commercial operation in 1975 and 1976, respectively. Units 3 and 4  
18 each currently has about 740 megawatts of generating capacity and began  
19 commercial operation in 1984 and 1986, respectively.

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1 **Q. What is PSE's interest in the Colstrip Steam Electric Station?**

2 A. PSE owns a 50% undivided interest in Units 1 and 2, and a 25% undivided  
3 interest in Units 3 and 4. PSE receives additional energy from Unit 4 pursuant to  
4 a purchased power contract between PSE and NorthWestern Energy that expires  
5 at the end of 2010. In total, the Colstrip Steam Electric Station provides  
6 approximately 20% of the Company's overall energy needs.

7 **III. COLSTRIP UNITS 1 AND 2 COAL**  
8 **PURCHASE AND SALE AGREEMENT**

9 **Q. What is the current coal supply arrangement for Units 1 and 2?**

10 A. PSE and the Montana Power Company ("Montana Power") built Units 1 and 2 in  
11 the 1970s to burn coal from the nearby Rosebud Mine, which was owned and  
12 operated by Western Energy Company ("Western Energy").<sup>1</sup> Western Energy  
13 delivers coal from the Rosebud Mine to Units 1 and 2 by off-road truck. The  
14 Rosebud Mine has been supplying the full coal requirements of Units 1 and 2  
15 since the units were commissioned in 1975 and 1976 under a contract that will  
16 expire on December 31, 2009. The Rosebud mine contains five permitted mining  
17 areas: Areas A, B, C, D and E. Area D, northeast of the power plant, currently  
18 supplies coal to Units 1 and 2.

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<sup>1</sup> Montana Power sold its interests in Units 1 and 2 to PPL-Montana ("PPL") in 1999, and Western Energy was sold to Westmoreland Coal Company ("Westmoreland Coal") in 2001.

1 **A. Identification of Alternatives**

2 **Q. When did PSE and PPL begin evaluating replacement alternatives for the**  
3 **current coal supply arrangement?**

4 A. PSE and PPL established a Coal Supply Task Team ("Task Force") and an  
5 executive Steering Committee in early 2004 to identify and evaluate coal supply  
6 opportunities and negotiate new coal supply arrangements. The goal of the Task  
7 Force was to (i) examine alternative sources of coal supply and (ii) select the coal  
8 supply source, or sources, that would provide a secure source of supply of quality  
9 coal at a low delivered cost. The purpose of the executive Steering Committee  
10 was to support and guide the Task Force in this effort.

11 **Q. What criteria did the Task Force identify for evaluating potential coal supply**  
12 **sources?**

13 A. The Task Force identified the following criteria for the evaluation of potential  
14 coal supply sources:

- 15 • Adequate coal reserves to support a contract term of at least ten  
16 years.
- 17 • A low present value delivered cost, including but not limited to  
18 commodity costs, delivery costs, and owner and supplier capital  
19 cost recovery.
- 20 • The quality of coal used must be such that it will not cause a  
21 derating to Units 1 and 2.
- 22 • The quality of coal used in Units 1 and 2 must be such that it does  
23 not require plant modifications that could trigger the New Source  
24 Review provisions of the Clean Air Act.

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- Any additions or modifications to the generating facilities necessary to support the coal supply source must fit within the plant’s existing site limitations.
- Any coal supply source must be confirmed by independent mining consultants with respect to mining cost, capital costs and quantity and quality of the reserves.

**Q. How did the Task Force seek to identify and evaluate coal supply opportunities and negotiate new coal supply arrangements?**

A. The Task Force hired two mining engineering consultants to assist in its initial identification of potential coal supply sources. The John T. Boyd Company (the “Boyd Company”) compiled and summarized current information on active and potential coal mine sites in the Powder River Basin of Montana and Wyoming. Please see Exhibit No. \_\_\_(MLJ-3C) for a copy of the Boyd Company report.

Concurrent with the commissioning of the Boyd Company report, the Task Force also retained Marston & Marston, Inc. (“Marston”), a mining and engineering firm that has monitored mining activities at the Rosebud Mine for PSE and PPL for a number of years, to (i) evaluate mining plans that utilize mining combinations in Areas B, C, and D of the Rosebud Mine, (ii) prepare an analysis of the quantity and quality of reserves at the Rosebud Mine, and (iii) provide an estimate of the costs of mining to supply Units 1 and 2 after expiration of the current contract. Marston’s initial report is Exhibit No. \_\_\_(MLJ-4C).

[REDACTED]

[REDACTED]

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[REDACTED]

**B. Development of Fuel Quality Guidelines**

**Q. Did the Task Force develop fuel quality guidelines and perform boiler modeling for the range of qualities of Powder River Basin coal?**

A. Yes. Alstom Power Inc. (“Alstom”)<sup>2</sup> developed fuel quality guidelines and performed boiler modeling for Units 1 and 2 for a range of coal qualities found in the Powder River Basin.

**Q. Could you please provide examples of the design and operating characteristics of Units 1 and 2?**

A. Yes. The boilers in Units 1 and 2 were originally designed to operate on the quality of coal found in the Rosebud Mine. The boiler furnace cross-sections and overall furnace volumes of Units 1 and 2 were minimized to lower their cost-- consistent with industry practices in the 1970s when the units were built.

[REDACTED]

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<sup>2</sup> The boilers for Units 1 and 2 were designed and supplied by Combustion Engineering, Inc., now the Performance Products Group of Alstom and Alstom continues to support boiler operations, maintenance and capital projects associated with Units 1 and 2.



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[REDACTED]

**C. Development of a Short List of Potential Suppliers**

**Q. Did the Task Force create a short list of potential coal suppliers from the various reports prepared by the Boyd Company, Marston and Alstom?**

A. Yes. Based on the reports prepared by the Boyd Company, Marston and Alstom, the Task Force began detailed discussions with Western Energy and [REDACTED]. The Task force also contacted the Burlington Northern Santa Fe Corporation (“BNSF Railway”). The BNSF Railway’s interest, ability and cost to deliver coal from the many other Powder River Basin coal suppliers would be an essential element of our analysis.

1 **Q. Did the Task Force retain other consultants to provide assistance with the**  
2 **due diligence process?**

3 A. Yes, the Task Force retained Roberts & Schaefer Company  
4 (“Roberts & Schaefer”), an engineering design and construction services firm,  
5 and L. E. Peabody & Associates, Inc. (“Peabody & Associates”), an economic  
6 consulting firm, to provide projected capital and operating costs for an on-site  
7 railcar unloading facility. Such a facility would be necessary for unloading any  
8 coal supplied by rail, as no such facilities currently exist at the Colstrip plant site.  
9 Please see Exhibit No. \_\_\_(MLJ-5C) for the reports prepared by  
10 Roberts & Schaefer and Peabody & Associates. The draft version of the Roberts  
11 & Schaeffer report was used, as described below, and never finalized.

12 **Q. Did the Task Force develop “all-in” cost projections for each supply source?**

13 A. Yes, the responses of Western Energy, [REDACTED] and BNSF Railway  
14 together with cost estimates of plant modifications provided by Roberts and  
15 Schaeffer, Peabody & Associates and Alstom were used to develop “all-in” cost  
16 projections for each supply source. Such cost projections allowed the Task Force  
17 to compare costs for each option taking into account other anticipated costs that  
18 would likely affect one or more of the proposals.

19 Additionally, the Task Force relied on price projections for Powder River Basin  
20 coal published by Hill & Associates, Inc. (“Hill & Associates”), a consulting firm  
21 that specializes in the coal and electricity markets. The Task Force confirmed the

1           reasonableness of the Hill & Associates projected coal prices with [REDACTED]  
2           [REDACTED], which operates several mines in the region.

3           PSE and PPL then each developed an economic model (each using a slightly  
4           different approach) that ranked the alternatives, and each economic model  
5           produced the same economic ranking of the projects. Please see Exhibit  
6           No. \_\_\_(MLJ-6C) for the presentation to the Steering Committee on July 6, 2005  
7           containing the economic analysis (page 8) of the coal supply alternatives on the  
8           short list. This presentation also included a qualitative analysis (see pages 17 -19)  
9           of the coal supply alternatives.

10       **D. PSE Management Review**

11       **Q. Did the Task Force regularly update the Coal Supply Steering Committee**  
12       **during the due diligence process?**

13       A. Yes. The Task Force regularly met with the Coal Supply Steering Committee,  
14       which consisted of senior PSE and PPL executives, to share information and  
15       receive direction.

16           The Task Force first briefed the Coal Supply Steering Committee in a meeting on  
17           June 23, 2004. The Task Force also briefed the Coal Supply Steering Committee  
18           on November 18, 2004, June 7, 2005, and July 6, 2006.

19           ////

1 **Q. Did the Coal Supply Steering Committee provide subsequent direction?**

2 A. Yes, on July 6, 2005, the Coal Supply Steering Committee identified the  
3 following next steps for the Task Force to pursue:

4 i. Ask Marston & Marston to review the information supporting  
5 Western Energy's proposal dated April 6, 2005.

6 ii. [REDACTED]  
7 [REDACTED]

8 iii. Continue discussions with BNSF Railway about its rail proposal  
9 and analyze the terms of the standard BNSF Railway rail  
10 agreement.

11 iv. [REDACTED]  
12 [REDACTED]

13 v. [REDACTED]  
14 [REDACTED]

15 vi. Begin preliminary engineering and cost estimating for rail  
16 unloading and storage facilities.

17 vii. Confirm property ownership and real estate issues related to  
18 permanent coal unloading and storage for coal delivered by rail.

19 viii. Update the Hill & Associates price forecast of Powder River Basin  
20 coal for January 1, 2010, and beyond.

21 **Q. Did the Task Force update PSE's Energy Management Committee ("EMC")**  
22 **on the status of the Task Force's efforts?**

23 A. Yes. On August 18, 2005, PSE's representatives on the Task Force provided a  
24 report to PSE's EMC of the activities performed by the Task Force to date and the  
25 direction provided by the Coal Supply Steering Committee. Please see Exhibit  
26 No. \_\_\_(MLJ-7C) for the presentation provided to the EMC. At that meeting, the

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EMC supported the next steps identified by the Steering Committee on July 6, 2005.

**Q. Did PSE update its Board of Directors regarding the ongoing negotiations with Western Energy?**

A. Yes. At the July 2006 meeting of the Board of Directors, a presentation was made regarding the ongoing negotiations with Western Energy regarding a new coal supply agreement for Units 1 and 2. Please see Exhibit No. \_\_\_(MLJ-8C) for a copy of the presentation to the PSE Board of Directors. The Board was also updated on November 3, 2006, that an agreement with Western Energy was being finalized.

**Q. Did Marston provide review of Western Energy's reserve data and projected mining costs?**

A. Yes. Marston independently reviewed Western Energy's reserves data and projected mining costs and provided a report to the Task Force on October 12, 2005. Please see Exhibit No. \_\_\_(MLJ-9C) for a copy of the Western Energy report prepared by Marston.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

**Q. Did Hill & Associates update the price forecast of Powder River Basin coal?**

A. Yes, in September 2005, the Task Force obtained a price forecast for future Powder River Basin coal from Hill & Associates. Please see Exhibit No. \_\_\_(MLJ-10C) for a copy of the updated price forecast for Powder River Basin coal. This price forecast was consistent with the prior Hill & Associates price forecast that PSE and PPL used in their respective economic models.

**Q. Were there any significant changes in costs for Powder River Basin Coal?**

A. Yes. In late Fall 2005, Powder River Basin coal prices for deliveries in calendar year 2006 increased dramatically--from \$6 to\$7 per ton to over \$20 per ton. In the beginning of calendar year 2006 Powder River Basin coal prices began to drop, but the prices have not yet returned to historical levels.

**Q. Did the Task Force continue the design analysis of the boilers and permanent rail unloading and storage equipment?**

A. Yes, based on additional engineering work by the Alstom, the estimate of the cost of boiler modifications--engineering, materials, fabrication, and installation--was

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[REDACTED]. These modifications would be necessary to allow use of Powder River Basin coal from mines other than the Rosebud Mine without requiring regular maintenance outages. Without these modifications to the boilers, it is estimated that Units 1 and 2 would require [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]

The Task Force also continued the conceptual engineering design and analysis of rail unloading and storage equipment at Units 1 and 2.

**Q. Was a test burn planned and conducted?**

A. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

- (i) [REDACTED]  
[REDACTED]
- (ii) [REDACTED]  
[REDACTED]
- (iii) [REDACTED]  
[REDACTED]  
[REDACTED]

////

1 **Q. Did the Task Force conduct further negotiations with BNSF Railway**  
2 **regarding the rate proposal?**

3 A. No. The Task Force did not conduct further negotiations with BNSF Railway  
4 because (i) pricing of Powder River Basin coals, as discussed above, had risen  
5 significantly in Fall 2005 and (ii) [REDACTED]

6 [REDACTED]

7 [REDACTED]

8 Based on the results of the evaluation of alternatives and the report prepared by  
9 Marston the Task Force focused all of its efforts, beginning in October 2005, on  
10 negotiating a new coal supply agreement with Western Energy.

11 **E. Negotiations with Western Energy**

12 **Q. Please describe the contract negotiations with Western Energy.**

13 A. [REDACTED]

14 [REDACTED]

15 [REDACTED]

16 **Q. [REDACTED]**

17 A. [REDACTED]

18 [REDACTED]

19 [REDACTED]



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[REDACTED]

**Q.** [REDACTED]

**A.** [REDACTED]

- i. [REDACTED]
- ii. [REDACTED]
- iii. [REDACTED]
- iv. [REDACTED]
- v. [REDACTED]

**Q.** [REDACTED]

**A.** [REDACTED]

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**Q.**

[REDACTED]

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**Q.** [REDACTED]

**A.** [REDACTED]  
[REDACTED]  
[REDACTED]

**Q.** [REDACTED]

**A.** [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

**Q. Was the final coal supply agreement finalized and executed?**

**A. Yes.** [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

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**IV. CURRENT CAPACITY LEVELS OF THE  
COLSTRIP UNITS**

**Q. What are capacity limits?**

A. Every generating station has limits to the output it can safely produce (i.e., the capacity limit). The design ratings of plant components, such as the boiler, turbine, generator, step-up transformer or other plant components, will limit the safe output. Additionally, the characteristics and conditions of the interconnected transmission system will limit the safe output of a generator.

**Q. What are the original design ratings for Units 1 and 2?**

A. [REDACTED]

**Q. What are the original design ratings for Units 3 and 4?**

A. [REDACTED]

////

////

1 **Q. Have recent modifications been made to these Units?**

2 A. [REDACTED]  
3 [REDACTED]  
4 [REDACTED]  
5 [REDACTED]  
6 [REDACTED]

7 **Q. Will these upgrades affect the design ratings of the Colstrip Electric Steam**  
8 **Station units?**

9 A. [REDACTED]  
10 [REDACTED]  
11 [REDACTED]  
12 [REDACTED]

13 **Q. Do actual performance test results support the position that the turbine**  
14 **upgrades simply returned the units to their original design ratings?**

15 A. [REDACTED]  
16 [REDACTED]  
17 [REDACTED]  
18 [REDACTED]

19 ////

1 **Q. If one were to assume that the turbine upgrades increased the design ratings**  
2 **of each unit, could the units be operated in excess of design ratings of**  
3 **307 MWe net for Units 1 and 2 and 740 MWe net for Units 3 and 4?**

4 A. No. Even if the units could be operated in excess of design ratings of 307 MWe  
5 net for Units 1 and 2 and 740 MWe net for Units 3 and 4, transmission system  
6 ratings and system conditions limit the output of the Colstrip Steam Electric  
7 Station units.

8 NorthWestern Energy, operator of the jointly-owned Colstrip Transmission  
9 System, which runs 200 miles from the Colstrip Electric Steam Station in eastern  
10 Montana to Townsend, Montana (in the western part of the state), has established  
11 an operating limit of 2100 MW for the combined generation output by the four  
12 units of the Colstrip Electric Steam Station. Please see Exhibit No. \_\_\_(MLJ-14)  
13 for a copy of the operating limit of 2100 MW established by NorthWestern  
14 Energy.

15 [REDACTED]

16 (i) [REDACTED]  
17 [REDACTED]

18 (ii) [REDACTED]  
19 [REDACTED]  
20 [REDACTED]  
21 [REDACTED]

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**Q.** [REDACTED]

[REDACTED]

**A.** [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

**V. PLANNED MAJOR MAINTENANCE OVERHAULS**

**Q. Please describe the scheduling of the planned major maintenance overhauls for Units 1, 2, 3 and 4.**

**A.** [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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**VI. CONCLUSION**

**Q. Please summarize your testimony.**

A. A thorough investigation and analyses of coal supply alternatives for Colstrip Units 1 and 2 was conducted to develop a coal supply agreement for the supply of quality coal at a low delivered cost following the termination of the current agreement. Colstrip's upgraded steam turbine components are meeting their design objectives of restoring generating capacity that has been lost through normal aging of the plant equipment. PSE management and its Board of Directors have provided review and direction in implementing both of these actions.

**Q. Does that conclude your prefiled direct testimony?**

A. Yes, it does.