EXHIBIT NO. ___(DSL-1T)
DOCKET NO. UE-13____
2013 PSE PCORC
WITNESS: DOUGLAS S. LOREEN

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PUGET SOUND ENERGY, INC.,** **Respondent.**	**Docket No. UE-13____**

PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF DOUGLAS S. LOREEN ON BEHALF OF PUGET SOUND ENERGY, INC.

APRIL 25, 2013

PUGET SOUND ENERGY, INC.

PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF DOUGLAS S. LOREEN

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PUGET SOUND ENERGY, INC.

PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF DOUGLAS S. LOREEN

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Douglas S. Loreen, and my business address is 10885 N.E. Fourth Street, Bellevue, Washington 98004. I am employed by Puget Sound Energy, Inc. ("PSE" or "the Company") as Director Project Delivery.

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

A. Yes, I have. It is Exhibit No. ___(DSL-2).

Q. Please summarize the scope of your prefiled direct testimony in this proceeding.

A. This prefiled direct testimony addresses upgrades to PSE hydroelectric projects undertaken in compliance with the Federal Energy Regulatory Commission ("FERC") relicensing orders. My testimony includes a discussion of:

(i) The Company's approach to major generation project construction;

(ii) Construction of the Snoqualmie hydroelectric redevelopment project (the "Snoqualmie Falls Project");

(iii) Construction of the floating surface collector ("FSC") at the Lower Baker hydroelectric plant (the “Lower Baker FSC Project”);

(iv) Construction of the new powerhouse at the Lower Baker hydroelectric plant (the “Lower Baker Powerhouse Project”); and

(v) Eligibility and expectations for the Snoqualmie Falls Project and the Lower Baker Powerhouse Project to receive nontaxable grants from the Department of Treasury under Section 1603 of the American Recovery and Reinvestment Act of 2009 (the “Treasury Grants”).

Q. Has the Washington Utilities and Transportation Commission reviewed other major construction projects required by FERC relicensing orders?

A. Yes, PSE has completed three major projects at the Baker Hydroelectric Project as part of its implementation of the FERC license requirements, and the Washington Utilities and Transportation Commission ("WUTC" or "Commission") reviewed these projects in PSE's 2011 general rate case, Docket UE-111048. These projects are as follows:

(i) the Upper Baker Floating Surface Collector Project, completed in March 2009;

(ii) the Baker Project Fish Hatchery Project, completed in September 2010; and

(iii) the Lower Baker Adult Fish Trap, completed in June 2010.

Q. Please explain the relationship between your testimony and the testimony of Company witness Mr. Paul Wetherbee in this proceeding.

A. Both my testimony and the testimony of Mr. Wetherbee discuss the Snoqualmie Falls Project, the Lower Baker FSC Project, and the Lower Baker Powerhouse Project. Mr. Wetherbee discusses these projects in the context of the

requirements of the new FERC licenses. My testimony addresses the actual construction of the projects.

Q. What is the forecasted cost recovery in this case for each project?

A. The following table shows the cost recovery forecast for each project. The costs include AFUDC and do not reflect any credit from the Treasury Grants. For a discussion of the deferrable and non-deferrable values, please see the Prefiled Director Testimony of Katherine J. Barnard, Exhibit No. ___(KJB-1CT).

Project	On-Line Dates	Deferrable (RCW 80.80.060)	Non Deferrable	Total
Snoqualmie Falls Project				
Diversion Dam	10/31/2012	$5,863,169	$302,360	$6,165,529
Plant 1	7/1/2013	$149,918,779	$6,552,027	$156,470,806
Plant 2	4/17/2013	$131,319,286	$7,104,913	$138,424,199
Total		$287,101,234	$11,939,754	$301,060,534
Baker Project				
Lower Baker FSC	2/14/2013		$58,294,458	$58,294,458
Lower Baker Powerhouse	6/10/2013	$102,186,383		$102,186,383
Total		$102,186,383	$58,294,458	$160,480,841

II. PSE'S APPROACH TO MAJOR GENERATION PROJECT CONSTRUCTION

Q. Please briefly discuss PSE's decision to hire outside contractors to construct the Snoqualmie Falls Project and the Lower Baker projects.

A. The Snoqualmie Falls Project and the two Lower Baker projects are major construction projects that are not regularly undertaken by PSE. These projects differ from more routine construction that PSE undertakes on an ongoing basis such as construction of electrical substations. Given the highly specialized nature and scope of the projects, the Company determined early in the project planning that specialty technical design and construction contractors would be needed to build the projects, rather than PSE performing the construction internally. The Company focused on selecting and managing these specialty contractors to meet PSE's expectations as the owner and operator of the projects.

Q. Please describe the process PSE undertook prior to selecting contractors for these major projects.

A. At the start of these major projects, the Company formed a project team of internal and external technical resources to plan and execute each project. The project teams included project managers, cost and schedule specialists, permit managers, environmental scientists, engineers from multiple disciplines, and construction managers. Specialty consultants were added to the teams as necessary to fill resource and expertise gaps. Well in advance of the construction start date, the project teams conducted a detailed design phase for each project, during which a robust scope of work and all required construction bid documents were generated. The Company then created detailed bidding instructions, which included all engineering design documents, specifications, basis of design, project schedule of values, milestone schedule, project management governance, and

proposed form of contract. These instructions became the "Request for Proposal" ("RFP") to select the contractor construction team for each project.

Q. Please provide an overview of the contractor selection process for each project.

A. The Company compiled a list of three or four qualified contractors for each project. The finalists for each project received the RFP package for that project, and each contractor team was allowed several months to create a robust bid, during which time the Company held several information sessions to ensure good understanding and a complete bid. At the end of the RFP period, the Company thoroughly evaluated all bids, conducted a fair, competitive contractor selection process, and proceeded to negotiate a project-specific construction contract with the selected contractor team for each project.

Q. Did the contractors procure all materials and equipment for these projects?

A. No. Certain major pieces of equipment were procured directly by the Company. The Company retained direct procurement to better control specifications and quality, and to avoid contractor mark-up and fee. Examples of owner-furnished equipment include turbine generators, transformers, security systems, control systems, select valves and other miscellaneous equipment.

Q. What is the Company's role during project execution and construction?

A. The Company, as the owner of the projects, takes an active role during construction. The project team oversees the progress of the selected contractor; monitors regulatory and environmental compliance; coordinates Company resources; reviews and approves technical submittals; manages the project change process; and manages the overall scope, schedule, budget and quality of construction for the Company. The Company maintains a strong field presence on each job site.

Q. How does the Company track and control project changes during construction?

A. Projects are tracked and controlled against a baseline scope, schedule, and budget established prior to the start of construction. Project baselines are set based upon the design specifications, specific scopes of work, contractor bids and work flow. As a project progresses any proposed changes to the scope, schedule, or cost of an item of work go through a thorough review and approval process. The Company and contractor create mitigation plans to minimize change impacts to the project.

Q. How are the projects commissioned?

A. Each of the projects consists of multiple systems that work together to perform the designed function. The contactors developed detailed commissioning plans for each piece of major equipment and systems. As construction is completed, each system is tested in normal and emergency modes. Generally, the final

systems commissioned are the overall electronic controls for the project and the communications ties with the Company's operations center in Redmond.

Q. Please describe how projects are completed and placed in service.

A. When projects are accepted by the Company as ready to produce scheduled power, the projects are placed in service. However, the in-service date does not usually mark the end of construction. There will be remaining planned construction tasks that do not impact continuous operations such as final paving of access and parking areas. There will also be a 'punch-list' of adjustments and fixes to completed work that will extend past the in-service date.

III. SNOQUALMIE FALLS PROJECT

Q. Please generally describe the construction scope of the Snoqualmie Falls Project.

A. The Snoqualmie Falls Project is a complete redevelopment of the Snoqualmie Hydroelectric Project, which was originally commissioned in 1898. The Snoqualmie Falls Project includes the following elements required by the FERC license:

(i) Plant 1 reconstruction includes: removing the existing turbine/generator unit 5 and installing a new unit; expanding the underground cavity; preserving the four Pelton units and upgrading controls, breakers and cables; installing new generator leads, breakers, exciters and automated monitoring and controls; enlarging the vertical shaft to accommodate the new penstock, elevator, and cabling; replacing the two existing penstocks with a single free-standing penstock; excavating the tailrace channel to minimize fish stranding areas; constructing a new intake equipped

with coarse and fine trash racks, cleaners, maintenance gate and motor-operated fixed wheel gate; constructing a new intake building to house the elevator shaft, communications and controls; and installing a new step-up transformer and electrical switchgear.

(ii) Plant 2 reconstruction includes: replacing turbine/generator unit 6 with a vertical Francis unit; installing a new flow bypass system consisting of three vertical sleeve dissipation valves; replacing unit 6 penstock with a 7-foot-diameter penstock; seismically retrofitting unit 7 penstock; installing new stairway/pipe bridge to carry new water, sewer and conduit from the powerhouse to the gatehouse; rebuilding gate house and installing new emergency closure gates; removing tunnel liner and installing a new shotcrete liner; constructing a new intake with trash racks, cleaners and gates; and constructing a new structural steel and pre-cast concrete powerhouse that covers the turbine generators and flow bypass valves.

(iii) Rebuilt diversion dam across the Snoqualmie River;

(iv) Electric system interconnection improvements including automatic transfer trip; and

(v) Recreational and cultural improvements including: rebuilding the upper park consisting of new ADA access, viewpoints, interpretive and educational signage and displays; rebuilding the lower park consisting of a new boardwalk, parking, restrooms and interpretive and educational signage and displays; and rebuilding the historic Plant 1 Depot and Carpenter Building to display historic aspects of the project including a fully reassembled Unit 5 turbine generator.

Q. Please generally describe the construction environment for the Snoqualmie Falls Project.

A. The Snoqualmie Falls Project presented a challenging construction environment because of the need to completely redevelop this century-old facility. As-built data were limited, and the location of existing facilities hindered access and the ability to gather field data. The construction required surface and subsurface

excavation and stabilization of project work areas with varying geologic conditions. The geographic layout required the creation and coordination of five distinct work areas: Plant 1 aboveground, Plant 1 cavern, Plant 2 intake, Plant 2 gatehouse and Plant 2. The site provided limited construction space and access, which created construction logistics and sequencing limitations. The FERC license allowed for a limited window of time for conducting in-river work (i.e., June 1 thru October 31 above the falls; June 15 thru October 31 below the falls), which added to the sequencing challenge. The Company and the contractor also had to coordinate demolition and construction work with the Salish Lodge and visitors to Snoqualmie Falls.

Q. Please describe the general construction milestone schedule for the Snoqualmie Falls Project.

A. The general construction milestones for the Snoqualmie Falls Project are as follows:

Notice to Proceed	April 14, 2010
Cofferdam installation completion	October 31, 2010
Cofferdam removal completion	October 31, 2012
Diversion dam completion	October 31, 2012
Plant 2 commercial operation	April 15, 2013
Plant 1 commercial operation (expected)	July 2013

Q. Please describe the Company's role in overseeing the Snoqualmie Falls Project.

A. The Company has maintained an on-site staff of approximately 10 people who are responsible for all aspects of contractor management including but not limited to contract administration, quality assurance, regulatory and environmental compliance and owner furnished equipment coordination.

Q. How does the current forecasted cost of the project compare to the forecasted cost at the start of construction?

A. The baseline budget at the start of construction in April 2010 was $240 million in 2009 dollars (excluding AFUDC). The current forecast at completion is $265 million (excluding AFUDC).

Q. Please describe the reasons for the increased costs.

A. There are many challenges involved in a full rebuild of a historical, century-old plant. The increased costs resulted primarily from scope additions and changes, largely related to construction conditions. Unsuitable rock conditions were found that required additional excavation, rock bolts and changes to foundations. The lead paint and lead abatement were more extensive than originally expected. Additionally, the mechanical, electrical and controls integration of new and existing generating equipment was more extensive than originally assumed.

Q. What is the current status of project construction?

A. The Snoqualmie Falls Project is in active construction. As of the date of this testimony, the diversion dam is complete and in-service. Major construction elements of Plant 2 are complete and the plant was placed in service on April 17, 2013. Plant 1 construction is continuing toward a planned commercial operations date during July 2013.

IV. LOWER BAKER FLOATING SURFACE COLLECTOR

Q. Please describe the general construction scope of the Lower Baker FSC Project.

A. The Lower Baker FSC Project involves the construction and installation of a floating steel barge that collects juvenile fish for downstream transport. The Lower Baker FSC pumps a high volume of water to create an artificial flow that attracts the juvenile fish and leads them to a capture tank. Major project elements include:

(i) Floating surface collector including anchoring systems, water pumps, fish holding areas, control room, and a fish evaluation station;

(ii) Net transition structure, which supports the fish diversion nets;

(iii) Fish diversion nets;

(iv) Fish transport vessels; and

(v) Pier and shore facilities

Q. Please generally describe the design of the Lower Baker FSC.

A. The Company designed the Lower Baker FSC based upon the successful design of the Upper Baker FSC, constructed in 2009. The Company changed some design elements to take advantage of lessons learned from the Upper Baker FSC construction and to tailor it to its location on Lake Shannon. Because of the subsurface geography and hydrology of Lake Shannon, the Lower Baker FSC is not located directly adjacent to the Lower Baker dam and therefore requires longer guide nets, different anchoring, and shore-side fish pod handling facilities that were not required on the Upper Baker FSC. For efficiency, the general contractor built the entire Lower Baker FSC on the shore, which required a detailed plan for launching.

Q. Please describe the general construction milestone schedule for the Lower Baker FSC Project.

A. The general construction milestones for the Lower Baker FSC Project are as follows:

Notice to Proceed	April 1, 2011
Launch FSC	July 26, 2012
FSC commercial operation	February 14, 2013

Q. Please describe the Company's role in overseeing the Lower Baker FSC Project.

A. The Company has maintained an on-site staff of approximately five people who are responsible for all aspects of contractor management including but not limited

to contract administration, quality assurance, regulatory and environmental compliance and owner-furnished equipment or services coordination.

Q. How does the cost at project completion compare to the forecast project cost at the start of construction?

A. The baseline budget at the start of construction in April 2011 was $53.1 million (excluding AFUDC) and the current forecast at completion is $54.5 million (excluding AFUDC).

Q. Please describe the reasons for the increased cost.

A. This increased cost resulted from an increase in the scope of the work for the pier and shore facilities. In order to meet the license requirement that the Lower Baker FSC be completed prior to March 2013, it was necessary to issue the construction contract before the pier design was completed. In addition, the cost of the project increased as a result of rock conditions discovered during the construction of the pier and mooring line anchors. The rock was harder than expected and required additional time and resources.

Q. What is the current status of project construction?

A. Major construction was completed in late January 2013 and the Lower Baker FSC was placed in service on February 14, 2013. The Company team and the contractor are continuing to work through the project punch list.

V. LOWER BAKER POWERHOUSE PROJECT

Q. Please describe the general construction scope of the Lower Baker Powerhouse Project.

A. The Lower Baker Powerhouse Project requires the construction of a new, partially underground powerhouse located adjacent to the existing Lower Baker powerhouse. The Lower Baker Powerhouse Project supports the Baker Project FERC license requirements for regulating flow in the Baker River. Major project elements include:

(i) Powerhouse (largely subterranean) with turbine generator: 30 MW Francis unit, synchronous bypass valve, Howell Bunger valve and spray hood and facility control system;

(ii) 1000-foot, steel-lined tunnel fed by existing penstock;

(iii) Electric system interconnection improvements including transfer trip; and

(iv) Controls upgrades to existing Lower Baker unit 3 powerhouse.

Q. Please generally describe the construction environment for the Lower Baker Powerhouse Project.

A. The project required construction in a narrow canyon with restricted access. The access constraints required specialized construction equipment and limited the contractor's ability to perform simultaneous activities. In addition, geologic conditions required mitigation for unstable slopes.

Q. Please describe the general construction milestone schedule for the Lower Baker Powerhouse Project.

A. The general construction milestone schedule for the Lower Baker Powerhouse Project is as follows:

Notice to Proceed	December 7, 2010
Tunnel completion	May 2012
Commercial operation (expected)	June 2013

Q. Please describe the Company's role in overseeing the Lower Baker Powerhouse Project.

A. The Company maintains an on-site staff of approximately seven employees who are responsible for all aspects of contractor management including but not limited to contract administration, quality assurance, regulatory and environmental compliance and owner-furnished equipment coordination.

Q. How does the current forecasted cost of the project compare to the forecasted cost at the start of construction?

A. The baseline budget at the start of construction was $83 million (excluding AFUDC) and the current forecast at completion is $91 million (excluding AFUDC).

Q. Please describe the reasons for the increased cost.

A. The increased costs resulted from scope additions that were largely related to conditions. Some additions to the construction scope became necessary during the course of the construction, which drove the cost increases. During

construction it was necessary to undertake substantial slope stabilization, monitoring, and mitigation requirements for the access road and hillside adjacent to the site. Additional controls were required in order to integrate the new and existing powerhouses. Also, construction changes were necessary to incorporate the final configuration of owner-furnished equipment.

Q. What is the current status of project construction?

A. The Lower Baker powerhouse is in commissioning. Major construction elements are complete and the commissioning team is working through remaining issues with the controls, communications, and mechanical systems. The project is currently forecasted to achieve commercial operation in June 2013.

VI. TREASURY GRANTS

Q. Can you please provide background information regarding the Section 1603 Treasury Grant?

A. Section 1603 of the American Recovery and Reinvestment Act of 2009 authorizes the Department of Treasury to provide a nontaxable cash grant equal to 30 percent of a qualifying renewable energy investment. Congress created Treasury Grants to fill the gap created by the diminished investor demand for tax credits. Treasury Grants require the recipient to forgo production tax credits ("PTC"). The benefit to customers of the PTC is dependent upon the Company's taxable income and resulting appetite for tax credits. The Company's appetite for tax credits has been diminished due to the repeated enactment of bonus depreciation. Since the

Section 1603 Treasury Grant is not dependent upon electric production to generate the PTC or the Company's appetite for tax credits, it is a more sure way to obtain and benefit from federal incentives.

Q. Are Section 1603 Treasury Grants subject to reduction due to the federal budget sequestration?

A. On March 4, 2013, the Department of Treasury issued a Message on Sequestration advising that Section 1603 grants awarded from March 1, 2013 through the end of the federal fiscal year on September 30, 2013 will be reduced by 8.7%. With spring and summer 2013 in-service dates on grant-eligible projects, PSE expects the grant awards to be received after September 30, 2013. Because the Message on Sequestration does not provide advice on awards after September 30, 2013, the Company will use the 8.7 percent reduction as currently communicated in the Message on Sequestration to calculate the Treasury Grants for the Snoqualmie Falls Project and the Lower Baker Powerhouse Project.

Q. Does the Company expect to receive a Treasury Grant in connection with the Snoqualmie redevelopment project?

A. Yes. In November 2010 the Company filed an analysis with FERC demonstrating that energy produced at the redeveloped Snoqualmie Project represents incremental generation due to improvements, as defined by the Internal Revenue Service Code Section 45, and is therefore eligible to receive a Treasury Grant. On February 9, 2011 FERC issued an order certifying that the incremental generation

identified in the Company's analysis does in fact qualify the project for the Section 1603 Treasury Grant. The Company's request for certification and the FERC certification order are provided as the third and fourth exhibits to the prefiled direct testimony of Paul K. Wetherbee, Exhibit No. ___(PKW-4) and Exhibit No. ___(PKW-5), respectively.

Q. Please provide PSE's calculation of the Treasury Grant for the Snoqualmie Falls Project.

A. Taking into account the 8.7 percent reduction in Treasury Grants due to sequestration, the Company estimates that it will receive a Treasury Grant of $76.7 million on the Snoqualmie Falls Project. The actual amount of the grant is not yet known and will not be known until: (a) the project has been completed, and (b) the application has been audited by an independent auditor.[1] The impact of the basis reduction associated with the estimated Treasury Grant proceeds on deferred taxes and depreciation expense is included in the revenue requirement calculation discussed in the Prefiled Direct Testimony of Katherine J. Barnard, Exhibit No. ___(KJB-1CT).

Q. Does the Company expect to receive a Treasury Grant in connection with the Snoqualmie redevelopment project?

[1] The US Treasury requires all grants related to projects having a cost basis in excess of $0.5 million be audited by an independent accountant.

A. Yes. In October 2010 the Company filed an analysis with FERC demonstrating that energy produced at the new Lower Baker Powerhouse represents incremental generation due to improvements, as defined by the Internal Revenue Service Code Section 45, and is therefore eligible to receive a Treasury Grant. On December 16, 2010 FERC issued an order certifying that the incremental generation identified in the Company's analysis does in fact qualify the project for the Section 1603 Treasury Grant. The Company's request for certification and the FERC certification order are provided as the fifth and sixth exhibits to the prefiled direct testimony of Paul K. Wetherbee, Exhibit No. ___(PKW-6) and Exhibit No. ___(PKW-7), respectively.

Q. Please provide PSE's calculation of the Treasury Grant for the new Lower Baker Powerhouse Project.

A. Taking into account the 8.7 percent reduction in Treasury Grants due to sequestration, the Company estimates that it will receive a Treasury Grant of $27.4 million on the new Lower Baker Powerhouse Project. The actual amount of the grant is not yet known and will not be known until: (a) the project has been completed, and (b) the application has been audited by an independent auditor. The impact of the basis reduction associated with the estimated Treasury Grant proceeds on deferred taxes and depreciation expense is included in the revenue requirement calculation discussed in the Prefiled Direct Testimony of Katherine J. Barnard, Exhibit No. ___(KJB-1CT).

Q. Please summarize the anticipated amount and allocation of the Treasury Grants for each project.

A. The following table reflects the Company's current forecast of Treasury Grants for the Snoqualmie Falls Project and the Lower Baker Powerhouse Project.

Hydro Project	Treasury Grant
Snoqualmie Falls Project	
Plant 1	$39,865,616
Plant 2	$36,838,556
Total Snoqualmie	$76,704,171
Baker Project	
Lower Baker Powerhouse	$27,361,815
Total Baker	$27,361,815

VII. CONCLUSION

Q. Does this conclude your testimony?

A. Yes, it does.