EXHIBIT NO. ___(RG-1HCT)
DOCKET NO. UE-11___/UG-11___
2011 PSE GENERAL RATE CASE
WITNESS: ROGER GARRATT

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PUGET SOUND ENERGY, INC.,** **Respondent.**	**Docket No. UE-11____** **Docket No. UG-11____**

PREFILED DIRECT TESTIMONY (HIGHLY CONFIDENTIAL) OF ROGER GARRATT ON BEHALF OF PUGET SOUND ENERGY, INC.

REDACTED VERSION

JUNE 13, 2011

PUGET SOUND ENERGY, INC.

PREFILED DIRECT TESTIMONY (HIGHLY CONFIDENTIAL) OF ROGER GARRATT

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PUGET SOUND ENERGY, INC.

PREFILED DIRECT TESTIMONY (HIGHLY CONFIDENTIAL) OF ROGER GARRATT

I. INTRODUCTION

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

A. My name is Roger Garratt. My business address is 10885 N.E. Fourth Street Bellevue, WA 98004. I am the Director of Resource Acquisition and Emerging Technologies within the Energy Resource Group for Puget Sound Energy, Inc. ("PSE").

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

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

Q. What are your duties as Director of Resource Acquisition and Emerging Technologies within the Energy Resource Group for PSE?

A. My present responsibilities include oversight of: (i) the acquisition of electric resources for PSE; (ii) contracts for long-term electric supply; and (iii) the emerging technologies and climate change program.

Q. What is the key take away from your prefiled direct testimony in this proceeding?

A. The bulk of my testimony focuses on the addition of PSE's newest wind generation facility, the Lower Snake River Wind Project (Phase 1), a 342.7-megawatt wind project located near the town of Pomeroy in Garfield County, Washington. This project has generated well paying jobs and an economic boost in an area of the state hard hit by the economy. The timing of construction allowed the Company to capture cost saving due to the economy as well as take advantage of federal and state incentives that will benefit PSE's customers. The addition of the Lower Snake River Wind Project positions the Company well to meet its mandated renewable portfolio standards targets and represents another milestone in PSE's journey to a greener future.

Q. What is the nature of your prefiled direct testimony in this proceeding?

A. This prefiled direct testimony provides each of the following:

- an overview of PSE's continuing need to acquire new or replacement resources to meet the projected demands of PSE's electric customers and satisfy the requirements of the Energy Independence Act;
- a description of the process undertaken by PSE to construct Phase 1 of the Lower Snake River Wind Project ("LSR Phase 1"), a 342.7-megawatt ("MW") wind project located near the town of Pomeroy in Garfield County, Washington; and
- a request for a prudence determination with respect to

- LSR Phase 1; and
- a four-year and two-month power purchase agreement with Iberdrola Renewables, Inc. ("Iberdrola Renewables") for 100 MW of winter capacity associated with the Klamath peakers (the "Klamath Peakers PPA"),

including any and all associated capital costs, operating costs, transmission costs and other costs related to LSR Phase 1 and the Klamath Peakers PPA.

Q. Please describe LSR Phase 1.

A. LSR Phase 1 is a wind project under construction by PSE near Pomeroy, Washington, in Garfield County. LSR Phase 1 will consist of 149 wind turbines, each with 2.3 MW of generating capacity. LSR Phase 1's 343 MW output will significantly increase PSE's total wind-power generating capacity and provide enough clean power to meet the energy needs of more than 100,000 homes.

PSE is constructing LSR Phase 1, in large part, to meet the Washington renewable portfolio standard ("RPS") benchmark of meeting at least 9 percent of electric load with renewable resources by 2016. Although the in-service date of mid-April 2012 is ahead of the 2016 requirement, the construction of LSR Phase 1 now allows PSE to realize savings due to: (i) significant federal grants that require qualifying projects to be in commercial operation by December 31, 2012; (ii) important sales tax exemptions through June 30, 2011, for systems generating power with renewable technologies; and (iii) a depressed resource development market that has created downward price pressure on wind turbine generators, which generally comprise 60-75% of the total cost to build a wind project. This

confluence of events has allowed PSE to be opportunistic in its development of a necessary resource that will immediately serve PSE's customers' energy needs upon completion and meet PSE's RPS needs beginning in 2016. In addition, PSE intends to sell the renewable energy credits ("RECs") created by LSR Phase 1 and use any proceeds obtained from such sales to lower the cost to PSE customers.

Q. Please describe the Klamath Peakers PPA.

A. The Klamath Peakers PPA is a four-year and two-month contract for 100 MW of winter capacity and energy associated with the Klamath Peakers in Klamath Falls, Oregon. The Klamath Peakers PPA was the lowest cost capacity resource submitted in response to PSE's 2010 Request for Proposals (the "2010 RFP"), and the winter seasonality of the contract fits with PSE's peak needs.

II. PSE'S DECISIONS TO CONSTRUCT LSR PHASE 1 AND ENTER INTO THE KLAMATH PEAKERS PPA WERE PRUDENT

A. Overview

Q. What are the new portfolio resources for which PSE is seeking a prudence determination from the Commission in this proceeding?

A. PSE seeks a prudence determination in this proceeding with respect to LSR Phase 1 and the Klamath Peakers PPA, including any and all associated capital costs, operating costs, transmission costs and other costs related to these resources.

Q. What is PSE's understanding of the Commission's prudence standard?

A. In PSE's 2003 Power Cost Only Rate Case proceeding, Docket No. UE-031725, the Commission reaffirmed the standard it applies in reviewing the prudence of power generation asset acquisitions:

> The test the Commission applies to measure prudence is what a reasonable board of directors and company management would have decided given what they knew or reasonably should have known to be true at the time they made a decision. This test applies both to the question of need and the appropriateness of the expenditures. The company must establish that it adequately studied the question of whether to purchase these resources and made a reasonable decision, using the data and methods that a reasonable management would have used at the time the decisions were made.

WUTC v. Puget Sound Energy, Inc., Docket No. UE-031725, Order No. 12 at ¶ 19.

In addition to this generic reasonableness standard, the Commission has cited several specific factors that inform the question of whether a utility's decision to acquire a new resource was prudent. These factors include the following:

- First, the utility must determine whether new resources are necessary. *See e.g., WUTC v. Puget Sound Power & Light Co.,* Docket No. UE-921262, *et al.,* Nineteenth Supplemental Order (September 27, 1994) ("*Prudence Order*") at 11.

- Once a need has been identified, the utility must determine how to fill that need in a cost-effective manner. When a utility is considering the purchase of a resource, it must evaluate that resource against the standards of what other purchases are available, and against the standard of what it would cost to build the resource itself. *Prudence Order* at 11.

- The utility must analyze the resource alternatives using current information that adjusts for such factors as end effects, capital costs, impact on the utility's credit quality, dispatchability, transmission costs, and whatever other factors need specific analysis at the time of a purchase decision. *Id.* at 2, 33-37, 46-47.

- The utility should inform its board of directors about the purchase decision and its costs. The utility should also involve the board in the decision process. *Id.* at 37, 46.

- The utility must keep adequate contemporaneous records that will allow the Commission to evaluate its actions with respect to the decision process. The Commission should be able to follow the utility's decision process; understand the elements that the utility used; and determine the manner in which the utility valued these elements. *Id*. at 2, 37, 46.

Q. Did PSE's decisions to construct LSR Phase 1 and enter into the Klamath Peakers PPA meet this standard?

A. Yes. PSE had a clear, documented need for capacity and RPS-compliant renewable resources in both the near and long term. PSE also performed the analyses, decision-making and documentation processes expected by the Commission, as summarized in this prefiled direct testimony and in the Prefiled Direct Testimony of Ms. Aliza Seelig, Exhibit No. ___(AS-1HCT).

B. The 2009 Integrated Resource Plan Informed PSE's Resource Need for Capacity and Renewable Resources

Q. How did PSE determine its need for capacity and renewable resources?

A. PSE determined its need for capacity and renewable resources based on the analyses performed for PSE's 2009 Integrated Resource Plan (the "2009 IRP"),

which PSE filed with the Commission in July 2009. Please see Exhibit No. ___(RG-3) for a copy of the 2009 IRP.

Q. Please describe how the 2009 IRP guides PSE's efforts to acquire resources.

A. The 2009 IRP guides PSE's efforts to acquire new resources at the lowest reasonable cost, as directed by the Revised Code of Washington chapter 19.280 (RCW 19.280). Each Integrated Resource Plan provides an updated customer demand forecast and an analysis of the costs and risks involved in securing new energy supplies to meet identified shortfalls. PSE biennially prepares a revised Integrated Resource Plan.

Q. What strategy did the 2009 IRP identify to meet PSE's needs?

A. The 2009 IRP presented a strategy to meet the growing needs of PSE's customers that included: (i) a combination of increased energy efficiency; (ii) increased renewable power; and (iii) additional natural gas-fired generation. Despite the weakness in the economy, the 2009 IRP continued to forecast long-term growth in PSE's service area. For example, the 2009 IRP predicted that approximately one million more Puget Sound residents will rely on PSE's services twenty years from now. The 2009 IRP also projected that regional growth, the potential retirement of aging power plants, and the expiration of large power purchase agreements ("PPAs") will drive PSE's need to secure approximately 5,000 MW of additional power capacity over the next two decades. The 2009 IRP also

projected that PSE will need to acquire additional renewable resources to meet the requirements of the Washington RPS.

1. The 2009 IRP Process Identified a Capacity Need of 934 MW in 2012

Q. What capacity need did the 2009 IRP identify?

A. The 2009 IRP identified a need for 676 MW of additional supply-side and demand-side capacity resources in 2012. The 2009 IRP considered two methods of assessing the capacity of existing resources. The two methods differed in the treatment of operating reserves. The first, and more conservative, of the two methods projected a need of 676 MW in 2012. The 2009 IRP Action Plan (Chapter 9), however, stated that PSE would continue to refine its assessment of resource need as it sought, in part, to investigate and clarify the appropriate treatment of operating reserves in performing a loss of load probability analysis.

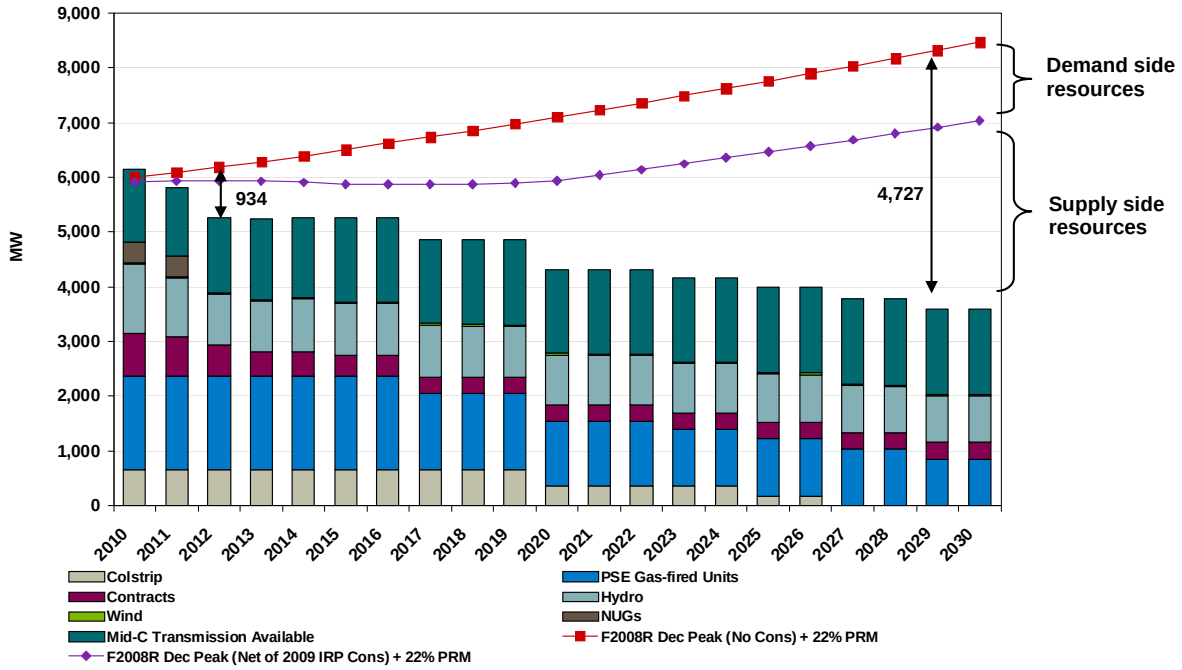
Q. Did PSE investigate and clarify the appropriate treatment of operating reserves when performing a loss of load probability analysis?

A. Yes. PSE's Resource Planning department organized meetings with other utilities and stakeholders to review the manner in which the region calculates resource need. Based on these discussions, PSE refined its method of calculating operating reserves and subsequently filed a 2009 IRP Addendum (the "2009 IRP Addendum") in January 2010. Please see Exhibit No. ___(RG-4) for a copy of the 2009 IRP Addendum.

Q. Did the 2009 IRP Addendum modify the capacity need identified by the 2009 IRP?

A. Yes. The 2009 IRP Addendum concluded that the planning reserve margin adopted in the 2009 IRP did not adequately fulfill PSE's obligation to carry operating reserves. The 2009 IRP Addendum presented a revised forecast need of 934 MW in 2012, which amounts to roughly 250 MW more than projected in the 2009 IRP. Please see Figure 1 below for PSE's capacity need forecast, as revised by the 2009 Addendum.

Figure 1. Electric Resource Capacity Need Forecast



	2010	2011	2012	2013	2014	2015	2016	2017
Need/(Surplus) w/o Conservation	(140)	281	934	1036	1128	1245	1362	1886
Conservation Effect	80	162	251	358	480	629	752	867
Net Planning Need/(Surplus)	**(220)**	**119**	**683**	**678**	**648**	**615**	**610**	**1019**

The ability of a capacity resource to provide reliable power during winter months is an important consideration. PSE performs winter season peak planning for the months of November through February. PSE's winter peak, however, usually occurs in December. PSE's capacity need in Figure 1 above is a one-hour December peak.

Q. What is the cause for PSE's growing capacity need?

A. Expiring contracts are the primary cause for PSE's near-term (2012-2016) capacity need.

Table 1 below lists the contracts expiring between 2011 and 2016.

Table 1. Expiring Long-Term Contracts for Electric Power, 2011 – 2016

TYPE	NAME	POWER TYPE	CONTRACT EXPIRATION	NAMEPLATE CAPACITY (MW)*
NUG	Tenaska	Thermal	12/31/2011	245
NUG	March Point I	Thermal	12/31/2011	80
NUG	March Point II	Thermal	12/31/2011	62
Total NUG				**387**
Other contracts	Powerex	System	2/29/2012	150
Other contracts	RBS Sempra Commodities	System	3/31/2013	75
Other contracts	Barclays Bank	System	02/28/2015	75
Other contracts	Credit Suisse	System	3/31/2013	50
Total other				**350**

Table 1. Expiring Long-Term Contracts for Electric Power, 2011 – 2016 (contd.)

TYPE	NAME	POWER TYPE	CONTRACT EXPIRATION	NAMEPLATE CAPACITY (MW)*
Independent producers	Spokane Municipal Solid Waste	Biomass-QF	11/15/2011	18
Independent producers	North Wasco	Hydro	12/31/2012	5
Independent producers	Nooksack Hydro	Hydro-QF	1/1/2014	1.5
Independent producers	Hutchison Creek	Hydro-QF	9/30/2016	1
Independent producers	Cascade Clean Energy-Sygitowicz	Hydro-QF	2/2/2014	<1
Independent producers	VanderHaak Dairy	Biomass	11/30/2011	<1
Independent producers	Qualco Dairy	Biomass	11/30/2013	<1
Total independent				**27**
			Total long-term contract expirations	**861**

* Column reflects PSE's share of the nameplate capacity of the facility.

In addition to the expiring contracts discussed above, PSE has renegotiated contracts that would otherwise have expired between 2011 and 2016, but these renegotiated contracts are at reduced capacity.

Table 2 below lists capacity reductions resulting from renegotiated contracts expiring between 2011 and 2016.

Table 2. Expiring Contracts Renegotiated at a Reduced Capacity Amount, 2011 – 2016

TYPE	NAME	POWER TYPE	REDUCTION EFFECTIVE	REDUCTION AMOUNT (MW)	CURRENT NAMEPLATE CAPACITY (MW)*	NEW NAMEPLATE CAPACITY (MW)*
PUD	Rock Island	Hydro	6/7/2012	142	285	143
PUD	Rocky Reach	Hydro	11/1/2011	177	497	320
Total				**319**	**782**	**463**

* Column reflects PSE's share of the nameplate capacity of the facility.

2. The 2009 IRP Process Identified a Renewable Resource Need and a strategy of 600 MW by 2016 (300 MW by 2012 and 300 MW by 2016)

Q. What renewable resource need did the 2009 IRP identify?

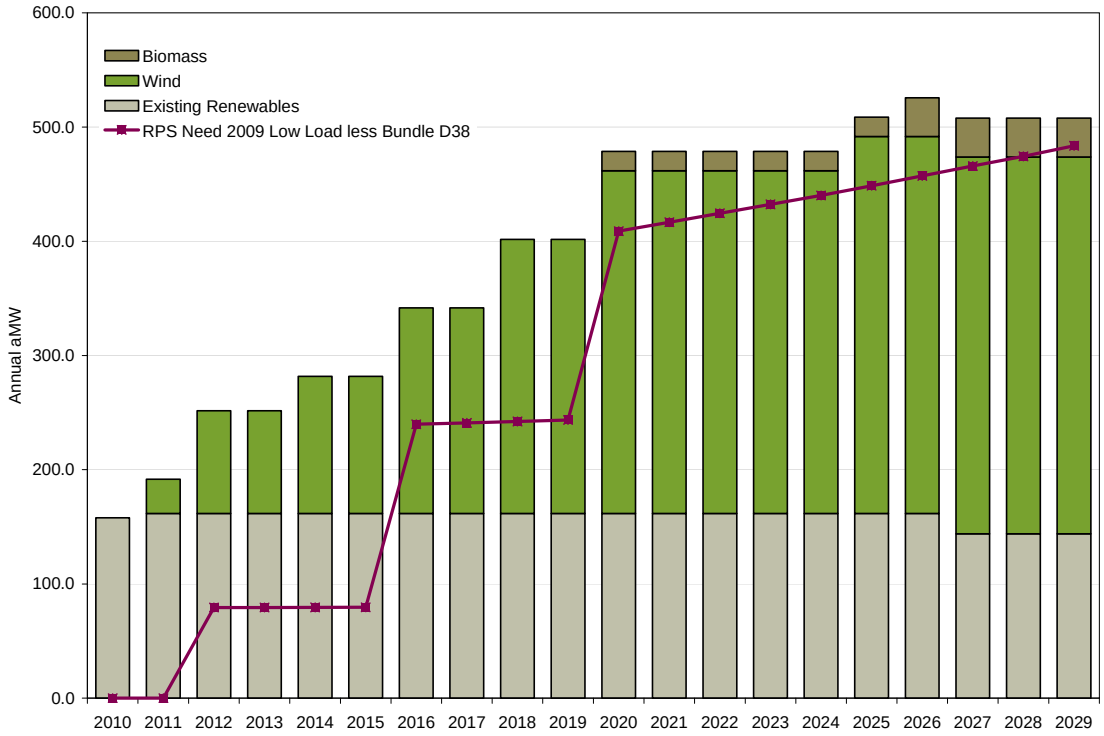
A. The Washington RPS requires PSE to serve at least 15 percent of electric load with renewable resources by 2020, with benchmarks in 2012 and 2016 to demonstrate progress:

- 3 percent of load by 2012;
- 9 percent of load by 2016; and
- 15 percent of load by 2020.

At the time PSE filed the 2009 IRP, PSE had already acquired sufficient renewable resources to meet the 3 percent of load benchmark in 2012. PSE still needed to acquire approximately 81 average megawatts ("aMW") or 686,000 RECs to meet the 9 percent of load benchmark in 2016.

Given near-term government incentives, the 2009 IRP denoted that the least cost portfolio was achieved by a resource acquisition strategy that would capture these incentives by adding 600 MW of new wind additions by 2016 (the addition of 300 MW of wind by 2012 and the addition of another 300 MW of wind by 2016). *See* Exhibit No. ___(RG-3) at 10. This is equivalent to adding 788,400 RECs by 2012 and 1,576,800 RECs by 2016, assuming a 30% standard capacity factor for wind. Figure 2 below demonstrates PSE's renewable energy need forecast.

Figure 2. Renewable Energy Need Forecast and 2009 IRP Least-Cost Portfolio



Please note that Figure 2 above includes PSE-owned or contracted renewable resources from which PSE currently sells RECs.

Q. Do you consider assets acquired as prescribed in the IRP used and useful?

A. Yes. Assets contracted or acquired per the IRP schedule will enable PSE to meet interim RPS milestones and the 2020 mandate. It is important to note, though, that the exact mix and resource type will depend on what is available in the market and may not conform to the plan prescribed in the IRP.

C. PSE Issued a Request For Proposals To Meet Its Resource Needs

Q. How did PSE implement its strategy to meet its capacity and renewable resources needs?

A. Shortly after completing and filing the 2009 IRP, PSE commenced the 2010 RFP process by filing a draft 2010 RFP with the WUTC on October 12, 2009. The WUTC subsequently approved the draft 2010 RFP on December 23, 2009. PSE released the 2010 RFP on January 12, 2010. Please see Exhibit No. ___(RG-5) for a copy of the 2010 RFP.

The 2010 RFP asked power producers, marketers, and power-plant developers to help PSE procure approximately 1,000 MW of new electricity resources by 2016. Although PSE anticipates that energy efficiency, renewable power, and gas-fired generation will continue to be its dominant sources of new power supply in coming years, the RFP sought any viable power-supply offer or technology that could be in operation by 2016. PSE also indicated that it would consider various contract arrangements, such as investment in existing power plants, ownership of new plants, or long-term PPAs.

Please see the Prefiled Direct Testimony of Ms. Aliza Seelig, Exhibit No. ___(AS-1HCT) for a detailed description of the 2010 RFP process and evaluation.

D. PSE Evaluated Resource Alternatives Using Current Information That Adjusted For Appropriate Factors And Risks

Q. How did PSE evaluate proposals submitted in response to the 2010 RFP?

A. Generally, PSE engaged in a comprehensive process to evaluate the costs and risks associated with each proposal, both as individual projects and when viewed as potential additions to PSE's resource portfolio. PSE evaluated the proposals in two stages based on the criteria set forth in its 2010 RFP. PSE designed these criteria to take into account qualitative and quantitative factors impacting the decision whether to acquire a potential resource. They included consideration of end effects, dispatchability, transmission costs, capital costs, impact on PSE's credit quality, and project feasibility, among other factors.

Q. How did PSE evaluate self-build opportunities and unsolicited proposals submitted after the commencement of the 2010 RFP?

A. PSE examined its self-build opportunities and unsolicited proposals submitted after the commencement of the 2010 RFP using the same due diligence criteria, analytic rigor, and models as it did for the other 2010 RFP proposals to find the resources with the lowest levelized costs, highest portfolio benefits, and lowest risk profiles. PSE reviewed the projects to determine if they fit PSE's need and the costs were compared to other reasonably executable alternatives.

E. PSE Informed and Involved its Board of Directors and Energy Management Committee

Q. Has PSE actively involved its Board of Directors and Energy Management Committee in its resource acquisition process?

A. Yes. PSE involved its Board of Directors (the "Board of Directors") and Energy Management Committee ("EMC") in the resource acquisition process. Indeed, the Resource Acquisition Group made several presentations to the Board of Directors and the EMC regarding the status of PSE's analyses of the many potential resource opportunities it was considering to meet its need for additional resources. The Board of Directors and the EMC were thereby advised of the management team's evaluation methods, key assumptions, and results as the 2010 RFP evaluation progressed, including evaluations and conclusions regarding self-build opportunities and resources that came to PSE's attention outside of the 2010 RFP process.

F. PSE Kept Contemporaneous Records of its Evaluation and Decision Processes

Q. Did PSE keep contemporaneous records of its evaluation and decision processes?

A. Yes. The exhibits submitted with this prefiled direct testimony and with the Prefiled Direct Testimony of Ms. Aliza Seelig, Exhibit No. ___(AS-1HCT) demonstrate PSE's contemporaneous documentation, including but not limited to documentation presented to the Board of Directors and the EMC.

III. PSE'S STRATEGY TO MEET ITS RENEWABLE RESOURCE NEEDS

A. Considerations Affecting PSE's Renewable Resource Development Strategy

1. The Energy Independence Act and the Washington Renewable Portfolio Standard

Q. Why does PSE have a need to acquire renewable resources?

A. In November 2006, Washington voters approved Initiative-937 and established an RPS in Washington. The Energy Independence Act, RCW 19.825, codified the RPS and requires electric utilities with more than 25,000 customers to use qualifying renewable energy, such as wind, solar, geothermal, tidal, landfill gas and biomass, to serve at least 15 percent of electric load by 2020, with benchmarks in 2012 and 2016 to demonstrate progress. Specifically, utilities must supply:

- 3% of load from qualifying renewables by 2012;
- 9% of load from qualifying renewables by 2016; and
- 15% of load from qualifying renewables by 2020.

Q. Are there consequences associated with meeting these targets?

A. Yes. Utilities that fail to reach these milestones would be subject to a $50/MWh penalty for each MWh the utility falls short of the targets. Recognizing that renewable generation may be more expensive than non-renewable alternatives at some point in the future, RCW 19.825 allows utilities that would exceed a 4%

revenue requirement increase over nonrenewable alternatives to opt-out of the renewable compliance program.

Q. Is PSE well-positioned to meet the RPS benchmarks?

A. Although PSE is well-positioned to meet the near-term RPS benchmark in 2012, PSE must find additional renewable resources to meet the 2016 benchmark and the 2020 mandate.

Q. Why did PSE decide to acquire additional renewable resources to meet the 2016 benchmark?

A. The 2010 RFP sought resources to meet PSE's projected renewable and capacity needs over the next five years. The current government incentives make near-term acquisition of renewable resources a more cost-effective alternative to PSE and its customers Therefore, PSE decided to take advantage of significant state and federal financial incentives that are currently available, but set to expire or phase out over the next two years.

Q. What are the state and federal incentives?

A. The incentives currently available are the Washington State Renewable Generation Sales and Use Tax Exemption and Production Tax Credits, Investment Tax Credits, or the Section 1603 Treasury Grants In Lieu of Investment Tax Credits.

2. Washington State Renewable Generation Sales and Use Tax Exemption

Q. Please describe the sales tax exemption applicable to equipment for renewable resources.

A. In Washington State, sales tax does not apply to the sale of equipment used to generate electricity from renewable technologies, including fuel cells, wind, sun, biomass energy, tidal or wave energy, geothermal, anaerobic digestion or landfill gas. The tax exemption applies to labor and services related to the installation of the equipment, as well as to the sale of equipment and machinery. Eligible systems are those with a generating capacity of at least 1 kilowatt (kW).

In May 2009, Washington passed SB 6170, effective July 1, 2009, which extended the sales and use tax exemption (i.e., 100% exemption) to June 30, 2011 for systems generating electricity using the aforementioned renewable technologies. Purchasers of renewable technology may claim an exemption in the form of a remittance. From July 1, 2011 to June 30, 2013, the full sales tax exemption begins to sunset and renewable technology will receive an exemption of 75%. After June 30, 2013, the sales tax exemption expires. The extension of the sales tax exemption has the effect of favoring the early development or acquisition of renewable projects.

3. Federal Tax Incentives

Q. Do federal tax incentives have an effect on the economics of renewable resources and market conditions?

A. Yes. Federal tax incentives have a substantial effect on the economics of renewable resources and market conditions. In fact, they are the key driver behind PSE's decision to acquire additional renewable resources to meet the 2016 RPS benchmark. Historically, the production tax credit, a federal tax credit of approximately 2.2 cents per kilowatt-hour ("kWh"), has been the primary federal incentive for wind energy since 1992. The production tax credit generally must be claimed during the ten-year period beginning with the date the qualified facility is placed in service.

Recent legislation (the Energy Improvement and Extension Act of 2008,[1] the American Recovery and Reinvestment Act of 2009,[2] and Section 707 of the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010[3]) and guidance thereto have materially affected the development of renewable resources and had a significant impact on the timing of development of LSR Phase 1.

[1] On October 3, 2008, President Bush signed into law the Energy Improvement and Extension Act of 2008 as part of the Emergency Economic Stabilization Act of 2008, often referred to in the media as the "bailout" or "rescue" bill.

[2] On February 17, 2009, President Obama signed into law the American Recovery and Reinvestment Act of 2009, often referred to in the media as the "stimulus" bill.

[3] On December 17, 2010, President Obama signed into law section 707 of the Tax Relief, Unemployment Insurance Reauthorization and Job Creation Act of 2010.

a. Extension of Production Tax Credits

Q. Did the Energy Improvement and Extension Act of 2008 extended the production tax credit in-service date deadline?

A. Yes. The Energy Improvement and Extension Act of 2008 extended the production tax credit in-service date deadline to December 31, 2009, for qualified wind facilities, and to December 31, 2010, for most other qualified renewable facilities.

Q. Did the American Recovery and Reinvestment Act of 2009 further extend the production tax credit in-service date deadline?

A. Yes. The American Recovery and Reinvestment Act of 2009 further extended the in-service deadline to January 1, 2013, for qualified wind facilities, and to January 1, 2014, for most other qualified facilities.

b. Extension and Conversion of Investment Tax Credits

Q. Did the Energy Improvement and Extension Act of 2008 extend the investment tax credit for certain renewable resources?

A. Yes. The Energy Improvement and Extension Act of 2008 extended the investment tax credit for certain renewable resources. Specifically, the Energy Improvement and Extension Act of 2008:

(i) extended the 30 percent investment tax credit for solar energy property and qualified fuel cell property to January 1, 2017;

(ii) added small wind energy property as a category of qualified investment for the 30 percent investment tax credit;

(iii) extended the 10 percent investment tax credit for microturbines to December 31, 2016; and

(iv) provided a new 10 percent investment tax credit for combined heat and power systems, as well as geothermal heat pumps.

Q. How did the American Recovery and Reinvestment Act of 2009 affect the availability of investment tax credits?

A. The American Recovery and Reinvestment Act of 2009 added a new section allowing a wide range of production tax credit-eligible facilities to claim investment tax credits rather than production tax credits. Under these new provisions, wind facility owners may elect investment tax credits in lieu of production tax credits for facilities placed in service from January 1, 2009, through December 31, 2012. Owners of other renewable facilities placed in service from January 1, 2009, through December 31, 2013, including biomass, geothermal, landfill gas, trash, qualified hydropower, and marine and hydrokinetic facilities, are eligible to elect investment tax credits instead of production tax credits.

c. Section 1603 Treasury Grants In Lieu of Investment Tax Credits

Q. Please explain the Section 1603 Treasury Grants in lieu of investment tax credits.

A. In addition to the production tax credit and the investment tax credit discussed above, the American Recovery and Reinvestment Act of 2009 also allowed a taxpayer to claim a grant from the U.S. Treasury ("Section 1603 Treasury Grant") in lieu of Investment Tax Credits or Production Tax Credits. Successful applicants receive Section 1603 Treasury Grants that equal 30 percent or 10 percent of the property's cost basis, depending on the type of property, in lieu of receiving investment tax credits.

Please see Exhibit No. ___(RG-6) for a copy of the March 2010 guidance provided by the U.S. Treasury Department Office of the Fiscal Assistant Secretary, entitled "Payments for Specified Energy Property in Lieu of Tax Credits" for additional information. This is the guidance with respect to Section 1603 Treasury Grants available during the period in which PSE assessed LSR Phase 1 and other renewable resources in PSE's 2010 RFP evaluation process. In particular, this guidance specified that wind projects would have to spend 5% of eligible capital costs by December 31, 2010, to qualify for the Section 1603 Treasury Grant.

In December 2010, the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 extended the time periods applicable to the availability of Section 1603 Treasury Grants.

d. Comparison of Federal Incentives

Q. How did PSE decide whether to utilize the Section 1603 Treasury Grants rather than Production Tax Credits or Investment Tax Credits?

A. PSE compared the Production Tax Credit and the Section 1603 Treasury Grant and the results were presented at the January 14, 2010 EMC. *See* Exhibit No. ___(RG-14HC) at 187. That analysis was prepared for a hypothetical 250 MW project and showed that the Section 1603 Treasury Grant provided more benefit to customers if PSE's tax credit appetite was $27 million per year. It also showed that the Production Tax Credit was slightly favored if PSE's tax credit appetite was $33 million per year. The benefit to customers of the Production Tax Credit is dependent upon PSE's taxable income appetite for tax credits. Frequently, PTCs generated from PSE's existing owned wind projects exceed the Company's tax credit appetite. Since the Section 1603 Treasury Grant is not dependent upon the production or tax appetite, it is a more sure use of federal incentives to lower the cost of LSR for customers.

e. Government Incentives Reduce Project Costs

Q. How do the aforementioned government incentives impact the cost and economics of a renewable energy project?

A. Federal and State incentives stimulate the development of renewable energy projects by decreasing overall project costs, thereby reducing the delivered cost of energy. Current incentives are estimated to reduce the cost of LSR Phase 1 by several hundred million dollars. Indeed, PSE projected that: (i) the Section 1603 Treasury Grant associated with LSR Phase 1 provides $321,108,000 nominal benefit to customers ($22/MWh); and (ii) the sales tax exemption provides $45,737,000 nominal savings, inclusive of taxes and AFUDC, to customers. *See* Exhibit No. ___(RG-13HC) at 27.

B. PSE's Strategy to Acquire Renewable Resources

1. PSE's Development Strategy

Q. Please describe PSE's strategy to acquire renewable resources.

A. In response to escalating prices for renewable and other energy resources and decreasing resource opportunities, PSE initiated a strategy in late 2006 to manage the cost of acquiring new renewable generation resources by taking positions in projects earlier in the development process, thereby avoiding high developer premiums and increased construction and operating-stage risks for customers. With this strategy, PSE sought quality opportunities to acquire early stage

development projects that could be brought online at a lower cost for the benefit of its customers.

On August 3, 2007, PSE presented the Development Strategy to the Board of Directors. Please see Exhibit No. ___(RG-7HC) for a copy of the presentation to the Board of Directors regarding the Development Strategy.

Q. Does this strategy recognize cost savings for customers?

A. Yes. By entering the development chain early, PSE intended to realize significant cost savings through the remaining phases of development, procurement, construction and commissioning. In addition to avoiding higher developer fees, capital costs savings result, in part, from PSE's access to lower cost capital versus that of a typical wind developer. Over the last year, it is PSE's understanding that other utilities in the Pacific Northwest, including PacifiCorp and Portland General Electric Company, have adopted a similar development strategy. Additionally, other west coast utilities, such as Pacific Gas & Electric, have modified their procurement strategies to include early stage project development. In addition to cost savings achieved by moving up the development chain, a development strategy enables PSE to be flexible and take advantage of significant state and federal tax incentives and soft resource development markets.

Q. What experience does PSE have to implement the Development Strategy?

A. PSE has a strong foundation of development experience as a result of its work associated with Hopkins Ridge, the Wild Horse and Wild Horse Expansion Wind Facilities. With the Hopkins Ridge Wind Project acquisition, PSE provided significant assistance to the developer on real estate matters, interconnection, and transmission. During the Wild Horse Wind Project acquisition, PSE provided significant assistance to the developer to get the project permitted and, again, on real estate matters, interconnection, and transmission.

For the Wild Horse Wind Project Expansion, PSE purchased early stage development rights and assets from Whiskey Ridge Power Partners, LLC ("WRPP"). After securing site control, PSE further developed the Wild Horse Wind Project Expansion by performing additional wind energy studies, permitting the project, selecting and negotiating turbine supply, and performing engineering and design. PSE then secured major contracts with Vestas for a Turbine Supply Agreement and Service and Maintenance Agreement and Renewable Energy Systems America Construction Inc. ("RES Construction") as engineering, construction, and procurement contractor for the Balance-of-Plant ("BOP") Contract. With the 44 MW Wild Horse Wind Project Expansion, PSE proved it could successfully drive a wind development project from development to commercial operation.

PSE's ability to execute these types of projects requires a mix of utility expertise and project development expertise. PSE has recruited staff with independent power producer and non-utility project development experience. Combined with PSE's in-house resources, such as real estate, environmental, land-use and planning, and transmission integration, PSE has the experience and resources to deliver on project development. To further supplement PSE's experience, PSE contracts with outside consultants and legal firms that have ample experience with development and the wind industry.

Q. Please describe the internal process PSE has established for review and approval of the development assets and activities.

A. Similar to the acquisition process, PSE staff presents project development recommendations to the EMC and Board of Directors for approval. This process occurs more frequently than is the case of a resource acquisition reflecting the changing risk levels at key milestones in development. PSE self-build projects typically require a two-stage management approval process: (1) an initial approval for the development stage of the project and the development budget; and (2) a final approval for the execution phase of the project that includes major equipment procurement, the construction budget, and the ongoing operation budget of the plant.

Q. Does PSE currently have any projects in development?

A. Yes. PSE acquired wind development rights via two separate transactions with RES America Developments, Inc. ("RES Developments") and is currently developing phases of the Lower Snake River Wind Project; these transactions are discussed in greater detail in the following sections. Additionally, PSE is in the early development stages of a natural gas-fired generation plant to supply peaking needs.

2. PSE's Joint Development Agreement with RES Developments

a. PSE and RES Developments Enter Into a Joint Development Agreement in November 2008

Q. Can you please describe the Joint Development Agreement between PSE and RES Developments?

A. On November 26, 2008 PSE entered into a Joint Development Agreement with RES Developments to acquire a half interest in development-stage wind projects in Columbia and Garfield Counties. The purchase price was $[redacted]. Please see Exhibit No. ___(RG-8C) for a copy of the Joint Development Agreement (Columbia and Garfield Counties, Washington), dated as of November 26, 2008, among PSE, RES Developments, Blue Sky Wind, LLC, and RES Construction.

Q. What assets were acquired under the terms of the Joint Development Agreement?

A. The assets that were acquired included real property contracts (wind energy ground leases, anemometer agreements), meteorological towers and equipment, wind and climatic data and reports, environmental studies and reports, and interconnection studies and agreements. *See generally* Exhibit No. ___(RG-8C).

Q. Please describe the process whereby senior management approved the Joint Development Agreement.

A. PSE staff regularly presented information regarding the Development Strategy and the potential for a joint arrangement with RES Developments prior to the execution of the Joint Development Agreement. Please see Exhibit No. ___(RG-9HC) for copies of presentations to the EMC. On May 27, 2008, the Joint Development Agreement was presented to the EMC. After a review of the project characteristics, development risks, project timeline, capital budget, financing strategy, and RPS alternatives, the EMC approved the execution of the Joint Development Agreement. Please see Exhibit No. ___(RG-10C) for a copy of the presentation to and minutes from the EMC meeting of May 27, 2008.

b. PSE Purchases RES Developments' Interests in the Joint Development Agreement

Q. What happened after PSE entered into the Joint Development Agreement?

A. Initially, PSE and RES Developments worked to co-develop the site. The parties worked on continued wind evaluation, land leases, permitting, and wind turbine generator technology evaluation. During the months following the collapse of several large financial institutions, economic conditions deteriorated further and RES Developments re-evaluated its financial position. RES Developments' management determined it was appropriate to attempt to sell its stake in the Lower Snake River Wind Project. On March 23, 2009, RES Developments issued marketing materials soliciting interest in the sale of its interests in the Lower Snake River Wind Project. RES Developments chose to sell its remaining interest in Lower Snake River Wind Project [redacted].

Q. What options did PSE face in light of RES Developments plan to sell its interests in the Lower Snake River Wind Project?

A. PSE was faced with three possible scenarios in the sale of the RES Developments' interest in the Lower Snake River Wind Project:

1. 100% PSE ownership;

2. RES Developments sells its interest to a third party and PSE maintains 50% interest; and

3. RES Developments remains as a Joint Development Agreement co-owner and PSE maintains 50% interest.

Q. What was the argument supporting the "100% PSE ownership" scenario?

A. As compared to the other alternatives, in which PSE would have a development partner, the 100% PSE ownership alternative provided PSE with complete control of the Lower Snake River Wind Project and its development schedule. This scenario also increased the likelihood that PSE could realize the benefits of the tax incentives that expire in 2012, due to its ability, if it chose, to accelerate the construction of phases of the Lower Snake River Wind Project without having to wait for its partner to secure financing. This is especially relevant if PSE's partner were RES Developments or another independent power producer that relied upon the vagaries of the tax equity and/or project finance market. This alternative also allowed for the potential sale of development rights at a later date unencumbered by RES Developments' interest, if PSE chose to reduce its position.

Q. What were the risks of the "100% PSE ownership" scenario?

A. The 100% PSE ownership alternative required an increase in capital expenditures over the Joint Development Agreement development plan. The primary drivers that increased the 2009 capital expenditures over previously budgeted amounts

were the BPA payment schedule and the purchase price for the RES Developments' interest in the Lower Snake River Wind Project.

Q. How did PSE evaluate the second scenario?

A. The second alternative, in the event that PSE did not purchase the remaining interests in the Lower Snake River Wind Project, would be the sale by RES Developments of its interest in the Lower Snake River Wind Project to a third party. The potential benefit of this alternative was that PSE would maintain the originally planned wind capacity and budget for the Lower Snake River Wind Project. A new co-owner, however, would have created uncertainty in the execution of the existing strategy. Further, it would have been likely that any new co-owner would have required time to develop an understanding of the Lower Snake River Wind Project, which could have potentially resulted in a slow down in the development schedule and increased risk of missing the opportunity to take advantage of State and Federal incentives. Alternatively, the new co-owner might have failed to execute the development plan as intended under the Joint Development Agreement.

Q. How did PSE evaluate the third scenario?

A. If RES Developments were unable to sell its interest, the third alternative was that RES Developments would remain as a co-owner under the Joint Development Agreement. Given the required BPA payments (was $121,000,000 in total due December 2012 as of the time of the sales of RES Developments' interest; is

closer to $100,000,000 as of today), it was likely RES Developments would not have been able to proceed with the development schedule as planned.

[redacted]. Although PSE had solid legal rights and remedies, RES Developments understandably would have attempted to slow the process seeking a resolution, which would have been troublesome since timing was very important due to the timetable for expiring tax benefits and other renewable incentives.

Q. What option did PSE pursue?

A. PSE decided to purchase RES Developments' interests in development rights for the Lower Snake River Wind Project. Shortly after RES Developments issued marketing materials, PSE initiated negotiations regarding the purchase of that interest which, due to further development work, was now considered to be "late stage pre-construction" development rights. On May 15, 2009, PSE signed an Option Letter for the purchase of the RES Developments' interest in the Lower Snake River Wind Project. The Option Letter expired on July 6, 2009; however,

RES Developments confirmed that it would proceed with a transaction on that basis following PSE Board consideration of the transaction outlined therein. Key provisions of the proposed transaction included:

- Purchase Price of $[redacted] and reimbursement of certain payments to Bonneville Power Administration ("BPA") totaling $11,974,600;
- Closing conditions required RES Developments' completion of specified development products;
- Holdback provisions reduced the purchase price if RES Developments did not deliver complete specified products;
- PSE obligation to use RES Construction under the BOP Contract form construction agreement defined in the Joint Development Agreement; and
- RES Developments is subject to a non-compete provision for Columbia and Garfield Counties for the next six years with respect to development and ownership of wind generation facilities (but not construction).

Q. Please explain PSE's motivation for pursuing ownership of RES Developments' interest?

A. In order to preserve maximum flexibility with respect to the development of the Lower Snake River Wind Project, PSE Management recommended that the Board of Directors approve the purchase of the RES Developments' interest in the Lower Snake River Wind Project pursuant to the terms of the Asset Acquisition Agreement. This recommendation was made solely for the purchase of the late-stage development rights and, for financial planning purposes, for an increase in the 2009 capital budget up to $[redacted]. Separate authorizations to proceed

with any project phases, turbine purchases or entry into engineering and construction agreements were to be sought at a later juncture. The purchase of the RES Developments' interest in the Lower Snake River Wind Project provided PSE with an option for the future ownership of up to approximately 1,250 MW of wind resources.

c. Lower Snake River Wind Project Development Rights Compared Favorably Against Alternatives

Q. Did PSE examine the market for alternatives to Lower Snake River Wind Project?

A. Yes. In accordance with its development strategy, PSE regularly seeks opportunities for the acquisition of wind energy development assets and PPAs. PSE solicits proposals under a formal RFP process and also evaluates other proposals that it receives from time to time. The most recent RFP prior to the acquisition of the RES Developments' interest in the Lower Snake River Wind Project was 2008.

Q. How did PSE examine the market?

A. Upon completion of the RFP process in the summer of 2008, PSE evaluated and attempted to secure additional wind resources. When the renewable market was strong, PSE found ownership opportunities difficult to come by and power purchase agreement proposals evaluated poorly. The weak economic and financial climate at the end of 2008 led to greater availability of additional wind

development assets, dropping power prices, and a host of other financial issues for developers. As a result, developers opted to hold on to projects rather than sell under the terms offered by PSE. The estimated levelized cost of LSR Phase 1 ($[redacted]/MWh) at the time of acquisition of RES Developments' interest compared favorably with available alternative power purchase agreement and development opportunities.

Q. Was PSE able to finalize contracts for acquisition of the RES Developments' interest in the Lower Snake River Wind Project?

A. Yes. Negotiations with RES Developments produced definitive agreements for PSE's acquisitions of RES Developments' remaining interest in the Lower Snake River Wind Project development rights (the "Development Rights Purchase Agreements"). Please see Exhibit No. ___(RG-11C) for copies of the Development Rights Purchase Agreements.

At the July 28, 2009 meeting of PSE's Board of Directors, the Board approved PSE management's recommendation that PSE acquire the RES Developments' interest and increase the final development budget, as set forth in the documentation provided to the Board of Directors. Please see Exhibit No. ___(RG-12C) for a copy of the presentation to the PSE Board of Directors, dated July 28, 2009, regarding the Lower Snake River Wind Project.

3. Development of the Lower Snake River Wind Project

Q. Please describe the development work undertaken by PSE to advance the Lower Snake River Wind Project after purchasing the remaining 50 percent from RES Developments.

A. Generally, PSE dedicated resources to advance, analyze, and resolve issues related to Wind Resource Assessment, Real Estate, Permitting, Community and Communications, Engineering and Construction, Wind Turbine Generator Selection and Contracts, and Interconnection, Transmission, and Integration. This activity is described in detail in the sections that follow.

IV. PSE'S DECISION TO CONSTRUCT LSR PHASE 1 WAS PRUDENT

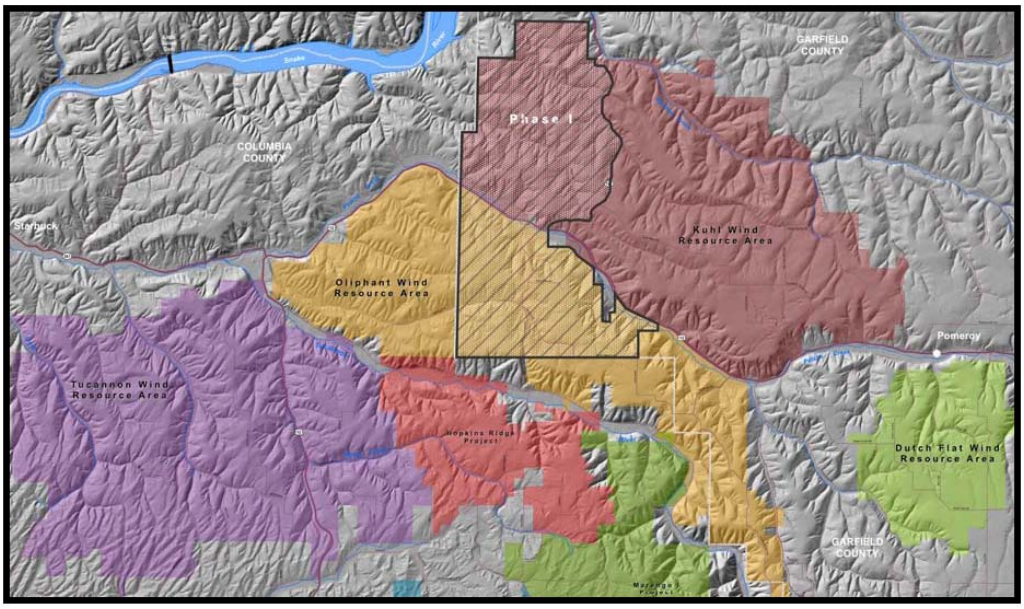
A. Description of the Lower Snake River Wind Project and LSR Phase 1

1. Description of the Lower Snake River Wind Project

Q. Please describe the Lower Snake River Wind Project.

A. The Lower Snake River Wind Project is located in southeast Washington and encompasses over 124,000 acres of leased lands in Garfield and Columbia Counties. The Lower Snake River Wind Project comprises enough acreage and wind resources for a 1250 MW resource. Lower Snake River Wind Project covers four wind resource areas as shown in Figure 4 below.

Figure 4. Lower Snake River Wind Project
Wind Resource Areas.



Q. Please describe the four wind resource areas located within the Lower Snake River Wind Project.

A. The four wind resource areas located within the Lower Snake River Wind Project are as follows:

1. Tucannon Wind Resource Area, which consists of approximately 41,500 acres in Columbia County;

2. Dutch Flats Wind Resource Area, which consists of approximately 10,000 acres in Garfield County;

3. Kuhl Ridge Wind Resource Area, which consists of approximately 39,900 acres in Garfield County; and

4. Oliphant Wind Resource Area, which consists of approximately 32,700 acres in Garfield and Columbia counties.

Q. Do these four wind resource areas delineate project areas or proposed construction phases associated with the Lower Snake River Wind Project?

A. No. The four wind resource areas neither delineate distinct project areas nor do they directly correlate with proposed construction phases. Rather, the four wind resource areas represent sections of the Lower Snake River Wind Project separated by natural and human-made features within which development activities such as wind resource evaluation, land lease negotiations, and environmental studies were initiated at different times.

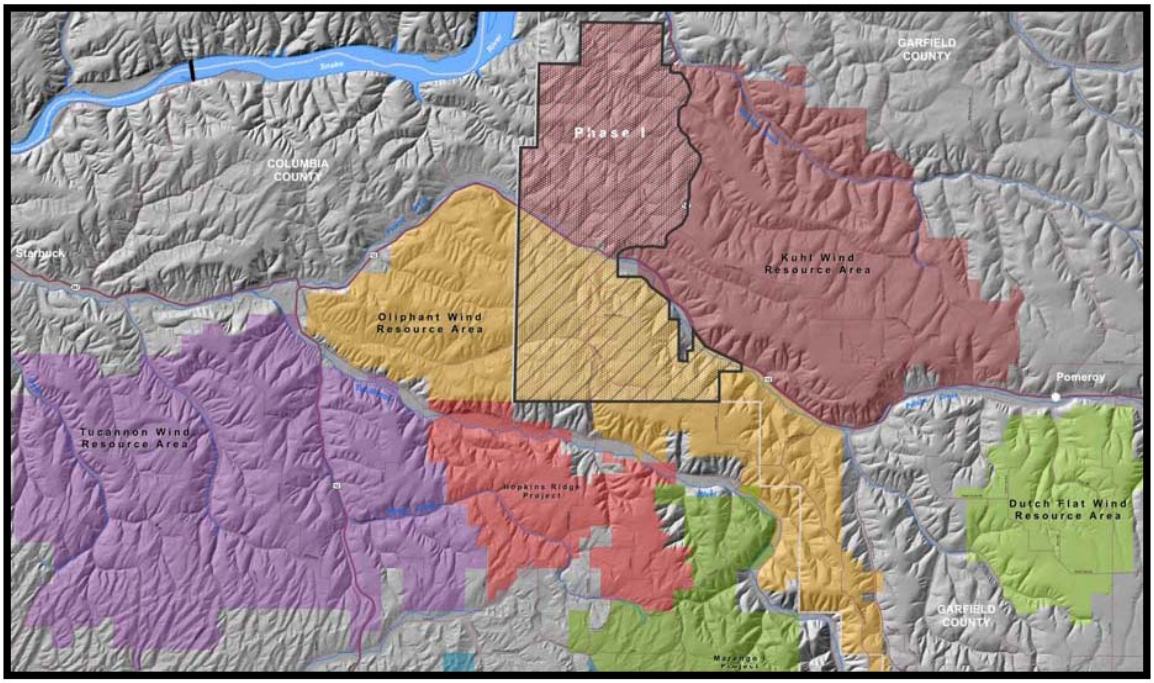
Development and construction will occur in multiple phases with each phase encompassing areas in one or more of the wind resource areas. The phasing of the development and construction of the Lower Snake River Wind Project is not intended to coincide with the wind resource areas, and the size and geographic boundaries of each phase are being determined during the development process.

2. <u>Description of the LSR Phase 1</u>

Q. Please describe LSR Phase 1.

A. LSR Phase 1 encompasses portions of the Kuhl Ridge and Oliphant Ridge wind resource areas as depicted Figure 5 below.

Figure 5. LSR Phase 1.



When constructed LSR Phase 1 will be a 342.7 MW wind power generation facility located on an approximately 21,610 acre site in western Garfield County, Washington and bordering Columbia County.

Q. How was the size of LSR Phase 1 determined?

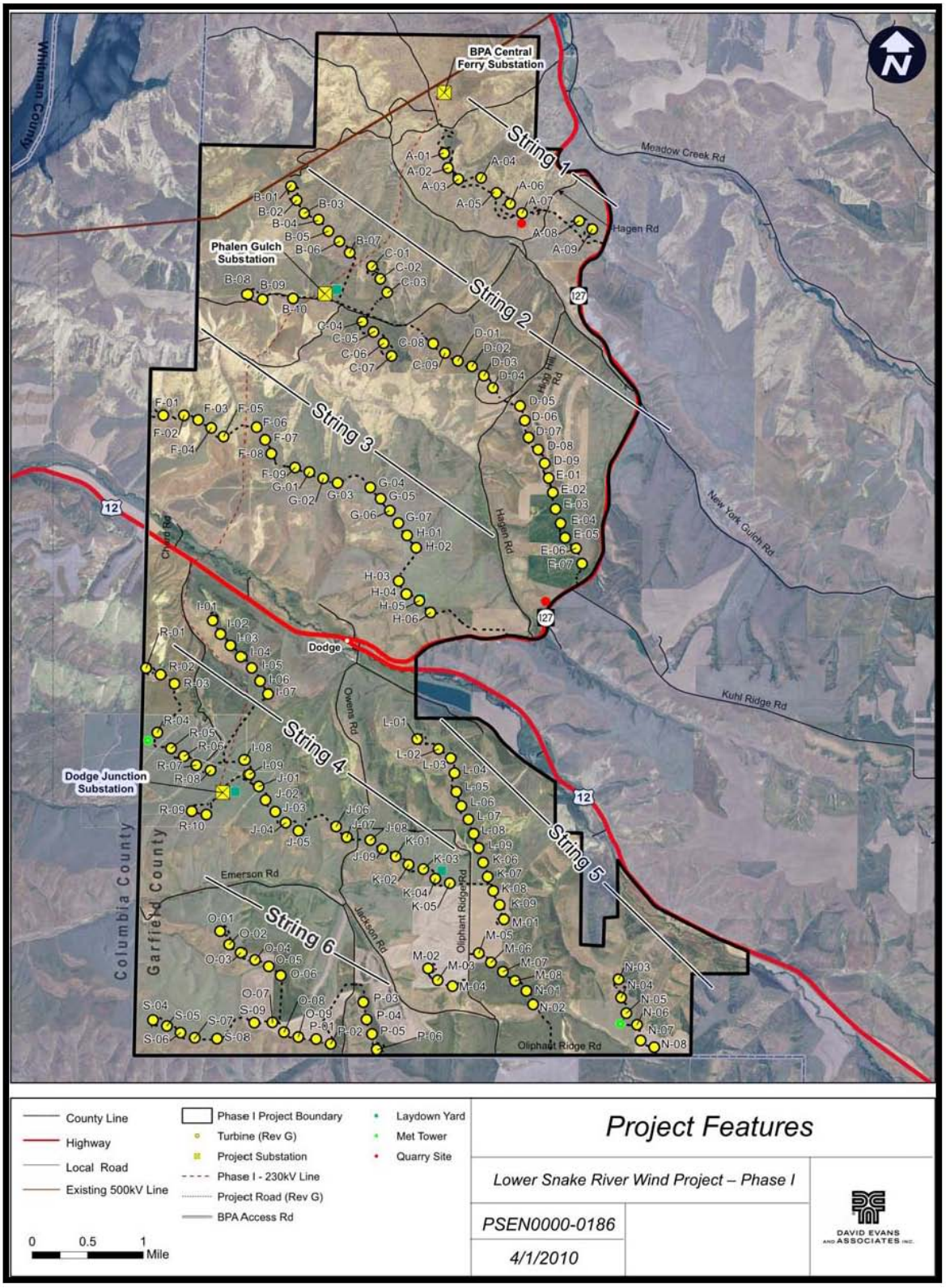
A. Ultimately, the size of LSR Phase 1 was a management decision. PSE weighed the need specified in the 2009 IRP and subsequent reevaluations considering project constraints such as permitting status, sufficiency of wind resource data, and construction execution risk. PSE also thoroughly analyzed the cost effectiveness of how much wind capacity could be acquired in order to capture the maximum economic benefits. *See* the Prefiled Direct Testimony of Ms. Aliza Seelig, Exhibit No. ___(AS-1HCT), and Exhibit No. ___(RG-13HC) at 174-185.

Q. Please describe the general location of LSR Phase 1.

A. LSR Phase 1 is located approximately 10 miles northwest of the City of Pomeroy, Washington in Garfield County and 15 miles northeast of the City of Dayton, Washington in Columbia County. The nearest commercial airports are in Walla Walla, Washington and in Lewiston, Idaho.

The LSR Phase 1 site is located generally west of Highway 127 and is bisected by the Pataha River valley, making the north portion and the south portion of LSR Phase 1 geographically distinct from one another. The geographic center of the project area is generally in the vicinity of the junction of Highway 12 and Highway 127 known as Dodge Junction. The layout of LSR Phase 1 is depicted in Figure 6 on the following page.

Figure 6. LSR Phase 1 Layout



a. LSR Phase 1 Project Infrastructure

Q. Please describe the LSR Phase 1 project infrastructure.

A. The LSR Phase 1 project infrastructure will consist of 149 Siemens SWT-101 2.3 MW wind turbines generators that will be electrically connected to two project substations. Sixty-six wind turbines generators will be connected to the Phalen Gulch Substation located in the north portion of the LSR Phase 1 and eighty-three wind turbines generators will be connected to the Dodge Junction Substation located in the southern portion of LSR Phase 1.

The facilities, equipment, and features of LSR Phase 1 include the following:

1) Approximately 38 miles of new roads for construction and maintenance of the wind turbines;

2) Improvements to approximately 5 miles of existing county roads;

3) 149 wind turbine generators erected on tubular steel towers with pad mounted step-up transformers located adjacent to the towers;

4) An underground electrical collection system consisting of approximately 64 miles of buried 34.5 kV electrical power lines between turbines and the two project electrical substations;

5) Two electrical substations to step up voltage to 230 kV for project transmission;

6) Approximately 8 miles of 230 kV overhead transmission lines connecting LSR Phase 1 to the regional electrical grid. This connection occurs at a new Central Ferry Substation being constructed by BPA. PSE's LSR Phase 1 scope of work includes most of the access road needed to construct and operate BPA's substation, but not the substation itself;

7) An Operations and Maintenance Building located just east of the City of Pomeroy;

8) A Supervisory Control and Data Acquisition communication system that will connect communications between each individual wind turbine generator, the project substations, and the BPA communications system;

9) A microwave communications system for connection of the project communications/ Supervisory Control and Data Acquisition system to the PSE Load Office; and

10) Temporary construction-related facilities including portable concrete batch plants, laydown areas, rock quarries, and portable rock crushers.

b. <u>LSR Phase 1 Interconnection</u>

Q. How will LSR Phase 1 interconnect to the transmission grid?

A. LSR Phase 1 will interconnect to BPA's Little Goose–Lower Monument #1 and #2 transmission lines. BPA is constructing the new BPA Central Ferry Substation at the northern boundary of LSR Phase 1 for this purpose. The Central Ferry Substation will provide interconnection for up to 1,250 MW of wind power generation from the Lower Snake River Wind Project. The Central Ferry Substation will step-up the 230 kV project transmission to 500 kV for transmission on the BPA grid. BPA is responsible for the design, construction, and operation of the new Central Ferry Substation.

c. LSR Phase 1 Construction Timing

Q. When did construction activities of LSR Phase 1 commence?

A. PSE issued a full notice to proceed in early May 2010 after the Board of Directors approved the construction of LSR Phase 1. However, one month prior to Board of Directors approval a $[redacted] limited notice-to–proceed (NTP) was issued to RES Construction for construction of BPA's Central Ferry access road in order to facilitate BPA's construction schedule. Please see Exhibit No. ___(RG-13HC) for a copy of the presentation to the PSE Board of Directors, dated May 5, 2010, pursuant to which the Board of Directors authorized the construction of LSR Phase 1.

Q. What is the construction timeline for LSR Phase 1?

A. PSE is constructing LSR Phase 1, generally, in the following sequence:

1) Erosion control Best Management Practices ("BMPs") (2010)
2) Topsoil stripping, clearing, and stockpiling (2010)
3) Rough grading of roads and turbine sites (2010)
4) Construction of foundations (2010)
5) Overwinter site stabilization (winter 2010 – 2011)
6) Construction of project substations (2011)
7) Construction of electrical collection system (2010 – 2011)
8) Construction of project transmission lines (2011)

9) Turbine erection (2011)

10) Turbine commissioning (2011 – 2012)

See Exhibit No. ___(RG-13HC) at 77-78. PSE projects final completion of LSR Phase 1 by mid-April of 2012.

B. PSE Compared LSR Phase 1 to the Renewable Resources Proposals Submitted in Response to the 2010 RFP

Q. When did PSE initially evaluate LSR Phase 1 to determine if it met the least reasonable cost resource standard?

A. To fulfill the requirements of the Section 1603 Treasury Grant and to take advantage of lower, more attractive wind turbine pricing, PSE originally evaluated LSR Phase 1 in 2009 against other alternatives being considered at the time and in comparison to the recently approved Wild Horse Expansion project. This evaluation showed LSR Phase 1 to be the lowest reasonable cost alternative at the time. Staff expected to present LSR Phase 1 to the EMC in December 2009 with a recommendation to seek approval from the Board of Directors in January 2010. In fact, on October 12, 2009, Staff sought and received approval from the EMC to exclusively negotiate a wind turbine supply agreement with Siemens after the wind turbine selection evaluation. This timeline would have easily allowed PSE to construct five percent or more of LSR Phase 1 in 2010 to meet the safe harbor provisions for the Section 1603 Treasury Grant. (Please note that PSE was, at the time, operating under the requirements of the American Recovery and Reinvestment Act of 2009. Later, the Tax Relief, Unemployment Insurance

Reauthorization, and Job Creation Act of 2010, signed into law in December 2010, extended the time periods applicable to the availability of Section 1603 Treasury Grants.)

Q. Did PSE seek approval from the Board of Directors in January 2010?

A. No. Although PSE evaluated LSR Phase 1 in 2009 and was prepared to proceed, PSE management made a decision to postpone the recommendation to the Board of Directors to be able to compare LSR Phase 1 against a more thorough and robust set of potentially viable market alternatives by waiting for the 2010 RFP process. Evaluating LSR Phase 1 with more current market alternatives would ensure the lowest reasonable cost resources were selected to meet RPS requirements. After a thorough consideration and analysis of the required timeline to procure the wind turbine equipment, to release BPA to construct the Central Ferry substation, and construct the project, PSE management believed that PSE could still meet the safe harbor provision for the Section 1603 Treasury Grant by constructing five percent or more of LSR Phase 1 during the 2010 construction window yet waiting for the results of the evaluation of renewable resources as part of the 2010 RFP. Additionally, PSE could determine to not proceed with the construction of LSR Phase 1 if other renewable resource proposals received in response to the 2010 RFP evaluated better than LSR Phase 1. The timing for a PSE decision was critical for these alternative proposals as well since their economics relied upon successfully qualifying for and utilizing Section 1603 Treasury Grants.

Q. Did PSE modify its 2010 RFP schedule to accommodate the deadlines imposed by the Section 1603 Treasury Grant safe harbor provisions?

A. Yes. LSR Phase 1 and a significant number of renewable resources submitted in response to the 2010 RFP assumed prices based on their ability to capture the Section 1603 Treasury Grant. As a result, PSE bifurcated the 2010 RFP evaluation process to enable PSE to concentrate on the renewable resource proposals first. In doing so, PSE could identify the lowest reasonable cost and risk resources with sufficient time to seek approval from the Board of Directors in May 2010 and secure the resource with sufficient time to fulfill the construction requirements of the Section 1603 Treasury Grant safe harbor provisions.

Once the evaluation process for renewable resources was complete, the evaluation team commenced the process for other resources. The overall process, analyses, and analytical models are described in detail in the Prefiled Direct Testimony of Ms. Aliza Seelig, Exhibit No. ___(AS-1HCT). *See generally* Exhibit No. ___(RG-13HC) at 187-235.

Q. What were the results of the renewable resource comparative analysis conducted as part of Phase I of PSE's 2010 RFP analysis?

A. Please see Table 3 below for the Candidate Short List of renewable resources from the 2010 RFP Phase I quantitative and qualitative results.

Table 3. 2010 RFP Phase I Candidate Short List for Renewable Resources

2010 RFP, Phase I Proposal Selected for Additional Due Diligence						Phase I: Quantitative Screening		
Proposal ID	Proposal	Technology Type	Size MW	P50 Annual RECS	On-line Year	Portfolio Benefit Ratio	Portfolio Benefit ($ MM)	Levelized Cost $/MWh
Self build and Unsolicited proposal								
	Lower Snake River Phase 1	Wind	342.7	[redacted]	2012	0.09	68.8	[redacted]
	[redacted]	Wind	[redacted]	[redacted]	2012	0.14	35.5	[redacted]
2010 RFP Proposals								
10059	[redacted]	REC	[redacted]	[redacted]	2012	2.26	14.2	N/A
10009	[redacted]	Biomass	[redacted]	[redacted]	2013	0.13	19.2	[redacted]
10025	[redacted]	Biomass	[redacted]	[redacted]	2013	0.11	19.7	[redacted]
10063	[redacted]	Biomass	[redacted]	[redacted]	2013	0.05	20.2	[redacted]
10075	[redacted]	Wind	[redacted]	[redacted]	2012	0.05	18.6	[redacted]
10117-a	[redacted]	Wind	[redacted]	[redacted]	2013	0.01	3.2	[redacted]
10117-b	[redacted]	Wind	[redacted]	[redacted]	2012	(0.03)	(8.7)	[redacted]

Please see the Prefiled Direct Testimony of Ms. Aliza Seelig, Exhibit No. ___(AS-1HCT), for a discussion of the renewable resource screening process and results in Phase I of the 2010 RFP. The renewable resources above were the lowest reasonable cost and risk renewable resources identified in Phase I of the 2010 RFP.

REDACTED VERSION

REDACTED VERSION

Q. How did PSE proceed with the renewable resources that evaluated favorably in Phase I of the 2010 RFP?

A. PSE brought the nine renewable resources that evaluated favorably in Phase I of the 2010 RFP forward into Phase II of the 2010 RFP. In Phase II of the 2010 RFP, PSE conducted more in-depth due diligence of attributes associated with the specific proposals. PSE reviewed and researched commercial items and placed the resources into the Optimization Model to identify those proposals that yield the lowest cost portfolio. Please see Prefiled Direct Testimony of Ms. Aliza Seelig, Exhibit No. ___(AS-1HCT), for a discussion of the Phase II analysis of renewable resources.

Q. In addition to the Optimization Model, what other tools did PSE use to evaluate the resources on the Candidate Short List?

A. The 2010 RFP working groups prepared memoranda and submitted documentation to the 2010 RFP evaluation team documenting the due diligence findings for each resource. Additionally, PSE created a project development matrix that provided a comparison of each project's progress in the following areas: wind resource assessment; real estate; interconnection and transmission; permitting; statues in negotiating a wind turbine supply agreement, balance of plant agreement; ability to meet Section 1603 Treasury Grant safe harbor provisions; and ability to satisfy RPS benchmarks. Table 4 below presents the development matrix for wind resources on the Candidate Short List.

Table 4. 2010 RFP Phase II Candidate Short List
Wind Project Development Progress

	Project Development Status	LSRWP, Phase I	[redacted] (Unsol)	[redacted] (#10075)	[redacted] (#10117-a)	[redacted] (#10117-b)
Wind Resource	Wind resource assessment received from credible wind resource consultant	√	√	√	√	√
	Wind resource report is final	√	?	N	N	N
Real Estate	All land leases secured	√	N	√	√	√
	Land leases are valid for life of proposed projects	√	?	N	√	√
Interconnection & Transmission	BPA ROD complete	√	N	n/a	N	n/a
	LGIA signed with transmission utility for interconnection	pending	N	N	N	√
	Transmission request submitted with transmission provider	√	√	N	√	√
	Firm transmission secured	√	√	N	N	N
Permits	Permit submitted to local county or EFSEC	√	√	√	√	√
	Environmental / SEPA / NEPA review complete	√	N	√	N	√
	Permit received from governing authority	√	N	√	N	√
	Unappealable permit in hand	√	N	√	N	√
	NPDES complete	√	N	√	?	?
	DAHP consultation and approval (or Oregon counterpart)	√	?	√	?	?
	Construction permits received	√	N	N	N	N
Wind Turbines	Wind turbines for site selected	√	√	√	√	√
	Turbine Service Agreement and Service and Maintenance Agreement signed with turbine manufacturer	pending	pending	N	N	N
Balance of Plant	Road & turbine layout design complete	√	?	N	?	?
	Building design complete	N	?	N	?	?
	BOP contract executed	pending	N	N	N	N
Treasury Grant	5% safe harbor provision will be met by 12/31/2010	√	?	?	?	?
	Likely that project will reach COD by 12/31/2012	√	?	√	?	√
WA RPS	15% apprentice labor will be used during construction to meet WA RPS provision	√	√	√	√	√

Table 5 below presents the development matrix for biomass resources on the Candidate Short List.

Table 5. 2010 RFP Phase II Candidate Short List
Biomass Project Development Progress

	Project Development Status	[redacted] (#10009)	[redacted] (#10063)	[redacted] (#10025)	[redacted] (Unsol)
COD	Estimated Commercial Operation Date	August 2012	April 2013	June 2012	February 2013
Real Estate	Site identified	√	√	√	√
	Site secured	√	?	√	√
Air Permits	Permitting challenges identified	√	√	√	√
	Permit application submitted	?	√	?	?
	Permit application deemed complete	N	N	N	N
	Public comment period complete	N	N	N	N
	Permit issued	N	N	N	N
Interconnection & Transmission	Interconnection request submitted	√	√	√	√
	Feasibility Study complete	N	√	N	N
	System Impact Study complete	N	√	N	N
	Facility Study complete	N	N	N	N
	BPA ROD complete	N	N	N	N
	LGIA signed with transmission utility for interconnection	N	N	N	N
	Transmission request submitted with transmission provider	N	N	N	N
	Firm transmission secured	N	N	N	N
Fuel Supply	Fuel Study/ Plan Provided	√	N	√	√
	Fuel Agreements Signed	?	?	√	?
Permits	Conditional Use Permit / Land Use Approval filed	?	N	?	√
	Conditional Use Permit / Land Use Approval obtained	N	N	N	N
	SEPA Checklist Submitted	N	N	N	N
	Water Rights Certification or Water Use Approval	√	?	?	√
	Wastewater Discharge Approval	?	?	?	?
	SEPA / NEPA Environmental Determination	?	?	?	?
Water / Wastewater	Water supply secured	√	N	?	√
	Wastewater capacity / treatment secured	√	N	?	?

Table 5. 2010 RFP Phase II Candidate Short List
Biomass Project Development Progress (contd.)

	Project Development Status	[redacted] (#10009)	[redacted] (#10063)	[redacted] (#10025)	[redacted] (Unsol)
Technology	Boiler Technology Identified	√	√	N	√
	Steam Turbine Selected	?	√	?	?
	Fuel Handling Equipment Selected	?	?	?	?
	Service and Maintenance Agreement executed	N	√	N	√
Site Engineering	Preliminary engineering completed	?	√	?	?
	EPC contract signed	N	√	N	N
Treasury Grant	5% safe harbor provision will be met by 12/31/2010	?	?	?	?
	Likely that project will reach COD by 12/31/2013	√	√	√	√
	Project contingent on obtaining Treasury Grant?	Yes	No	Yes	No
WA RPS	15% apprentice labor will be used during construction to meet WA RPS provision	√	√	?	√

Q. What value does the project development matrix provide in evaluating renewable resources?

A. The project development matrix identifies a project's status in the development chain and illustrates the relative development risk associated with each project. For example, Tables 4 and 5 above indicate that LSR Phase 1 was the best positioned renewable resource to begin construction immediately and satisfy the Section 1603 Treasury Grant safe harbor provisions.

Q. What were the results of the evaluation of renewable resource proposals in Phase II of the 2010 RFP?

A. PSE identified LSR Phase 1 as the renewable resource with the lowest reasonable cost and lowest reasonable risk. PSE decided to place [redacted] (Unsolicited), [redacted] (#10059), [redacted] (#10009), [redacted] (10025), and [redacted] (#10063) on a continuing investigation list for further evaluation and review. By the end of 2010, none of the projects placed on the continuing investigation list other than [redacted] (#10059) have commenced construction. To date, it is PSE's understanding that only [redacted] (#10059) has commenced construction.

Q. How did PSE proceed with LSR Phase 1?

A. Based on the favorable evaluation in the 2010 RFP, PSE staff recommended that PSE obtain the necessary management approvals to advance LSR Phase 1.

C. PSE Informed and Involved its Board of Directors and Energy Management Committee in the Construction of LSR Phase 1

Q. Please describe the internal approval process for LSR Phase 1.

A. PSE staff regularly kept the EMC informed and involved in PSE's Development Strategy, including without limitation the Joint Development Agreement, the Joint Development Agreement, the development activities that occurred prior to

obtaining approval of the Board of Directors to construct LSR Phase 1, and the comparison of LSR Phase 1 to the renewable resource proposals bid into the 2010 RFP. Please see Exhibit No. ___(RG-14HC) for a compilation of pertinent presentations made to the EMC.

Additionally, PSE staff regularly kept the Asset Management Committee, a subcommittee of the Board of Directors, informed and involved in PSE's Development Strategy, including without limitation the Joint Development Agreement, the Joint Development Agreement, the development activities that occurred prior to obtaining approval of the Board of Directors to construct LSR Phase 1, and the comparison of LSR Phase 1 to the renewable resource proposals bid into the 2010 RFP. Please see Exhibit No. ___(RG-15HC) for a compilation of pertinent presentations made to the Asset Management Committee.

Additionally, PSE staff kept the full Board of Directors informed and involved in PSE's Development Strategy, including without limitation the Joint Development Agreement, the Joint Development Agreement, the development activities that occurred prior to obtaining approval of the Board of Directors to construct LSR Phase 1, and the comparison of LSR Phase 1 to the renewable resource proposals bid into the 2010 RFP. Please see Exhibit No. ___(RG-16HC) for a compilation of pertinent presentations made to the full Board of Directors.

Q. Did PSE seek the approval of the EMC to request approval of the Board of Directors to construct LSR Phase 1?

A. Yes. After the RFP comparative analysis identified LSR Phase 1 as the lowest reasonable cost and lowest risk renewable resource to acquire to meet its renewable resource need, PSE sought the approval of the EMC to request approval of the Board of Directors to construct LSR Phase 1.

On April 22, 2010, the EMC approved the request to bring the decision to construct LSR Phase 1 to PSE's Asset Management Committee, a subcommittee of the Board of Directors. Please see Exhibit No. ___(RG-17HC) for a copy of pertinent presentations to and minutes of the EMC meeting dated April 22, 2010.

Q. Did the Board of Directors approve the recommendation to construct LSR Phase 1?

A. Yes. On May 5, 2010, PSE's Board of Directors approved the recommendation to construct LSR Phase 1. Please see Exhibit No. ___(RG-13HC) for a copy of the presentation to and minutes of the Board of Directors.

Q. What activity followed the approval of the Board of Directors to construct LSR Phase 1?

A. PSE entered into the major contracts for the construction of LSR Phase 1. Additionally, the 2010 RFP evaluation team began notifying parties that submitted renewable resource bids in response to the 2010 RFP and those parties

that submitted renewable resource proposals outside of the 2010 RFP of their status in the resource evaluation process.

Q. How did bidders respond to PSE notices?

A. Some bidders that were notified that their projects were not selected for continued consideration resubmitted their proposals with different economic terms and contracting structures.

Q. Did PSE receive additional project proposals?

A. Yes. Owners of several advanced stage wind projects located in the Pacific Northwest that were not previously proposed into the 2010 RFP, submitted bids. At the time of the 2010 RFP deadline, these owners had intended to sell the output and RECs from these projects into the California market. However, pending legislative and regulatory changes to the California RPS introduced risk and uncertainty for out-of-state resource procurement and several California utilities discontinued negotiations on these projects.

Q. How did PSE treat these resubmittals and additional unsolicited proposals?

A. PSE reevaluated LSR Phase 1 against these proposals. Since incremental costs had been incurred on LSR Phase 1 as a result of contractual obligations under the Turbine Supply Agreement, BOP Contract, land leases and the BPA Large Generator Interconnection Agreement, PSE evaluated these proposals against LSR Phase 1, net of sunk costs. LSR Phase 1 sunk costs included the value of

work performed to date under the various project agreements, cancellation charges plus costs PSE would have to incur to cancel those major contracts. These costs were considered recoverable since at the time the Project was approved by the Board of Directors, it was the lowest reasonable cost resource.

Q. Was it appropriate to include the termination cost of the wind turbine generators in this analysis?

A. Yes. PSE would have incurred a contractually obligated break-up fee with Siemens even though very little, if any, actual production had taken place.

Q. What were the results of the reevaluation?

A. The analysis indicated that nothing had materially changed with respect to the economics of renewable energy projects since the formal 2010 RFP evaluation and LSR Phase 1 still evaluated more favorably than the alternatives. Furthermore, many of the 2010 RFP re-bids continued to suffer from the same qualitative concerns that were highlighted during the RFP process. Please see the Prefiled Direct Testimony of Ms. Aliza Seelig, Exhibit No. ___(AS-1HCT), for reevaluation results.

D. LSR Phase 1 Development Activities

Q. What development activity did PSE engage in to advance LSR Phase 1?

A. The wind resource areas purchased from RES Developments were in various stages of development. In order to construct LSR Phase 1 and advance the

development status of the other assets, PSE secured Conditional Use Permits from Garfield and Columbia counties, secured additional and necessary land leases, erected additional wind monitoring equipment, commissioned wind resource assessment studies, and hired an outside consultant to provide equipment layout information, amongst other things. These activities are explained in greater detail in the following sections.

1. Wind Resource Assessment

Q. Did PSE conduct a wind resource assessment for LSR Phase 1?

A. Yes. PSE conducted a wind resource assessment for LSR Phase 1. PSE owns twenty-nine meteorological towers across the Lower Snake River Wind Project, which specifically include four Rohn 25G lattice meteorological towers, thirteen Sabre 1800 lattice met towers, three Sabre 1200 lattice meteorological towers, all approximately 60 meters in height, and one self-supporting 80 meter lattice. PSE engaged DNV Renewables (USA) Inc. to provide met tower monitoring services. Please see Exhibit No. ___(RG-13HC) at 283-298 for an overview of PSE's wind resource assessment activities with respect to LSR Phase 1.

Q. Was the wind resource assessment methodology conducted for LSR Phase 1 identical to the assessments performed for the Hopkins Ridge and Wild Horse Wind Projects?

A. No. As the wind industry has evolved and grown, so too have the methods and estimates used to predict a potential project's net capacity factor. Advisory firms have looked at pre-construction estimates (e.g., the LSR Phase 1 net capacity factor estimate) and then compared that to post-construction operating results. Generally, historical wind resource assessments conducted around the time of PSE's first wind projects have been found to be too optimistic. Please see the Prefiled Direct Testimony of Mr. David E. Mills, Exhibit No. ___(DEM-1CT), for a discussion of historical wind resource assessments.

Advisory firms have revised both model inputs and data collection techniques:

- **Improved Model Inputs –** Wind turbine generator availability figures and wake loss estimates were changed to more conservative figures that more accurately reflect operating reality.
- **Improved Wind Data Collection Accuracy –** Experience has improved measurement techniques and led to more meteorological towers with better site placement.

The result of these and other changes is more accurate net capacity factor estimates than those conducted during the timeframes of the Hopkins Ridge and Wild Horse Wind Projects. The net capacity factor estimates for LSR Phase 1 reflect these improved methodologies.

Q. Please describe the wind resource assessment for LSR Phase 1.

A. PSE engaged DNV Renewables (USA) Inc. to develop and implement a detailed wind resource assessment program for the Lower Snake River Wind Project and LSR Phase 1. Please see Exhibit No. ___(RG-13HC) at 300-411 for a copy of the report prepared by Renewables (USA) Inc.

Table 6 below summarizes the wind resource assessment findings of DNV Renewables (USA) Inc. for LSR Phase 1.

Table 6. LSR Phase 1 Wind Resource Values

LSR Phase 1 Resource Assessment	Value
P5 Net Energy (GWh/yr)	[redacted]
P5 Net Capacity Factor	[redacted]
P95 Net Energy (GWh/yr)	[redacted]
P95 Net Capacity Factor	[redacted]
P50 Net Energy (GWh/yr)	[redacted]
P50 Net Capacity Factor	[redacted]

Q. Does PSE anticipate that LSR Phase 1 will achieve the [redacted] net capacity factor predicted in the DNV Renewables (USA) Inc. assessment during the rate year?

A. No, PSE does not expect that LSR Phase 1 will achieve the [redacted] net capacity factor predicted in the DNV Renewables (USA) Inc. assessment during the rate year. As discussed in more detail below, PSE estimates that there may be a period of approximately fifteen months with transmission deficit for LSR Phase 1

as BPA reinforces parts of its transmission system. As part of PSE's evaluations, curtailment assumptions were made during this period, the impacts of which are reflected in the project economics. Therefore, the projected net capacity factor for LSR Phase I for the rate year is projected to be [redacted].

Q. Did PSE rely exclusively on DNV Renewables (USA) Inc. for the wind resource assessment for LSR Phase 1?

A. No. PSE did not rely exclusively on DNV Renewables (USA) Inc. for the wind resource assessment for LSR Phase 1. PSE also retained Burns & McDonnell Engineering Company, Inc. to provide an energy assessment of the LSR Phase 1. Burns & McDonnell conducted this analysis using the Siemens SWT-2.3-101 turbine and turbine layouts for 149 turbines installed at 80 meter hub height for an installed project capacity of 342.7 MW. Burns & McDonnell utilized data processed and validated by DNV Renewables (USA) Inc. Please see Exhibit No. ___(RG-13HC) at 413-503 for a copy of the report prepared by Burns & McDonnell Engineering Company, Inc.

Q. How did PSE use results of the report prepared by Burns & McDonnell in analyzing LSR Phase 1?

A. PSE used the results of the report prepared by Burns & McDonnell to validate that the wind resource assessment for LSR Phase 1 prepared by DNV Renewables

(USA) Inc. represented a fair and accurate assessment of the potential of LSR Phase 1.

Q. How does the projected net capacity factor of LSR Phase 1 compare to PSE's other wind resources?

A. The long-term, estimated net capacity factor of [redacted]% for LSR Phase 1 is similar to PSE's Hopkins Ridge Wind Project (net capacity factor of [redacted]%) and PSE's Wild Horse Wind Project (net capacity factor of [redacted]%). *See* Exhibit No. ___(RG-13HC) at 12.

2. <u>Real Estate</u>

Q. Please describe the status of the real estate rights and interests associated with LSR Phase 1.

A. LSR Phase 1 consists of 27 wind energy ground leases and related easements, which burden approximately 21,610 acres in western Garfield County. Please see Exhibit No. ___(RG-13HC) at 118-120 for a description of the real estate rights and interests associated with LSR Phase 1.

PSE has secured leases providing all rights necessary to construct and operate LSR Phase 1. The leased lands are almost entirely utilized for agriculture including dry land wheat farming, livestock grazing and conservation reserve program grasslands. Each wind lease has a term of 35 years with options, upon the occurrence of certain events, to extend the lease to a total of 50 years from the

initial signing date. Please see Exhibit No. ___(RG-11C) at 581-813 for copies of memoranda of assignment and assumption of leases and easements.

Q. What are the payment arrangements for the lease interests?

A. Each wind lease and related easement has several payment obligations, which include the following three segments:

- **Initial Payments.** Initial Payments are paid on an annual basis during the first five year term of the lease at a rate of [redacted]. Initial Payments continue until the commencement of electricity generation from the turbine(s) installed on a Lessor's property.

- **Installation Payments.** Installation Payments are payable to a Lessor upon the commencement of construction of wind turbine(s) on such Lessor's property. Installation Payments are calculated at a rate of [redacted].

- **Operating Rent.** Following commencement of electrical generation from the turbines installed on a Lessor's property, Initial and Installation Payments cease and Operating Rent commences. Rent is paid at a rate [redacted]. The payments are made monthly and include contractual annual escalations at a rate of [redacted]%. Upon the commencement of Operating Rent, each lease has minimum annual rent obligation of $[redacted] per MW of installed rated capacity of turbine(s) installed.

See Exhibit No. ___(RG-13HC) at 118-120.

Q. What are the payment arrangements for the easement interests?

A. In addition to the lease payments and obligations, a separately negotiated easement is associated with each wind lease. The easement grants rights for roads, substations, and transmission lines with annual payment obligations for each at the rate of $[redacted] per acre of land converted to roads, $[redacted] per acre for lands converted for substation use and $[redacted] per lineal mile for transmission line trenches and overhead line circuits installed on a Lessor's property. Payment obligations under the easement are waived if a minimum number of MWs of generating capacity are installed on the Lessor's property, per the terms of each lease. *See* Exhibit No. ___(RG-13HC) at 118-120.

3. <u>Permitting</u>

Q. What is the status of permits for LSR Phase 1?

A. PSE has completed all necessary environmental review and public process for LSR Phase 1 and has obtained a Conditional Use Permit from Garfield County. The Conditional Use Permit from Garfield County is final and not subject to further appeal and provides all rights necessary to construct and operate LSR Phase 1.

Please see Exhibit No. ___(RG-13HC) at 105-116 for a description of the permitting process. Please see Exhibit No. ___(RG-18) for a copy of the Garfield County Staff Report to Hearing Examiner and Exhibit No. ___(RG-19) for a copy

of the Findings of Fact, Conclusions of Law, Decision and Conditions of Approval of the County of Garfield Hearing Examiner, dated November 25, 2009.

4. Community and Communications

Q. What is the local community's opinion of LSR Phase 1?

A. The Lower Snake River Project enjoys considerable local support from government leaders, the business community and the majority of residents of both Garfield and Columbia counties. These supporters view wind energy as a vital and unprecedented opportunity to enhance the local economy through the creation of jobs, addition of new tax revenues and the diversification and stimulation of local businesses and services. Supporting groups include a citizen-based group promoting economic diversity, the regional economic development association, and the chambers of commerce of both counties.

Opposition to wind energy is represented by a limited group of residents, primarily in Columbia County, who view the wind turbines as visually intrusive or as a source of unwanted noise. However, a settlement has been reached with the leading opponents of the Lower Snake River Wind Project, who have agreed to withdraw their objection in consideration for changes in proposed turbine siting near their property.

Please see Exhibit No. ___(RG-13HC) at 122-128 for a description of the community and communications strategy.

5. Engineering and Construction

Q. Please describe the LSR Phase 1's engineering and construction activities.

A. RES Construction will serve as the contractor of the "balance of plant" of the LSR Phase 1, pursuant to a Balance of Plant Agreement (the "BOP Contract") which covers the civil construction of all roads, site grading, wind turbine foundations, underground electrical collection systems, substations, and 230 kV project transmission lines. Please see Exhibit No. ___(RG-20C) for a copy of the BOP Contract.

The BOP Contract utilizes "open book" pricing, whereby PSE and RES Construction jointly evaluate subcontractor bids and come to an agreement on which to select. Once selected, pricing becomes fixed and RES Construction is responsible for performance, quality of work, and schedule in the same way as a conventional, fixed-price contract.

In order to facilitate BPA's schedule on its construction of the Central Ferry Substation, PSE authorized RES Construction to perform limited geotechnical work and access road construction starting in April 2010.

Certain engineering services necessary for the design of the LSR Phase 1 have been performed for PSE by Burns & McDonnell. Specifically, Burns & McDonnell is providing final design services for project infrastructure including roads, substations, and LSR Phase 1 transmission systems.

Please see Exhibit No. ___(RG-13HC) at pages 13-14 and at pages 76-103 for a description of the engineering and construction.

6. Wind Turbine Generator Selection and Contracts

Q. Please describe PSE's process for selecting the wind turbine generators.

A. PSE conducted a review of established major market providers of wind turbine generator technology and requested proposals from GE, Siemens, Mitsubishi, and Vestas. Following a detailed technical review, commercial comparisons, and due diligence, PSE selected the Siemens SWT 101 2.3 MW wind turbine generator for LSR Phase 1. PSE initiated negotiations for the purchase of wind turbine generator units from Siemens in October 2009, and terms of the Turbine Supply Agreement and Service and Maintenance Agreement.

Please see Exhibit No. ___(RG-13HC) at pages 14-15 and at pages 236-281 for a description of the selection process and due diligence proceedings supporting PSE's selection.

Q. Please summarize the key terms of the Turbine Supply Agreement.

A. A summary of the key terms of the Turbine Supply Agreement are as follows:

1) Siemens will deliver and erect 149 SWT 101 2.3 MW wind turbine generators, beginning in March 2011.

2) PSE will pay $[redacted] pursuant to the Turbine Supply Agreement payment schedule. [redacted].

3) Based on the project schedule and Turbine Supply Agreement payment milestones, PSE paid [redacted]% of the contract amount in 2010, and projects payments of [redacted]% in 2011, and [redacted]% in 2012.

4) Siemens will provide [redacted].

Please see Exhibit No. ___(RG-21C) for a copy of Turbine Supply Agreement.

Q. Please summarize the key terms of the Service and Maintenance Agreement.

A. The Service and Maintenance Agreement obligates Siemens to provide all operations and maintenance ("O&M") services for the LSR Phase 1 units for five years following turbine commissioning. Key terms of the Service and Maintenance Agreement are:

1) PSE will pay a fixed fee per wind turbine generator which equates to an annual amount of $[redacted] per wind turbine generator, [redacted].

2) The fee covers [redacted].

3) Siemens will [redacted].

4) Siemens warrants [redacted]% availability [redacted].

Please see Exhibit No. ___(RG-22C) for a copy of Service and Maintenance Agreement.

Q. What has happened to the market for wind turbine generators subsequent to PSE contracting to purchase turbines for LSR Phase 1?

A. The market for wind turbine generators has continued to remain soft and some vendors have continued to reduce pricing in an effort to keep capacity utilization high.

Q. Could PSE have waited in order to obtain better contract terms for LSR Phase 1?

A. PSE could have attempted to wait, in the hope that economic conditions would have continued to deteriorate in an effort to secure even greater discounts that it had already negotiated. By waiting, however, PSE could have jeopardized the state and federal incentives favoring renewable resource development discussed above. In any event, PSE obtained extremely favorable pricing and terms at the time it signed the Turbine Supply Agreement with Siemens.

Q. Given the private nature of wind turbine supply agreements, what information leads you to conclude PSE obtained "extremely favorable" pricing and terms?

A. In August 2010, Bloomberg published an article that summarized turbine procurement details from 22 turbine buyers that contracted for wind turbine generators in 2010 with delivery in either the second half of 2010 or the first half of 2011. Based on the details contained in the article, PSE concluded that it

would have been at the very bottom range of pricing paid on dollar per MW of capacity basis or actually below the lowest price point, based on the assumptions used in making an equitable comparison. Please see Exhibit No. ___(RG-23) for details of this comparison.

7. Interconnection, Transmission, and Integration

Q. Where will LSR Phase 1 interconnect to the transmission system?

A. LSR Phase 1 will interconnect to the BPA transmission system at the new Central Ferry 230/500 kV substation. BPA will construct Central Ferry under the terms and conditions of a Large Generator Interconnection Agreement entered into between BPA and PSE. Please see Exhibit No. ___(RG-13HC) at pages 15-16 and at pages 505-509 for a description of Large Generator Interconnection Agreement.

Key terms of the Large Generator Interconnection Agreement include the following:

1) PSE will pay (or prefund, but not reimburse) the BPA an estimated $102 million for the construction of the new Central Ferry Substation, the cost of which will be deferred as a regulatory asset for financial reporting and ratemaking purposes.

2) PSE will receive from BPA approximately 97.6% of the substation cost in the form of transmission credits paid back over the life of the project.

Please see Exhibit No. ___(RG-24) for a copy of the Large Generator Interconnection Agreement.

Q. Will LSR Phase 1 be in PSE's Balancing Authority?

A. No. Project output from LSR Phase 1 will be placed in the BPA Balancing Authority and is subject to BPA's integration tariff. BPA has established an integration tariff of $16.26/kW/year that is subject to adjustment in future, biennial BPA transmission rate case proceedings. PSE has the option to move LSR Phase 1 to PSE's Balancing Authority at a later time. Please see Exhibit No. ___(RG-13HC) at pages 15-16 and at pages 505-509 for a description of interconnection, transmission, and integration issues.

Q. Has PSE been granted firm transmission to transport power from the BPA's service territory into PSE's?

A. Partially. PSE has been granted firm transmission rights for the first 250 MWs of capacity and plans to purchase conditional firm transmission for output exceeding this amount until the BPA grants firm transmission rights for the remainder of the nameplate capacity in July 2013. PSE estimates that there may be a period of approximately fifteen months with transmission deficit for LSR Phase 1 as the BPA reinforces parts of its transmission system. BPA is currently working on these upgrades and is on schedule to complete the work in a timely fashion. As part of PSE's evaluations, curtailment assumptions were made during this period, the impacts of which are reflected in the project economics. Additionally, these considerations were brought to the attention of PSE's Board of Directors.

8. Budget and Schedule

Q. What budget did PSE project for LSR Phase 1?

A. The all-in budget for LSR Phase 1 is $848,041,000 for the period through commercial operation and final completion in 2012, which equates to $2,475/kW installed. This figure includes pro rata allocation of BPA interconnection costs and does not reflect the cost savings of the Section 1603 Treasury Grant. The all-in budget includes development costs (development rights, interconnection costs, and pre-paid transmission expense) allocated to LSR Phase 1, development costs that are specific to LSR Phase 1, and the costs to construct LSR Phase 1. Additionally, the project budget included $[redacted] for contingency purposes, but unspent contingency amounts will be removed from the capital budget for ratemaking purposes. Table 7 on the following page shows the total LSR Phase 1 budget.

Table 7. Total Development and Construction Budget

	$000s	$/kW	Percent of Total
DEVELOPMENT BUDGET			
Development Rights	[redacted]	[redacted]	[redacted]
PSE Allocated Development Costs	[redacted]	[redacted]	[redacted]
Interconnection Costs	[redacted]	[redacted]	[redacted]
Prepaid Transmission Expense	[redacted]	[redacted]	[redacted]
TOTAL DEVELOPMENT BUDGET	[redacted]	[redacted]	[redacted]
CONSTRUCTION BUDGET			
Wind Turbine Generators	[redacted]	[redacted]	[redacted]
TSA Contract Price	[redacted]	[redacted]	[redacted]
Anticipated TSA Options	[redacted]	[redacted]	[redacted]
Balance of Plant	[redacted]	[redacted]	[redacted]
O&M Building	[redacted]	[redacted]	[redacted]
Step-up Transformers	[redacted]	[redacted]	[redacted]
RES Construction Contract Price	[redacted]	[redacted]	[redacted]
PSE Project Management, Engineering, Construction Permitting, Third-Party Services, Community Relations, and Overhead	[redacted]	[redacted]	[redacted]
Project Communications	[redacted]	[redacted]	[redacted]
Start-up Costs	[redacted]	[redacted]	[redacted]
Sales Tax	[redacted]	[redacted]	[redacted]
Contingency	[redacted]	[redacted]	[redacted]
TOTAL CONSTRUCTION BUDGET	[redacted]	[redacted]	[redacted]
AFUDC	[redacted]	[redacted]	[redacted]
TOTAL ALL-IN PROJECT COSTS	**848,041**	**2,475**	**100.0%**

See Exhibit No. ___(RG-13HC) at 141.

9. Project Pro Forma

Q. Has PSE prepared a pro forma for LSR Phase 1?

A. Yes. PSE prepared a pro forma for LSR Phase 1, which models the 25-year project-specific revenue requirement to recover all capital investment made during development and construction of LSR Phase 1 and the subsequent 25 years of O&M expense required to operate the facility and transmit the energy to PSE's territory. The 25-year levelized cost of LSR Phase 1 is $[redacted]/MWh, which includes the development and construction budget.

Q. What costs does PSE budget as development costs for LSR Phase 1?

A. The development budget for LSR Phase 1 includes both the pro rata allocation of the costs to acquire, develop, and interconnect the entire Lower Snake River Wind Project and the LSR Phase 1 specific costs to negotiate the Turbine Supply Agreement and the Service and Maintenance Agreement, as well as the Balance of Plant Contract.

Q. Why was it necessary to allocate costs to LSR Phase 1?

A. LSR Phase 1 is only a subset of the total assets purchased from RES Developments as part of the Joint Development Agreement and the Development Rights Purchase Agreements. The costs incurred on the purchase and then subsequent development of the entire project needed to be assigned to the portion of the development that comprised LSR Phase 1.

Q. How did PSE develop this allocation methodology?

A. PSE based the development cost allocation methodology on the value of the wind resource areas determined by RES Developments at the time of the execution of the Joint Development Agreement and the Development Rights Purchase Agreements. The basis price for each of the different wind resource areas included real estate leases and easements, meteorological masts and related equipment, interconnection and transmission contracts, studies, and permits. The value of the different wind resource areas was determined by an area's development progress, which was a function of the presumed development order of the overall project.

In December 2008, Oliphant Ridge and Tucannon were assumed to be closest to the location of the BPA Central Ferry Substation and would therefore be the first Areas placed into service. Consequently, a good deal of time, effort, and resources were spent securing land leases and progressing interconnection studies

for these wind resource areas. This work was reflected in the pricing of the assets in the Joint Development Agreement.

After executing the Joint Development Agreement, BPA announced its plans for the Central Ferry Substation. The announced location was closer to the Kuhl Ridge wind resource area than the Tucannon wind resource area. This news prompted PSE and RES Developments to focus development efforts on the wind resource areas (Oliphant Ridge and Kuhl Ridge) nearest the point of interconnection. This incremental work of securing leases and interconnection rights was again reflected in the wind resource area pricing at the time PSE purchased RES' remaining interest in the Lower Snake River Wind Project pursuant to the Development Rights Purchase Agreements. Table 8 below presents the costs associated with each of the four wind resource areas, as set forth in the Joint Development Agreement and the Development Rights Purchase Agreements:

Table 8. Wind Resource Area Purchase Price Summary

	Oliphant Ridge	Tucannon	Kuhl Ridge	Dutch Flats	Total
Joint Development Agreement Price (December 2008)	$[redacted]	$[redacted]	$[redacted]	$[redacted]	$[redacted]
Development Rights Purchase Agreements Price (August 2009)	$[redacted]	$[redacted]	$[redacted]	$[redacted]	$[redacted]
Totals	$[redacted]	$[redacted]	$[redacted]	$[redacted]	$[redacted]

See Exhibit No. ___(RG-13HC) at 167.

Q. Did PSE proceed with the development of the wind resource areas in the order identified above?

A. No. Subsequent to PSE's purchase of RES' remaining interest in the Lower Snake River Wind Project, PSE decided to subdivide the wind resource areas and develop portions of the wind resource areas in sequence. As discussed above, LSR Phase 1 consists of a northern sector of the Kuhl Ridge wind resource area and a southern sector of the Oliphant Ridge wind resource area. The design of LSR Phase 1 places 66 wind turbine generators (151.8 MWs of capacity) in northern sector of the Kuhl Ridge wind resource area and 83 wind turbine generators (190.9 MWs of capacity) in the southern sector of the Oliphant Ridge wind resource area.

Q. How did PSE then allocate development costs to LSR Phase 1?

A. PSE employed a four-step allocation methodology in allocating development costs to LSR Phase 1. First, PSE identified the LSR Phase 1 capacities associated with each of the Oliphant Ridge and Kuhl Ridge wind resource areas. Second, PSE calculated an average price per MW of capacity associated with each of the wind resource areas under each of the Joint Development Agreement and the Development Rights Purchase Agreements. Third, PSE multiplied the LSR Phase 1 capacities identified in the first step by the average prices per capacity identified in the second step to arrive at LSR Phase 1 Allocation amounts and percentages. Finally, PSE calculated the sum of the LSR Phase 1 Allocation

amounts and percentages to arrive at a final allocation of $[redacted] (or [redacted]%) to LSR Phase 1. Table 9 below demonstrates the calculation under this allocation methodology

Table 9. Wind Resource Area Purchase Price Summary

Purchase Date	Resource Area	Purchase Price	WRA MWs	Phase 1 MWs	$/MW$	Phase 1 Allocation ($)	Phase 1 Allocation (%)
Dec. 2008	Oliphant Ridge	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Aug. 2009	Oliphant Ridge	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Aug. 2009	Kuhl Ridge	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Dec. 2008	Tucannon	[redacted]	[redacted]		[redacted]		
Aug. 2009	Tucannon	[redacted]	[redacted]		[redacted]		
Dec. 2008	Kuhl Ridge	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Dec. 2008	Dutch Flats	[redacted]	[redacted]		[redacted]		
Aug. 2009	Dutch Flats	[redacted]	[redacted]		[redacted]		
Totals		[redacted]	**1,250**	**342.7**		[redacted]	[redacted]

See Exhibit No. ___(RG-13HC) at 168.

Q. Was the allocation methodology validated by a third party?

A. Yes. PSE's outside auditor, Price Waterhouse Coopers ("PWC"), reviewed the allocation methodology without adjustment.

Q. What costs does PSE budget as construction costs for LSR Phase 1?

A. The construction budget for LSR Phase 1 includes the remaining costs necessary to construct the plant and place it into commercial operation, including wind turbine generators, the balance of plant, PSE construction management and AFUDC. Please see Exhibit No. ___(RG-13HC) at pages 166-171 for a

description of the methodology and rates used for allocating Lower Snake River Wind Project development costs to LSR Phase 1.

Q. What government incentives does PSE anticipate collecting and / or saving as part of LSR Phase 1?

A. PSE projects a Section 1603 Treasury Grant in the nominal amount of $321,108,000. Additionally, PSE projects nominal savings of $45,737,000, inclusive of taxes and AFUDC, in exempted sales taxes. In total, these incentives nominally reduce customer costs by $366,845,000.

Q. Please describe the levelized cost metric associated with LSR Phase 1.

A. The levelized cost metric for LSR Phase 1 includes the 25-year operations and maintenance expenses for LSR Phase 1, which include the Siemens Service and Maintenance Agreement, land lease payments, PSE staff, property tax, insurance, environmental compliance, and transmission expense. The levelized cost metric also includes the $58.5 million of prepaid transmission expense allocated to LSR Phase 1 from BPA's construction of the Central Ferry substation. This expense (and interest earned on it) serves to offset a portion of the first 12 years of point-to-point transmission expense.

E. LSR Phase 1 Development Activities and Status

1. Project Schedule Update

Q. Please describe the project schedule at the time LSR Phase 1 was approved.

A. The original project schedule, as approved by the Board of Directors on May 5, 2010, called for construction of roads, laydown areas, crane pads, wind turbine generator staging areas, and wind turbine generator foundations in 2010. Work on collection systems, transmission lines, substations, and wind turbine generator erection was to commence and conclude in 2011. Full turbine commissioning and final completion were anticipated to occur in 2012.

Q. Please describe the current project status and any major deviations from the schedule in existence at the time LSR Phase 1 was approved.

A. As of mid-May 2011, meaningful progress has occurred at the construction site:

- all turbine foundations have been completed;
- over 96% of roadwork is complete;
- approximately 75% of the collection system has been installed;
- 35 wind turbine generators have been erected;
- approximately 50% of the wind turbine generators are onsite;
- transmission line ground preparation has begun and equipment is in transit;

- project substation work is underway and nearing 60% completion; and
- interior finish work on the PSE Operations and Maintenance building is well underway.

Construction work was marginally delayed in March 2011 and in April 2011 due to high wind conditions at LSR Phase 1. However, due to surpassing 2010 construction milestones the minor wind delays are not anticipated to materially impact the project schedule. PSE still expects the project to reach commercial operation not later than April 15, 2012.

Q. Was the work completed on LSR Phase 1 in 2010 sufficient to qualify it for the Treasury Grant?

A. The work completed in 2010 would have been sufficient to meet the Treasury Department's "Start of Construction" standard to qualify for the Treasury Grant, provided the project achieves commercial operation by December 31, 2012. However, Treasury Grant requirements, specifically the Start of Construction milestone date, were amended and extended in December 2010. Therefore, PSE will not be required to satisfy Treasury Grant safe harbor requirements until December 31, 2011. PSE does not anticipate any issues satisfying any of the program requirements at that time.

2. Project Budget Update

Q. Please describe any material changes to the LSR Phase 1 construction budget described in the sections above.

A. The approved LSR Phase 1 budget of $848 million has not changed on an aggregate basis since May 2010. There have been, however, some changes in anticipated costs as project construction has progressed. These changes are as follows:

1) **Wind Turbine Generators:** [redacted]

2) **Balance of Plant:** [redacted]

3) **Start-up Costs:** [redacted]

[redacted].

[redacted].

4) **AFUDC:** [redacted].

5) **Contingency:** [redacted].

Q. Does PSE anticipate completing the project at or below the approved budget?

A. Yes. In spite of the budget changes just detailed, PSE estimates the final project budget will meet or come in below the budget described above.

Q. Were any of the operating expense assumptions modified subsequent to the project approval?

A. Yes. These changes are as follows:

(i) Fixed and Variable Transmission Charges: Transmission charges were marginally lowered to reflect the most recent information on the BPA's rate structure.

(ii) Land Royalties: The dollar per MWh paid to landowners was marginally reduced to account for variances across lease agreements.

(iii) Property Taxes: The Garfield County property tax levy rate was reduced to reflect updated figures from the County.

Q. Was the impact of these changes material?

A. No. The levelized cost of the project was marginally reduced as a consequence of these changes.

3. Financial Pro Forma Operating Cost Assumptions Included in the Power Costs for this Proceeding

Q. Are the financial pro forma operating cost assumptions reflected in the power costs currently included in this proceeding?

A. Yes. However, there are some minor differences, which are detailed below:

(i) **Fixed Transmission Expense**: PSE relies on information from outside parties with respects to inflation expectations. In this instance, PSE is relying on inflation data from Global Insights, which is a respected provider of macroeconomic data. In the LSR Phase 1 pro forma, the current fixed transmission expense is escalated using Global Insights' escalation projections, whereas the power cost model does not escalate current rates.

(ii) **Variable Transmission Expense**: Variances in this category are due primarily to LSR Phase 1 pro forma's inclusion of estimated system losses and the accompanying dollar amounts PSE would need to expend in order to replace the power lost as it travels across BPA's transmission system to PSE's service territory. The power cost model does not include losses in the rate composition calculations.

(iii) **Transmission Credits**: The power cost summary includes the customer credit received from BPA to offset Point-to-Point transmission expenses. The model depicts projected credits from the entire Central Ferry prepayment, whereas the LSR Phase 1 pro forma only includes the credits allocated to LSR Phase 1. These credits serve as an offset to a portion of the fixed transmission expense.

(iv) **Central Ferry Prepayment**: The LSR Phase 1 pro forma includes provisions for PSE to earn a return on and return of the capital invested in the Central Ferry substation. The transmission credits received from BPA are calculated based on a rate of return that is lower than that allowed by the Commission. Furthermore, these credits serve to offset a project expense. Therefore, PSE will flow the BPA credits through to customers and then collect its allowed rate of return on the prepaid transmission. Please see the Prefiled Direct Testimony of Mr. John H. Story, Exhibit No. ___(JHS-1T), for a discussion of these costs.

F. LSR Phase 1 Will Benefit PSE's Customers

Q. Please describe the benefits that PSE's customers will see from the construction of LSR Phase 1.

A. PSE's construction of the LSR Phase 1 is a valuable step in acquiring the necessary electric supply resources to meet PSE's renewable portfolio standard requirements. The principal benefits of this new resource would be as follows:

1) LSR Phase 1 meets the renewable resource need to satisfy the 2016 benchmark under the RPS.

2) PSE considered LSR Phase 1 as part of the 2010 RFP renewable resource evaluation process, and this process demonstrated LSR Phase 1 to be the lowest reasonable cost, lowest reasonable risk alternative at the time.

3) Renewable generation ownership provides long-term wind resource value and avoids the liquidity and credit requirements that typically accompany many long-term power purchase agreements;

4) Meets the requirements for the Treasury Grant program that provides $321,108,000 nominal benefit to customers ($22/MWh);

5) Takes advantage of sales tax exemption which provides $45,737,000 nominal savings, inclusive of taxes and AFUDC, to customers;

6) Most viable opportunity for near-term renewable energy project that helps satisfy energy needs and renewable portfolio standard requirements;

7) Synergies with Hopkins Ridge operations that allow cost savings on infrastructure and personnel;

8) Expansion into Garfield County which enjoys local community support; and

9) PSE controls development and construction that saves developer premium, maintains flexibility and provides additional development experience.

Other benefits include:

1) LSR Phase 1 is the least-cost renewable generation resource compared to alternatives from the 2010 All Source RFP;

2) Project generation and projected power costs add portfolio value of over $68.8 million;

3) Incremental addition that leaves open options for additional renewable and thermal resources;

4) State-of-the-art wind turbine generators and control technology provided by a world-class manufacturer (Siemens) with substantial experience and a worldwide commitment to renewable energy resources; and

5) Zero emission technology with minimum impacts on the natural environment.

V. PSE'S DECISION TO ENTER INTO THE KLAMATH PEAKERS PPA WAS PRUDENT

Q. Please describe the executed Klamath Peakers PPA.

A. PSE entered into a four-year and two-month contract with Iberdrola Renewables, dated as of March 10, 2010, for 100 MW of winter capacity and energy associated with the Klamath Peakers. The contract term is from January 1, 2012, through February 29, 2016, and is contingent upon: (i) Iberdrola Renewables securing firm BPA network transmission on a long-term basis; and (ii) PSE securing transmission from the Klamath Facilities busbar to BPA's John Day substation, each on or before August 15, 2011. The contract obligations are pursuant to WSPP Service Schedule B Hourly Physical Toll and consist of the following two agreements:

(i) the form WSPP Agreement, a then-current copy of which is provided as Exhibit No. ___(RG-25); and

(ii) the Confirmation Agreement under the WSPP Agreement, dated as of March 10, 2011, between PSE and Iberdrola Renewables, a copy of which is provided as Exhibit No. ___(RG-26C).

Q. Please describe any major changes to the Klamath Peaker PPA between the proposal submitted in response to the 2010 RFP and contract execution.

A. After completing the 2010 RFP evaluation, Iberdrola Renewables offered an additional 25 MW of BPA network transmission to increase the capacity from 75 MW to 100 MW. The term of the PPA was modified to start in January 2012

(as opposed to November 2011) to match PSE's winter capacity need. During the 2010 RFP, it was not clear whether Iberdrola Renewables was offering a unit-contingent product or if they planned to source energy from their wind generation facilities. The negotiated product is a unit-contingent product sourced from firm natural gas resources.

Q. Please describe the Klamath Peakers facility.

A. The Klamath Peakers are located in Klamath Falls, Oregon, adjacent to the 536 MW Klamath Cogeneration Facility, also owned by Iberdrola Renewables. The Klamath Peakers commenced commercial operation on May 17, 2002, and has operated since this time as a single fuel (natural gas) peaking power generation facility. The project consists of two Pratt & Whitney FT-8 aero-derivative combustion turbines with a nameplate capacity of 104 MW and is operated by the same staff and crew as the Klamath Cogeneration Facility. The units are the same vintage and type as PSE's Fredonia Units 3 & 4.

Q. Please describe the key commercial terms of the agreement.

A. PSE has unit-contingent [redacted] dispatch rights from the Klamath Peakers for up to 100 MW of capacity and energy from November through February during the contract term. The contract heat rate for 100 MW is [redacted] MMBTU/MWh.

Q. Please describe the gas transport arrangements.

A. Iberdrola Renewables is responsible for firm fuel supply to the plant. PSE will reimburse Iberdrola Renewables for [redacted]. There is no [redacted] associated with the Klamath Peaker PPA; PSE, however, will pay Iberdrola Renewables a fuel management fee [redacted]. Iberdrola Renewables has also taken on the risk of [redacted] over the term of the contract.

Q. Please describe the transmission arrangements for the Klamath Peaker PPA.

A. To deliver firm energy to PSE's system from the Klamath Facility, two transmission wheels are required—from the Klamath Facilities busbar to John Day and from John Day to PSE Covington. Iberdrola Renewables will deliver firm energy to PSE's Covington substation using its existing BPA network transmission rights. PSE will only reimburse Iberdrola Renewables for the cost of [redacted]. PSE is responsible for the transmission service between the Klamath Facilities busbar and John Day.

Q. Have the parties finalized the transmission arrangement for the Klamath Peaker PPA?

A. No. Iberdrola Renewables is in the process of redirecting the Point of Receipt of transmission from the Schoolhouse substation to the John Day. The transmission

PSE needs to secure from the Klamath Facilities busbar to John Day is available from both Portland General Electric Company and BPA. PSE and Iberdrola Renewables are timing the requests for transmission so that neither party is left with transmission that it cannot use. Transmission is a condition precedent of the Klamath Peaker. If transmission cannot be secured by August 15, 2011, it is reasonable to assume that Iberdrola Renewables and PSE will amend the contract and continue efforts to secure transmission. If all attempts fail, then the contract will terminate without liability to either party.

Q. What is the expected plant availability of the Klamath Peaker?

A. The historic unit reliability is [redacted]. This contract provides two backstops to improve the expected availability of the unit. First, Iberdrola Renewables can elect to make the Klamath Cogeneration units available as a replacement for the Klamath Peakers. Second, BPA's operating reserves will backup the delivery of energy for the hour if a unit does not start or trips off-line during operation. The contract provides for a bonus payment to Iberdrola Renewables if the availability is above [redacted], and PSE receives a capacity payment credit if the availability is less than [redacted].

Q. What are the rate year costs associated with the Klamath Peaker PPA?

A. PSE has included $4.181 MM in the rate year for the Klamath Peaker PPA. The cost includes an assumption that PSE has to procure transmission from the Klamath Facilities busbar to John Day from BPA instead of Portland General

Electric Company. PSE will update the rate year costs in its supplemental filing to reflect the actual transmission costs.

Q. Did PSE seek management approval to enter in the Klamath Peaker PPA?

A. Yes. On February 17, 2011, PSE received the approval of its EMC to enter into the Klamath Peaker PPA based on both parties being able to secure transmission rights and with the possibility of extending the term of the contract. PSE was subsequently unsuccessful at extending the contract term, but Iberdrola Renewables did provide a slight reduction of [redacted]/kW-month in the capacity payment. Please see Exhibit ___(RG-27C) for a copy of the presentation to the EMC, pursuant to which PSE obtained approval to enter into the Klamath Peaker PPA.

Q. Please describe the benefits that PSE's customers will see from the Klamath Peaker 5-Year PPA (#10027).

A. As described in the Prefiled Direct Tesitmony of Ms. Aliza Seelig, Exhibit No. ___(AS-1HCT), the Klamath Peaker Five-Year PPA (#10027) offered significantly more favorable economics than any other alternative offered in the 2010 RFP. As a winter seasonal PPA, the Klamath Peaker Five-Year PPA (#10027) provides PSE with valuable capacity during those months in which PSE is most in need of capacity. Moreover, PSE's reevaluation of the Klamath Peaker 5-Year PPA (#10027) demonstrated that it was the lowest cost capacity resource available to meet PSE's capacity need compared to the most recent offers.

VI. CONCLUSION

Q. Would you please summarize your testimony?

A. PSE continues to have a significant need to acquire resources to serve its electric customers. PSE faces challenges in its efforts to acquire new resources as competition for attractive projects increases. Acquisition of new resources will continue to require very large investments of capital. PSE must also have the financial strength to support its negotiating position with counterparties to PPAs and with project developers.

In the meantime, PSE's acquisition of the resources identified in my testimony has helped to meet this resource need and clearly met the Commission's standard for prudency. PSE's long-term electric acquisition program continues to succeed in bringing into PSE's portfolio acquisitions that have been thoroughly analyzed and that meet customer needs at a reasonable price.

Q. Does that conclude your prefiled direct testimony?

A. Yes, it does.