Exhibit No. ___ CT (DN-1CT)
Dockets UE-120436, et al.
Witness: David Nightingale
REDACTED VERSION

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, Complainant, v. AVISTA CORPORATION, d/b/a AVISTA UTILITIES, Respondent.	DOCKETS UE-120436/UG-120437 *(consolidated)*
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, Complainant, v. AVISTA CORPORATION d/b/a AVISTA UTILITIES, Respondent.	DOCKETS UE-110876/UG-110877 *(consolidated)*

TESTIMONY OF

David Nightingale

STAFF OF
WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION

Prudence of Palouse Purchase Power Agreement and Smart Grid Projects

September 19, 2012

CONFIDENTIAL PER PROTECTIVE ORDER IN DOCKETS UE-120436, ET AL.

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Exhibit No. ___ (DN-2), Renewables Surplus Position

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is David Nightingale. My business address is the Richard Hemstad Building, 1300 South Evergreen Park Drive SW, Olympia, Washington, 98504-7250.

Q. By whom are you employed and in what capacity?

A. I am employed by the Washington Utilities and Transportation Commission ("Commission") as a Senior Regulatory Engineering Specialist in the Conservation and Energy Planning Section of the Regulatory Services Division. I have held that position since February 2009.

Q. What are your duties as a Senior Regulatory Engineering Specialist?

A. My duties involve the analysis of resource acquisition prudence, integrated resource planning, requests for proposals for acquisition of new resources, greenhouse gases emissions performance standard compliance, compliance with the energy conservation and renewable portfolio standards of the Energy Independence Act ("EIA"), and energy conservation program development and implementation.

Q. Please describe your education and relevant employment experience before you joined the Commission in 2009.

A. I hold a Bachelor of Arts degree in Business Administration from Western Washington University, Bellingham. I also hold a Bachelor of Science degree in

Energy Engineering from the University of Washington, Seattle, where my studies focused on fluid dynamics, thermodynamics, and alternative energy. I performed research and designed projects, including testing residential conservation standards in four fully-instrumented model homes (this research led to the technical justification for a modified Washington energy code), cost-effectiveness of residential solar hot water heating, and design of a small wind turbine system on Orcas Island.

From 1987 to 1991, I worked for RW Beck and Associates, an engineering consulting firm in Seattle. My responsibilities included county and state waste and recycling system planning, landfill development, and waste-to-energy (renewable biomass) project evaluation and analysis for clients in Washington and Alaska.

From October 1991 through January of 2009, I worked for the Washington State Department of Ecology in various capacities; as a planner, engineer, technical unit supervisor, statewide technical-lead, and policy Staff. My projects included technical review and regulatory compliance of renewable biomass projects, such as landfill gas to energy projects, variously-fueled pyrolysis plants and proposals, and fluidized-bed and mass-burn waste-to-energy plants. I was also responsible for technical review and regulatory assistance for coal combustion products recycling and disposal options for TransAlta's Centralia power generation plant, as well as combustion products disposal for Avista's Kettle Falls wood-fueled electric generating plant.

Q. Have you previously presented testimony before the Commission?

A. Yes. I testified before the Commission in Docket UE-090704 regarding greenhouse gas emissions compliance and prudence of the Mint Farm combustion turbine resource acquisition and Wild Horse wind resource expansion by Puget Sound Energy (PSE). I testified in Docket UE-090205 regarding greenhouse gas emissions compliance and the prudence of PacifiCorp's acquisition of the Chehalis combustion turbine generating facility. In Docket UE-100467, I provided prudence testimony regarding Avista's Lancaster Power Purchase Agreement (PPA). Most recently, I provided prudence and renewable energy portfolio standard testimony in Docket UE-111048, regarding PSE's Lower Snake River, Phase I wind project as well as prudence testimony for PSE's Klamath seasonal PPA.

I have presented Staff recommendations to the Commission in open public meetings on issues involving integrated resource plans (IRP), requests for proposals (RFP), conservation targets and tariffs, and other matters.

II. SCOPE AND SUMMARY OF TESTIMONY

Q. Please explain the purpose of your testimony.

A. My testimony addresses the prudence of Avista's acquisition of the Palouse Power Purchase Agreement ("Palouse PPA") and the three smart grid projects in Spokane and Pullman; the Spokane Project, the Pullman Project and the Workforce Training Project..

Q. Please summarize your conclusions.

A. I conclude that the Company's acquisition of the Palouse PPA was prudent under Commission-established standards and the criteria set forth in the Commission's policy statement concerning acquisition of renewable resources.[1] Specifically, Avista needed a renewable resource of this size to satisfy the renewable energy portfolio requirements of the Energy Independence Act (EIA). Avista used a competitive process to acquire the resource. Avista acquired the resource before the compliance date in the EIA, but in doing so, the Company took advantage of the impending expiration tax incentives and market conditions of reduced equipment and construction costs. Ratepayers benefit from this early acquisition.

For the three smart grid projects, the Company requests rate base inclusion of its investments through 2013. For Staff's base case (i.e., before attrition), Staff only considered amounts for the test period 2011, which involves about $11.1 million of the $41.1 million requested for consideration by the Company. Staff witness Ms. Breda considered Company investments for 2012 and 2013 in her attrition study.

I conclude that the Spokane Project was used and useful and prudent according to Commission standards, and the Company's investment as of the test period should be allowed in rate base, together with the related test period expenses and benefits.

For the Pullman Project, I conclude that the project is prudent as a demonstration project. However, it is only used and useful up to the point where the expenditures equal the avoided cost, and thus not used and useful for expenditures

[1] In the Matter of the Washington Utilities and Transportation Commission's Inquiry on Regulatory Treatment for Renewable Energy Resources, Docket UE-100849, Report and Policy Statement Concerning Acquisition of Renewable Resources by Investor-Owned Utilities (January 3, 2011) (Renewables Policy Statement).

beyond that point. I recommend that the Commission allow the used and useful proportion, 63%, of the Company's test period balance of investment in the Pullman Project in rate base and allow Avista to amortize the remainder of the investment to expense over the projected life of the project, approximately ten years, with no return on the unamortized balance.

The effect of this partial disallowance is to remove $896,000 from the test period rate base, calculated using the Average Monthly Average accounting method, and amortize $89,600 to expense. The rate base reduction reduces the return on rate base by $62,000 for the rate year 2011.

For the Workforce Training Project, the Company did not incur any expenditures until after the 2011 test period, so rate base consideration is premature and therefore is not considered in Staff's base case.

III. DISCUSSION AND ANALYSIS OF PALOUSE PPA

A. Introduction

Q. Please briefly describe the Palouse PPA.

A. The Palouse PPA is a contract for the outputs, energy and other attributes, of a 104 MW capacity renewable wind energy facility located between Oakesdale, Washington and State Route 195.[2] The facility consists of 58 Vestas 1.8 MW[3] wind

[2] Robert J. Lafferty, Exhibit No. ___ (RJL-1T), at 12.
[3] Id.

turbines, with commercial operation to commence by the end of 2012.[4] The facility will directly connect to Avista's electric system.[5] Under this contract, Avista acquires all energy and environmental attributes associated with the facility.[6]

Q. What is the length of the Palouse PPA contract?

A. The Palouse PPA is a 30-year contract. However, the contract provides Avista with buy-out options, under which Avista is entitled to acquire title to the facility.[7]

Q. What information did you evaluate in conducting your analyses in this case?

A. Staff reviewed the direct testimony and exhibits of Avista witness Mr. Lafferty, and Avista's responses to numerous Staff data requests. Staff reviewed the Company's 2009 Integrated Resource Plan (IRP) and its 2011 IRP, Avista's Requests for Proposal (RFP) and subsequent analyses of proposals, Board of Director's presentations and excerpts from meeting minutes, and other related documents.

In addition, Staff visited Avista on July 9, 2012, to review the Company's RFP analysis, methodology, and findings of resource alternatives. This also included a visit to the project site where Staff observed the nearly complete Thornton switching substation where the interconnection to the grid will be made for the Palouse wind project. At that time, the first wind turbine tower was under construction.

[4] Robert J. Lafferty, Exhibit No. ___ (RJL-1T), at 13.
[5] Robert J. Lafferty, Exhibit No. ___ (RJL-1T), at 12.
[6] Robert J. Lafferty, Exhibit No. ___ (RJL-1T), at 4 and 12.
[7] Robert J. Lafferty, Exhibit No. ___ (RJL-1T), at 12.

Q. What factors need to be considered in evaluating the prudence of the Palouse PPA acquisition?

A. In addition to applying the Commission's usual resource acquisition prudence criteria, the Palouse PPA must also be examined in light of the Washington Renewables Portfolio Standard (RPS) and related policies of the Commission. I discuss these topics in more detail below.

Q. Is the Palouse PPA subject to the Used and Useful Standard?

A. No. The "used and useful for service" standard is a statutory standard that applies only to rate base.[8] The acquisition of the Palouse PPA is a contract to purchase energy and associated attributes and therefore is an expense. Expenses are not included in rate base. If the Company had purchased a generating facility it would then be subject to the use and useful standard. Therefore, I do not apply that standard to the Palouse PPA.

B. The Renewable Portfolio Standard (RPS)

Q. What issues do you address in this section of your testimony?

A. The following discussion briefly describes the Renewable Portfolio Standard and related Commission policy followed by the application of that policy within the context of the commission's prudence standard. Because Avista acquired the Palouse PPA to fulfill a renewable resource need, the prudence of the acquisition of

[8] RCW 80.04.250.

the Palouse PPA is subject to both the usual prudence criteria as well as the commission's policy on the acquisition of renewable resources.

1. The Energy Independence Act (EIA)

Q. What is the EIA?

A. The EIA became law through the vote on Initiative 937, and it is codified as RCW 19.285. The EIA sets minimum amounts of renewable resources certain electric utilities must have in their resource stack, including Avista. These renewable energy requirements are generally referred to as the Renewable Portfolio Standards.

Q. What Renewable Portfolio Standards (RPS) of the EIA apply to Avista?

A. Avista must meet the following annual targets for renewable resources:

1) At least three percent of its load by January 1, 2012, and each year thereafter through December 31, 2015;

2) At least nine percent of its load by January 1, 2016, and each year thereafter through December 31, 2019; and

3) At least fifteen percent of its load by January 1, 2020, and each year thereafter.[9]

Avista can meet these targets by acquiring eligible renewable resources, equivalent renewable energy credits (RECs), or a combination of both.

[9] RCW 19.285.040 (2)(a).

2. Applicability of the Commission's Renewables Policy Statement

Q. Does the Commission have a policy regarding the acquisition of renewable resources?

A. Yes. On January 3, 2011, in Docket UE-100849, the Commission issued the Renewables Policy Statement regarding the acquisition of renewable resources.[10]

Q. Does the Commission's Renewables Policy Statement apply to Avista's acquisition of the Palouse PPA?

A. Yes. The Renewables Policy Statement defines three scenarios in which the Commission will review the prudence of acquisitions of eligible renewable resources or RECs: (1) when the acquisition is to timely meet Washington's RPS, (2) when the acquisition is to meet the RPS, but the acquisition is in advance of an RPS deadline, and (3) when the acquisition is to meet an energy demand and the utility has already acquired other resources to meet the RPS.[11]

Because Avista's acquisition of the Palouse PPA falls into the second scenario for prudence review of a renewable resource, acquisition in advance of an RPS deadline, Staff will evaluate the Palouse PPA under the Commission's Renewables Policy Statement.

[10] In the Matter of the Washington Utilities and Transportation Commission's Inquiry on Regulatory Treatment for Renewable Energy Resources, Docket UE-100849, Report and Policy Statement Concerning Acquisition of Renewable Resources by Investor-Owned Utilities (January 3, 2011) ("Renewables Policy Statement").
[11] Renewables Policy Statement, at 2-3.

Q. Are the policies in the Commission's Renewables Policy Statement reasonable?

A. Yes. I recognize the Renewables Policy Statement is not a rule. However, I have reviewed that policy statement and I consider its requirements to be reasonable and appropriate for application in this instance. The Renewables Policy Statement was previously applied to a renewable acquisition in advance of an RPS deadline in docket UE-111048 regarding the Lower Snake River, Phase 1 wind facility.

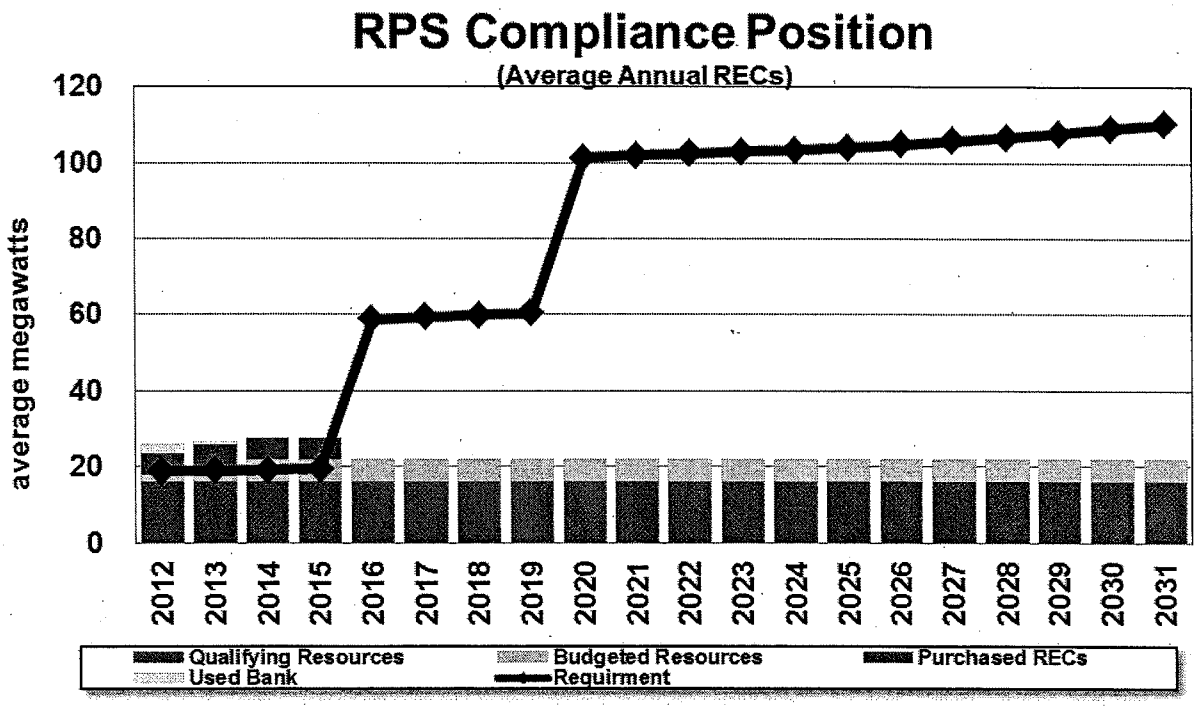
Q. What information shows that the Palouse PPA is an acquisition in advance of the Renewable Portfolio Standard schedule?

A. As I explained above, the EIA requires Avista to have three percent of its load served by renewables by 2012, and nine percent by 2016.

Figure 1 below shows Avista's renewable RPS need versus its renewable resources from 2012 until 2031.[12] It illustrates that between 2012 and 2015, Avista did not need the Palouse PPA to meet the RPS standard of three percent of retail load by 2012; Avista can meet that standard with existing incremental hydro resources and RECs under contract through 2016.

[12] Avista response to Staff Data Request 386C, Confidential Attachment A, RPS tab. It should be noted that the graph does not include the Kettle Falls resource, which may be considered for meeting RPS standards beginning in 2016 according to until ESSB 5575, section (19)(a) which became effective on June 7, 2012. This was well after the June 28, 2011, contractual obligation which Avista entered into with Palouse Wind, LLC.

Figure 1 RPS Projected Compliance Position before Acquiring Palouse PPA



The early acquisition is also acknowledged in witness Robert Lafferty's direct testimony at page 12, where he states:

> In February 2011, Avista decided to issue a request for proposals (RFP) that would meet the Company's 2016 need for qualifying renewable energy credits prior to the December 31, 2012…[13]

3. The Renewables Policy Statement

Q. Please summarize what the Renewables Policy Statement requires in consideration of the prudence of the Palouse PPA.

[13] Robert J. Lafferty, Exhibit No. ___ (RJL-1T), at 12.

A. Overall, the Renewables Policy Statement states the Commission's "willingness to treat these resources with the flexibility necessary to carry out the intent of the EIA.[14]" Accordingly, the Renewables Policy Statement acknowledges that a utility may acquire a renewable project in advance of the RPS compliance deadline. The Commission's policy is that under those circumstances, in order for the Commission to support early acquisition as prudent, the utility needs to show that the acquisition is cost-justified, i.e., there is a cost benefit to acquiring the renewable resource earlier rather than later.[15]

The cost benefits can be shown by a combination of the conditions specific to early acquisition, such as:

1. The risk of higher prices if the resource is acquired nearer the RPS deadline,
2. Utility's use or sale of energy generated,
3. Potential for REC sales until the output of the facility is needed to meet the RPS,
4. Federal and/or state tax benefits available only in the near-term,
5. Ability to acquire scarce generating locations which are beneficial in terms of higher long-term productivity, and
6. The amount of time between the renewable acquisition and the RPS deadline.[16]

Staff evaluated Avista's decision to enter into the Palouse PPA in light of these possible benefits. I discuss these factors further during my prudence discussion below.

[14] Renewables Policy Statement, ¶51.
[15] Renewables Policy Statement, ¶52.
[16] Renewables Policy Statement, ¶53.

C. Prudence Standard

Q. What is the relevant standard to assess the Company's acquisition of the Palouse PPA resources?

A. The Commission applies a "prudence" standard when it determines whether a specific resource acquisition decision by a utility is appropriate, and therefore the ratepayers can be required to support that acquisition through rates. Overall, the prudence standard is a reasonableness standard:

> The Commission has consistently applied a reasonableness standard when reviewing the prudence of decisions relating to power costs, including those arising from power generation asset acquisitions. The test the Commission applies to measure prudence is what would a reasonable board of directors and company management 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.[17]

Q. What factors does the Commission use to evaluate the prudence of a utility's electric resource acquisition?

A. There is no single set of factors. For example, in Cause U-83-26, the Commission applied thirteen factors, which the Commission characterized as "unique" and stated that "[a]dditional factors may be considered in subsequent cases as dictated by the

[17] *Utilities and Transp. Comm'n v. Puget Sound Energy, Inc.*, Docket UE-031725, Order 12 (April 7, 2004), at 8, ¶ 19.

facts."[18] In subsequent cases, the Commission has generally focused on the following four factors:

1) *The Need for the Resource* - The utility must first determine whether new resources are necessary. 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.[19]

2) *Evaluation of Alternatives* - The utility must analyze the resource alternatives using current information that adjusts for such factors as end effects, capital costs, dispatchability, transmission costs, and whatever other factors need specific analysis at the time of a purchase decision. The acquisition process should be appropriate.[20]

3) *Communication With and Involvement of the Company's Board of Directors* - 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.[21]

4) *Adequate Documentation* - The utility must keep adequate contemporaneous records that will allow the Commission to evaluate the Company's decision-making 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.[22]

In my opinion, it is appropriate to apply all four of these factors to the Palouse PPA, as well as the additional considerations from the Renewables Policy Statement which I have described.

[18] *Utilities and Transp. Comm'n v. The Wash. Water Power Co.*, Cause U-83-26, Fifth Supplemental Order January 19, 1984), at 15-16.
[19] *Utilities and Transp. Comm'n v. Puget Sound Energy, Inc.*, Docket UE-031725, Order 12 (April 7, 2004), at 9, ¶ 20.
[20] Id.
[21] Id.
[22] Id. at 1, ¶ 20.

1. Application of the Prudence Standard - Palouse PPA

a. The Need for the Resource; Evaluation of Alternatives; Cost

Q. How do you address the first Commission prudence standard, namely, the "need for the resource"?

A. As I described earlier when I recited the elements of the prudence standard. I noted that this standard encompasses the issues of whether the utility needed the resource, whether the resource was properly considered compared to alternatives, and whether the cost is reasonable. I evaluate each of these issues separately.

i. The need for the resource

Q. How do utilities typically show a need for a resource?

A. Utilities typically show the need for a resource during the Integrated Resource Planning (IRP) process. The utilities evaluate alternatives through open, competitive bidding called a Request for Proposals (RFP) process.

Q. Please describe what IRPs and RFPs are, and how they are related.

A. The IRP forecasts a utility's likely future resource needs for the next 20 years, as well as a projection of the most advantageous types and quantities of resources to meet that need. The utility models various scenarios to discover likely differences in the best path forward based on different assumptions about the future. The differences in modeling

results provide contingency planning information and can reveal the magnitude of sensitivities to the different variables.

The IRP process examines the current portfolio of resources and then models additional generic resources (traditional generation, conservation, or renewables) to strategically examine alternative acquisition types and timing. The IRP results provide the utility direction during the acquisition process, when the utility evaluates specific resources. In that way, the generic results of the IRP inform the resource acquisition process of specific resources in the RFP.

One of the first steps the utility takes in the resource acquisition process is to issue an RFP seeking resource-specific bids from resource suppliers. In this instance, Avista issued a "Request for Proposals - Renewable Energy Up to 35 Average Megawatts" on February 22, 2011.[23] The IRP and RFP processes and results leading to the eventual acquisition of the Palouse PPA are described in the following testimony.

Q. Does the EIA have any impact on the IRP analysis?

A. Yes. The RPS included in the EIA adds another layer of IRP planning requirement for the utility because it specifies the levels of renewable resources the utility must acquire. The RPS standard differs from the traditional notion of "need", because the EIA requires that its targets must be achieved regardless of forecasted energy or capacity needs.[24]

[23] Robert J. Lafferty, Exhibit No. ___ (RJL-8C), at 15.
[24] There is a year by year exception in cases where a utility experiences no load growth in the prior three years. See RCW 19.285.040(2)(d). However, with current population growth trends and energy demand forecasts of all three IOUs, this seems a very remote possibility in the near term.

Q. Does Avista have a need for the Palouse PPA?

A. Yes. In the 2009 IRP, Avista stated its intent and rationale to acquire "150 MW of wind power by 2012 to take advantage of renewable energy tax incentives, diversify our fuel mix, and meet renewable portfolio standards."[25] Originally the IRP planners assumed that the company would satisfy the RPS at or near the deadlines. However, when the planning model was run to select the most cost-effective resources to simultaneously meet the RPS, energy, and capacity needs, it found that with the tax incentives expiring in 2012 it was more cost-effective to meet the 2016 RPS requirement by building renewable resources by the end of 2012 instead of waiting until 2016.[26]

In early 2011, at the time the company issued its 2011 RFP for renewable resources, the Company's 2011 IRP was well into development and the resulting preferred resources strategy eventually revised the need to only 35 aMW of renewable energy by the end of 2012; again, to meet the 2016 RPS requirement early.[27] The revised estimated need for renewable resources was due to a decreased load growth projection and a change in planning margin criteria.[28]

The 2011 IRP resulted in estimated needs for annual energy and long-term capacity deficits beginning in 2020.[29] Therefore, Avista did not acquire the Palouse PPA to satisfy near-term energy or capacity needs, but rather to meet the RPS.

[25] Robert J. Lafferty, Exhibit No. ___ (RJL-6), at 11.
[26] Robert J. Lafferty, Exhibit No. ___ (RJL-6) at 172.
[27] Robert J. Lafferty, Exhibit No. ___ (RJL-2), at 19, Table 1 and Exhibit No. ___ (RJL-1T), at 8.
[28] Robert J. Lafferty, Exhibit No. ___ (RJL-1T), at 17-18 and Avista's response to Staff Data Request 363.
[29] Exhibit No. ___ (RJL-2), at 58 and 60.

Q. Have you prepared a figure showing how Avista's 2011 IRPs preferred resource strategy was timed to meet the RPS early?

A. Yes. Exhibit No. ___ (DN-2) shows Avista's RPS position in the future with the acquisition of the Palouse PPA[30]. Looking forward, the impact of the likely availability of the Kettle Falls generating plant as an eligible renewable resource is shown on the upper line and the prospective view of the Company's RPS position at the time of executing the Palouse PPA shown on the lower line.[31]

Exhibit No. ___ (DN-2) shows that the 2012 addition of the Palouse PPA is likely to provide the required resources for 2016 with the next renewables acquisition required in the 2020 timeframe. Even with the anticipated addition of the Kettle Falls facility as a renewable resource, the upper line shows that the Company will still need to acquire additional renewables in the 2020 timeframe.

ii. Evaluation of alternatives

Q. Did Avista evaluate competitive alternatives through an RFP process?

A. Yes. Avista issued a renewables RFP in February 2011.

Q. Why did Avista issue a renewables RFP at that time?

A. Avista based the timing of the February 2011 renewables RFP on factors, including:

[30] Based on information contained in Lafferty's Confidential Workpapers, RPS tab. Assuming excess RECs sold into the market.

[31] The Kettle Falls resource was not allowed to be considered for meeting RPS standards until passage of ESSB 5575, which became effective on June 7, 2012. This was well after the June 28, 2011, date of contractual obligation Avista entered into with Palouse Wind, LLC. Kettle Falls is added in the chart starting in 2016, as a qualifying renewable resource according to the revised statute provision.

- Positive market information from the responses to the 2009 RFP for renewables,
- Indications from developers of softer market conditions,
- Declining prices for wind turbine equipment and construction,
- Pending expiration of significant state and federal tax incentives[32], and
- Favorable UTC policy statement in late 2010 for early acquisition of renewables.[33]

The coincidence of these conditions and information led the Company to test the market with a new RFP before some or all of these conditions changed.

Q. What proposals for renewable resources did Avista receive in response to their 2011 Renewables RFP?

A. In the initial response to the 2011 Renewables RFP, the Company received eleven proposals, which included 769 MW of wind and 5 MW of landfill gas.[34] This allowed the Company to evaluate many competing proposals available in the market.

Q. At that time, did Avista have any wind projects of its own under consideration?

A. Yes. At that time, the Company held development rights to build the Reardon Wind facility.

Q Did the Company compare the proposals it received through the RFP to the self-build option the Company had for the Reardon Wind facility?

A. No.

[32] Robert J. Lafferty, Exhibit No. ___ (RJL-1T), at 14.
[33] Avista response to Staff Data Request 354.
[34] Robert J. Lafferty, Exhibit No. ___ (RJL-1T), at 19, lines 15-16.

Q. Is that reasonable?

A. Yes. As I mentioned previously, one of the driving factors for the Company in consideration of early acquisition of wind resources was the availability of federal tax incentives which were due to expire on December 31, 2012. The Company therefore included December 31, 2012, as a deadline for completion of a wind project. The Company simply did not have enough time, in five or six months, to secure updated equipment and construction bids for the Reardon project and meet the proposal deadlines required in the Company's own 2011 RFP.[35]

Q. What initial process did Avista use to evaluate proposed renewable resources?

A. Avista applied nine initial screening criteria to each project submitted in response to the RFP. The initial screening criteria were:

1. The project had to meet the RFP guideline for the size, timeline and be an eligible renewable resource according to the EIA.[36]
2. The project had to be located either in the Pacific Northwest or be able to deliver power on a real time basis, according to the EIA.[37]
3. Control of the site had to be demonstrated by ownership, leases, options or other proof.
4. A viable financial plan to bring the project to completion had to be documented.
5. An initiated large generator interconnection process, with an exception for small generators, had to be included.

[35] Robert J. Lafferty, Exhibit No. ___ (RJL-1T), at 19, and Avista's response to Staff Data Request 353.
[36] RCW 19.284.030(10).
[37] RCW 19.284.030(10)(a).

6. The procurement process needed to be underway for major components such as turbines, generators and transformers.
7. General interconnection requirements needed to be met.
8. The project needed to be complete no later than December 31, 2012 (to take advantage of federal tax incentives).
9. A rating with a negative or zero value in Avista's analytical evaluation method described below would disqualify the bidding project. [38]

Five proposals failed the initial screening criteria and were eliminated from further consideration.[39]

Q. What RFP evaluation process did Avista use after the initial screening?

A. To the projects that survived the initial screening, Avista applied evaluation criteria called proposal "characteristics". Avista weighted these characteristics based on their relative importance to the Company. Staff reviewed the characteristics and weighting scheme prior to the issuance of the RFP and determined them to be reasonable.

Avista gave net price a 40 percent weighting, price risk a 10 percent weighting, risk management a 30 percent weighting, and electric factors and environmental/ community considerations each a 10 percent weighting.[40]

The point values resulting from these five weighted criteria either added to or subtracted detract an initial score of 100 points.[41] The Company applied these weighted criteria uniformly to each of the proposals.

[38] Robert J. Lafferty, Exhibit No. ___ (RJL-8C), at 5.
[39] Robert J. Lafferty, Exhibit No. ___ (RJL-8C), at 40.
[40] Id.

Q. Did Staff evaluate how the proposals would fare if the weighting scheme was different?

A. Yes. Staff determined that the top ranked proposals did not change their ranking when any of the weighting criteria changed 10%, up or down. This indicates that the weighting method was robust in selecting the top proposals.[42] This weighting scheme had been used in the previous RFP and was only slightly modified in the 2011 RFP, giving 10% more weight to the net price criteria. Staff has found this weighting scheme to be reasonable in both instances.

Q. Please describe the four short-listed projects.

A. Each of the four short-listed projects was a wind resource, either in current operation or anticipated to be in commercial operation by the end of 2012.[43] The project with the most favorable overall rating under Avista's project-scoring methodology was the Palouse PPA. For example, Avista estimated that this project has a 39.5 percent capacity factor, which is a high value for wind projects in Washington and exceeded the capacity factors of the other three proposals.[44] This compares very favorably to the assumed average wind site capacity factor in the northwest used in the 2009 IRP of 32.77 percent.[45]

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[41] Id.
[42] Avista's response to Staff Data Request 346, Confidential Attachment B, Evaluation Matrix_060911_Draft.xlsx.
[43] Robert J. Lafferty, Exhibit No. ___ (RJL-8C), at 8.
[44] Robert J. Lafferty, Exhibit No. ___ (RJL-1T), at 19.
[45] Robert J. Lafferty, Exhibit No. ___ (RJL-6), at 131

Q. What is the implication of a higher capacity factor wind project site?

A. All else equal, a wind facility with a higher capacity factor can have a dramatic, positive effect on the overall energy productivity of the facility. A higher capacity factor can substantially reduce the levelized cost of energy by effectively reducing the capital investment per MWh generated. This is because wind is the "free fuel" and there is relatively minor additional variable operating and maintenance costs for generating additional energy.

Wind sites with capacity factors below 28 percent are often considered economically marginal by wind developers. Sites with capacity factors approaching or exceeding 40 percent are considered very good site development prospects.

Q. Did the Palouse PPA have any other advantages compared to the alternatives?

A. Yes. The Palouse PPA facility was located within the Avista electric balancing authority. This permitted the project to use Avista's transmission resources, and thus avoid payment of a wheeling charge. This often saves two to four percent of the cost to deliver the power to Avista customers.[46]

Q. How did the value of the Palouse PPA compare to the cost of the other three short-listed projects?

A. The net levelized value of the Palouse PPA compared to the next best project was 40% higher. The net levelized value is calculated by Avista as the estimated fully-loaded long-term costs (PPA payments and associated costs) minus long-term

[46] For wind projects in the Columbia Basin the 2009 Avista IRP assumed a BPA wheeling charge or 1.9 percent, Robert J. Lafferty, Exhibit No. ___ (RJL-6), at 105.

benefits (value of energy, RECs and terminal value of plant) and, when positive, represents net benefits to the customer compared to the assumed long-term cost of power. The Palouse PPA returns a positive levelized value of $[redacted]/MWh versus the next best proposal at $[redacted]/MWh.[47]

Q. What was the next step in the RFP evaluation process?

A. Avista began negotiations with the bidders whose proposals were in the top four, based on the criteria weighting process. Avista invited each bidder to update their bids and sharpen their proposals.[48]

Q. As net price was the most heavily weighted evaluation criterion, what metric did Avista use to evaluate the proposals?

A. Avista used the nominal, levelized-cost per MWh (megawatt hour) over the life of the proposal.[49]

iii. Cost of the resource

Q. In addition to the usual prudence criteria to consider the cost of a resource acquired, does the Renewables Policy Statement address the cost issue as well?

A. Yes. As I discussed earlier, the Company acquired the Palouse PPA in advance of when Avista needed that resource to comply with the RPS; the Renewables Policy

[47] Avista's response to Staff Data Request 346C, Confidential Attachment B, Financial Analysis_060911_Draft.xlsx. This is before consideration of the likelihood that the Palouse PPA developer is planning to garner a 1.2 Washington REC multiplier through the use of apprenticeship construction labor.
[48] Robert J. Lafferty, Exhibit No. ___ (RJL-8C), at 53-56.
[49] Robert J. Lafferty, Exhibit No. ___ (RJL-8C), at 42.

Statement contemplates this situation and requires a showing of cost benefits of the early acquisition.[50]

Q. What cost justifications are there for the early acquisition for the Palouse PPA?

A. During the IRP process the model was run to evaluate the economics of various future portfolio alternatives, and found that with the expiring tax incentives it was more cost-effective to meet the 2016 RPS requirement by building renewable resources by the end of 2012.[51] The federal tax incentives cover up to 30% of the capital costs of construction of renewable resources. In addition, state sales tax exemptions reduce the costs of construction. The sales tax rate in Whitman County, where the Palouse PPA is located, is 7.8%.[52] After the 2009 IRP modeling leading up to the 2011 RFP the company determined additional savings may be available in the market due to declining development costs of wind resources.

Q. Was Avista able to directly apply the tax incentives to the Palouse PPA?

A. No. Tax incentives are only available to the developers of renewables projects, not those who may contract for the renewable project outputs. Nonetheless, the RFP was timed and structured to allow developers providing bids to be able to leverage these tax incentives which would then be passed through in the pricing of the contract to Avista.

[50] Renewables Policy Statement, ¶52.
[51] Robert J. Lafferty, Exhibit No. ___ (RJL-6) page 172.
[52] http://dor.wa.gov/content/findtaxesandrates/salesandusetaxrates/lookupataxrate/default.aspx.

Q. What was the range of levelized costs for the renewables that were bid?

A. The first round bids showed nominal levelized costs of between [redacted] and [redacted].[53] The second round, which involved only the short-listed bids, had levelized costs between [redacted] and [redacted].[54] This levelized cost accounts for the varying timing and asset lives of the bids submitted. Notably, all the second round bids represent costs below Avista's nominal levelized, long-term avoided cost of $111/MWh Avista used for comparing alternative new resources in its 2009 IRP.[55]

Q. What was the levelized cost of the Palouse PPA?

A. The final negotiated 30-year levelized Palouse PPA cost to Avista was [redacted].[56] This indicates that the Palouse PPA cost was significantly less than the projected levelized, long-term cost from Mid-C and therefore, financially beneficial to ratepayers.

Q. How does this price compare to other recent renewables acquisitions reviewed by the Commission in this area?

A. This price compares favorably with the levelized acquisition cost per MWh of the Lower Snake River, Phase 1 wind project approved by the Commission as prudent in Docket UE-111048. The Lower Snake River Project is also located in Eastern

[53] Avista's response to Staff Data Request 346C, Confidential Attachment A, Financial Analysis_031111_Draft.xlsx.
[54] Avista's response to Staff Data Request 346C, Confidential Attachment B, Financial Analysis_060911_Draft.xlsx.
[55] Robert J. Lafferty, Exhibit No. ___ (RJL-6), at 180, Table 8.3.
[56] Avista's response to Staff Data Request 380C.

Washington, south of the Palouse project and is more than twice the size of the Palouse project. This most likely indicates that the Palouse PPA developer provided bids to Avista which included the effect of the 30% federal tax incentives.

Q. Did Staff review any additional material that supported the conclusion that wind development prices were declining?

A. Yes. According to a report from the Lawrence Berkeley National Laboratory, wind turbine prices were favorable in the 2010 to 2011 time period, with price declines "as much as 33 [percent] or more since late 2008, with an average decline closer to perhaps 20 [percent] for orders announced in 2010," with 2011 seeing even further price declines.[57]

In a February 2011 report, a wind developer noted that wind turbine prices had [redacted] approximately $[redacted]/kW from their peak in 2008, and also noted [redacted] in financing costs and delivery terms of the turbines. The developer has also noted an approximately [redacted] percent [redacted] in rental costs for cranes that install the towers for a wind facility.[58]

This supports the view of the Company in the timing of the 2011 RFP to acquire renewable resources at the lowest possible cost.

Q. What do you conclude regarding the Company's prudence case to demonstrate the first two prudence factors: 1) the need for the resources and 2) the evaluation of alternatives to meet that need and selection of the best resource?

[57] Response to Staff Data Request No. 359, Attachment A, "Understanding Trends in Wind Turbine Prices Over the Past Decade," at 4.
[58] Response to Staff Data Request 235C, Attachment A, presentation from wind developer, at 16.

A. The need for the resources prudence factor is informed by the Renewables Policy Statement, which "provides the flexibility to meet both the prudence and used and useful standards for resource acquisitions needed to comply with the EIA."[59] Specifically, the Commission will place "less significance on demonstrated need for power and focus instead on the renewable energy necessary to meet the EIA requirements" because the EIA is a mandate to acquire renewable resources "even if all capacity and energy needs have been met."[60] The Commission also recognizes that historically market conditions sometimes present opportunities to acquire resources larger than "the size necessary to meet contemporary demands" and that "the economics of the acquisition decision played a dominant role… as it should."[61]

These policy statements bear directly on the current case and the acquisition of the Palouse PPA. Although Avista did not have an immediate need for renewable resources as of 2012, the acquisition of the Palouse PPA fulfills an RPS need the Company projected for 2016. This satisfies the requirement to show need according to the Renewables Policy Statement.[62]

The testimony and data responses described above address the question of market opportunity and address the requirement to show cost-justification prior to Commission approval for an early acquisition of renewable resources.[63] The declining cost of equipment and existence of expiring state and federal tax incentives support this argument.

[59] Renewables Policy Statement, at 36.
[60] Id.
[61] Renewables Policy Statement, at 35.
[62] Renewables Policy Statement, at 42.
[63] Renewables Policy Statement, at 52.

The 2011 RFP evaluation results also indicate financial and risk advantages of the Palouse PPA relative to other market opportunities. The relatively low 30-year levelized cost of the acquisition and maximum net value over the life of the Palouse PPA is convincing and at an even lower levelized cost than other recent prudent wind acquisitions.

Other factors that the Palouse PPA satisfies are "the anticipated ability of the utility to use or sell power generated, the potential for sales of RECs until the output of the facility is needed to meet the RPS", and the early securing of "a more productive (and therefore more cost-effective) facility" before the best sites are no longer available.[64] The value of the power generated and RECs was included in the financial modeling of the RFP evaluation process and therefore meets the Renewables Policy Statement to consider this as a potential benefit for early RPS acquisition. The relatively high capacity factor of the wind site demonstrated that a more productive/cost-effective site was included in the Palouse PPA acquisition. The capacity factors of the various proposals were also modeled in the RFP financial analyses and are again consistent with consideration of this beneficial factor in Renewables Policy Statement.

Therefore, I conclude that the Company adequately demonstrated the required need and appropriate evaluation and selection of the Palouse PPA as the best available resource to meet that need in accordance with the Commission's prudence standard as interpreted through the Renewables Policy Statement.

[64] Renewables Policy Statement, at 53.

b. Participation of the Company's Board of Directors

Q. Did Avista's Board of Directors make the final decision to purchase the Palouse PPA?

A. Yes. On May 13, 2011, Avista management presented the results of the Company's analysis of bids submitted under the 2011 Renewables RFP. The Board received information on all four of the short-listed projects, including price, levelized cost, size, capacity and first year rate impact.[65] On June 28, 2011, pursuant to the consent of the Board of Directors' from the May 13 meeting, the Palouse PPA was executed.[66]

c. Documentation of the Company's Decision-Making Process

Q. Did Avista keep adequate, contemporaneous records that allow the Commission to evaluate the Company's decision-making process?

A. Yes. The Company adequately documented through direct testimony and responses to data requests their analyses and results of the IRP, RFP processes, and documented meetings with its Board of Directors and their decision with respect to the 2011 RFP acquisition process.

[65] Direct testimony of Robert J. Lafferty, Exhibit No. ___ (RJL-7C), at 6.
[66] Direct testimony of Robert J. Lafferty, Exhibit No. ___ (RJL-9C).

i d. Conclusion on Palouse PPA Prudence

Q. What is your conclusion regarding the prudence of Avista's acquisition of Palouse PPA?

A. Based on the documents I reviewed and the analysis I conducted, I conclude that Avista's acquisition of the Palouse PPA was prudent under the Commission's established prudence standard, as clarified by the Renewables Policy Statement.

Q. Does this conclude your testimony on the Palouse PPA?

A. Yes.

IV. DISCUSSION AND ANALYSIS OF SMART GRID PROJECTS

A. Context and Summary Conclusions of the Smart Grid Projects

Q. Please explain the purpose of your testimony on smart grid projects.

A. My testimony addresses a review of smart grid projects implemented by Avista in its Washington service territory, with some work beginning as early as 2009. I discuss the nature of the expenditures, their projected costs and benefits, and the appropriateness of including those expenditures in rate base for rate-setting purposes in this case for the Spokane Project, the Pullman Project, and the Workforce Training Project.

Q. Is the Company seeking a prudence determination for each of these projects?

A. Yes. As stated in Avista's response to Public Counsel Data Request 253, the Company is asking for a prudence determination for each of these smart grid projects.

Q. What information did you evaluate in conducting your analyses?

A. I reviewed the direct testimony and exhibits of Avista witness Kopczynski and Avista's responses to numerous data requests from Staff and Public Counsel. I also reviewed Company presentations and other related documents and I interviewed Avista employees Mr. Josh DiLuciano, Shawn Bonfield, Liz Andrews, Dan Johnson, Curt Kirkeby, and Linda Gervais.

In addition, Staff observed installed components of the Spokane and Pullman smart grid projects during site visits in July 2012.

Q. How do you define "smart grid"?

A. I use the definition contained in Commission rules. WAC 480-100-505(2)(c) defines "smart grid technologies" as "any technology intended to improve the reliability or efficiency, or to reduce the operating costs, of electrical transmission and distribution systems by enabling one or more smart grid functions. Smart grid technologies include, without limitation, measurement devices, communication equipment, information processing equipment and software and control devices."

Q. Please list the Smart Grid Projects at issue, identify the project cost and describe how they are funded.

A. Currently, Avista has three Smart Grid Projects. The three projects are:

1. Spokane Smart Grid Investment Grant (Spokane Project), with a total project cost of $42 million[67];
2. Pullman Smart Grid Demonstration Project (Pullman Project), with a total project cost of $38.6 million[68]; and
3. Smart Grid Workforce Training Program (Workforce Training Project) with a total project cost of $4.7 million[69].

As of June 2012, the total investment in these projects totaled $80.4 million. Avista has invested approximately half of that amount. The total cost of the three combined projects is projected to be $85.3 million.

These projects are funded approximately 50 percent by money from the American Recovery and Reinvestment Act (ARRA). $4 million of the total project costs for the Pullman Project come from Avista's partners on that project: Washington State University, Battelle's Pacific Northwest Laboratories, Schweitzer Engineering Laboratories, Advanced Control Systems, Gridpoint, Hewlett Packard, and Itron.

Q. Have you prepared a table summarizing this information?

A. Yes. Table 1 outlines the overall funding for each project by contributor.

[67] Avista's response to Public Counsel Data Request 98, Attachment A, at 5, Table 5.
[68] Direct Testimony of Don Kopczynski, Exhibit No. ___ (DFK-1T), at 20 and 21, and Avista's response to Public Counsel Data Request 99, Attachment A.
[69] Direct Testimony of Don Kopczynski, Exhibit No. ___ (DFK-1T), at 20-21 and Avista's response to Public Counsel Data Request 100, Attachment A.

Table 1 - Smart Grid Projects and Funding Sources

	Avista	Federal Grants	Partners	Percentage of Funding by Avista
Spokane Project	$22 million	$20 million	—	52.4%
Pullman Project	$15.7 million	$18.9 million	$4 million	40.6%
Workforce Training Project	$1.7 million ($1.7 million additional in-kind property use)	$1.3 million	---	72.3%
Combined Total of Three Projects	**$41.1 million**	**$40.2 million**	**$4 million**	**48.2%**

Q. Please describe the Spokane Project in more detail.

A. The Spokane Project is a five-year project that involves electric distribution grid improvements in the Spokane area. The Spokane Project includes smart grid upgrades to circuits and substations serving a total of 110,000 electric customers.

Q. Please describe the Pullman Project in more detail.

A. The Pullman Project is located in Pullman, Washington, and includes upgrades to circuits and substations, similar to the Spokane Project. In addition to these upgrades, the Pullman Project includes replacement of 13,000 electric and 5,000 natural gas meters with digital meters equipped with two-way wireless communication. It also includes a pilot program that will provide customers in-home and web-based energy consumption data, establish and test regional demand response signals in coordination with WSU facilities HVAC building control and

residential remote thermostat control, and help the utility understand customer experience, satisfaction, and program participation.

Q. Please describe the Workforce Training Project in more detail.

A. The Workforce Training Project is a project where the Company is partnering with several utilities and colleges in the region to develop a workforce training program over the next three years. As part of the project, the Company will upgrade the Jack Stewart Training Center in Spokane for smart grid technology, and will update Company training programs for apprentices, journeymen, and pre-line-school students to incorporate smart grid technology. The Company also will develop several online curriculum offerings to be shared by utilities and colleges in the region.

Q. Please summarize your conclusions.

A. I applied the Commission's prudence standard and the "used and useful" standard to each of the three smart grid projects at issue in this case.

I conclude that it is appropriate for the Commission to include in the results of operations for the test period the amounts related to the Spokane Project.

The Workforce Training Project was initiated in 2012, so it is outside the test period. Consequently, it is premature to assess this project.

I conclude that for the Pullman Project that a portion of the Company's test year investment should be included in 2011 rate base, i.e., the level that can be shown to be cost-effective, and the remainder, as a less than cost-effective

demonstration project, should be amortized over the life of the plant with no return. Table 2 below shows the recommended treatment for the Pullman Project.

Table 2 - 2011 Pullman Smart Grid Investments and Recommended Recovery

Company Investment (2011 End of Year)	Recommended Recovery in Rate Base (63%)	Disallow Return on Investment of (37%)	Disallow Return on Average Investment of:	Impact on Revenues in 2011 test year
$4,827,814	$3,036,695	$1,791,119	$896,000	-$85,000

I note these are the rate base figures. The test period also includes the related expenses and benefits of the Spokane Project, and the expenses and benefits of the Pullman Project up to the cost-effective level.

B. Application of the Prudence Standard – Smart Grid Projects

Q. In addition to the Prudence Standard Is the Used and Useful Standard also applicable to the smart grid projects?

A. Yes. The smart grid projects involve the purchase of property by the company. Under the used and useful provision of statue the Commission has the power to "determine the fair value for rate making purposes of the property of any public service company used and useful for service in this state and shall exercise such power whenever it deems such valuation or determination necessary."[70] Therefore,

[70] RCW 80.04.250.

the smart grid projects are subject to the used and useful standard when considering inclusion in rate base.

1. Standards for Reviewing the Smart Grid Projects

Q. What standards do you apply to evaluate whether these Smart Grid Projects should be included in rates in this case?

A. For the rate base elements, I apply the "used and useful for service" standard. Overall, I also apply the Commission's prudence standard. This is the same prudence standard I described earlier in my testimony regarding the Palouse PPA. I will not repeat the elements of that standard in this section of my testimony,

Q. Please explain the "used and useful for service" standard.

A. Under RCW 80.04.250, a utility investment must be "used and useful for service in this state" before it may be included in rate base for ratemaking purposes.[71] The Commission has stated that the phrase "used and useful for service in this state" means "to benefit the ratepayers of Washington, either directly (*e.g.*, flow of power from a resource to customers) and/or indirectly (*e.g.*, reduction of cost to Washington customers through exchange contracts or other tangible or intangible benefits)."[72] The Commission also has stated that "the [c]ompany must demonstrate tangible and

[71] RCW 80.04.250. Under that section, the Commission has discretion to include construction work in progress in rate base, but that is not an issue in this case.
[72] *Utilities and Transp. Commission v. PacifiCorp, d/b/a Pacific Power & Light Co.*, Docket UE-050684, Order 04 (April 17, 2006), at ¶ 50.

quantifiable benefits to Washington of resources in the system before we will include the resources in rates."[73]

Because Avista is seeking to include its smart grid investments in rate base in this case, the used and useful for service standard applies to each of the Company's smart grid projects.

Q. Are there additional factors to consider when evaluating demonstration projects?

A. Yes. In this case, the Pullman Project is a demonstration project, so there are other prudence factors unique to such a project. I identify these factors later in my testimony.

2. Applying the Commission's "Used and Useful" Standard and Prudence Standard

a. Spokane Project

Q. Is the Spokane Project used and useful for service in Washington?

A. Yes, to the extent the Spokane Project was complete in the 2011 test period, Avista used it to provide the means to deliver a flow of power to customers in this state. As I discussed above, the Spokane Project is within Avista's Washington service territory and connected to Avista's system in Washington.

[73] Id. at ¶ 68.

This project provides current customer benefits because the distribution grid operates with lower line losses through voltage reduction and re-conductoring selected feeder circuits. To re-conductor selected feeder circuits, the Company replaces the conductors on specific circuits with larger, lower resistance conductors, which improves efficiency and helps reduce line voltage losses.

Q. How much was Avista's investment for the Spokane Project as of the test 2011 period, and what is the completion status?

A. The Company had a total investment of $6,232,264.00 as of the end of the 2011 test year.[74] The Spokane Project is currently over 95 percent complete, and Avista plans for it to be fully operational by March 2013.[75]

Q. Turning to the prudence standard, did the Company need the Spokane Project?

A. Yes. The Company's current Biennial Conservation Plan (BCP) selected the Spokane Project in the Company's preferred portfolio as part of its ongoing energy conservation program and as a cost-effective conservation program.[76] The Spokane Project is also summarized in the Company's preferred resource strategy in its 2009 and 2011 Integrated Resource Plans (IRP).[77] I analyzed the BCP and the IRP, and find that the Spokane project is an appropriate method to achieve cost-effective conservation. The Spokane Project also fulfills a stated need for Avista to continually upgrade and replace the distribution infrastructure, although on an

[74] Avista's response to Public Counsel Data Request 241, Attachment A Revised.
[75] Avista's response to Staff Data Request 398.
[76] Docket UE-111882, Biennial Conservation Plan, at 34.
[77] Robert Lafferty Exhibit No. ___ (RJL-6), at 20 and Docket UE-101482, 2011 Electric IRP, at 5-14, and Table 8-1, at 8-8.

accelerated basis. The Company also showed the project will provide for improved reliability and interoperability of its electric grid.[78]

Starting in 2004, the Company made plans to gradually replace older, pre-1981 transformers and similar distribution network assets.[79]

Q. How does the Spokane Project relate to energy efficiency savings targets in the Company's Biennial Conservation Plan?

A. In the Company's 2012-13 BCP, Avista has a target range for smart grid efficiency estimated between 32,387 to 60,147 MWh for the biennium.[80] This range of energy efficiency for the smart grid system upgrades is consistent with the data Avista provided in its response to Public Counsel Data Requests 98 and 99. Avista anticipates energy savings from the Spokane Project to be 42,050 MWh per year.[81]

Q. Earlier you included the prudence of the expenditures as an aspect of the "need for the resource" prudence criterion. Is the Spokane Project cost-effective?

A. Yes. The total resource cost of the Spokane Project is $56.78/MWh.[82] This is significantly below the Company's avoided cost of $100/MWh that Avista used in the 2009 IRP[83] and it incorporates the effect of the approximate 50 percent federal grant applied to the cost of the project.

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[78] Robert Lafferty Exhibit No.___ (RJL-6), at 96.
[79] Avista's response to Public Counsel Data Request 314.
[80] Docket UE-111882, Biennial Conservation Plan, at 35, values in Table 3.1, plus and minus 30%.
[81] Avista's response to Public Counsel Data Request 98, Attachment A, at 6 and Avista's response to Staff Data Request 394, Attachment A.
82 Avista's response to Public Counsel Data Request 98, Attachment A.
83 Robert Lafferty Exhibit No.__(RJL-6), at 96. The $100/MWh is from the Company's 40-year levelized cost, which is appropriate for judging the expected life of distribution system capital expenditures and used in calculating the benefits and costs at Response to Public Counsel Data Request 239, Attachment B.

The Company had previously planned these upgrades to the distribution system, but these upgrades were accelerated due to the availability of the federal grant.[84] The installation of smart grid feeders instead of the traditional distribution feeders is an incremental cost, but with the federal grant, the entire cost of the upgrade becomes cost-effective, not just the incremental costs.

Q. Applying the second prudence criterion, what alternatives did the Company consider in its decision to acquire the Spokane Project?

A. This criterion is difficult to apply because Avista is implementing the Spokane Project within the existing distribution system, where the wholesale replacement of the entire physical system is impractical and cost-prohibitive. Moreover, the traditional internal and external resource choices through an RFP do not exist.

However, in context, Staff believes this criterion is satisfied because Avista has been experimenting with smart grid technologies for many years and is sophisticated in creating specifications for vendor procurement that provides essential performance features and interfaces well with the existing distribution system. In other words, through time, the Company has considered appropriate alternatives in selecting appropriate equipment and technology to acquire for this project.

84 Avista's response to Public Counsel Data Request 314.

Q. Please briefly outline Avista's history with this technology.

A. Avista has been evaluating grid automation technology since the 1970s. These efforts began with technology to monitor activities and status across the grid from a central location. These early automated features established the framework for the technologies that the Company used to specify the current smart grid installations.[85]

Avista was experimenting with distribution feeder conservation voltage reduction pilot projects using techniques presently being implemented in Spokane and Pullman as far back as 1997.[86] In 2008 Avista decided to embark on a feeder upgrade initiative with objectives to increase reliability, reduce maintenance expense, and reduce line losses.[87] The plan was to upgrade distribution feeders from substations at the increasing rate of 5, then 10, and ultimately 15 feeders per year. With the availability of the ARRA grant, it was possible for Avista to implement these upgrades at an accelerated rate and a reduced total cost.

Overall, Avista has a history of evaluating and working with smart grid components and vendors to assure that there are no unforeseen reliability or underperforming components. For instance, Avista has deployed automatic meter readers in its electric service territory in Idaho and Oregon and automatic gas meter readers in Oregon.[88]

In the Spokane Project, Avista is using reliable reclosers, capacitor banks, and related equipment from known vendors, which meets Avista's standard

[85] Avista's responses to Staff Data Request 394C, Attachment A, at 13-17, and Public Counsel Data Request 383C.
[86] Avista's response to Staff Data Request 394C, Attachment A, at.
[87] Id, at 18, and Responses to Public Counsel Data Request 383C, Attachment A, and Public Counsel Data Request 392, Attachment A.
[88] Avista's response to Public Counsel Data Request 247.

specifications in combination with enhanced communications and smart grid-enabled actions.[89]

Q. Applying the third prudence criterion, please describe the involvement of Avista's Board of Directors in the decision to acquire the Spokane Project.

A. The Company provided a signed Charter for the project. In project management, a project charter is a statement of the scope, objectives and participants in a project. Company employees presented the acquisition decision to Company management, and Staff reviewed these presentations.[90] The Charter was signed by the President, CEO, Vice President, and Director of the Company. Staff believes this level of involvement is appropriate, and meets the prudence criterion.

Q. Applying the fourth criterion, did Avista provide adequate documentation regarding the Spokane Project?

A. Avista did not provide sufficient documentation in its direct case. However, through the data request process, Avista provided the project Charter, project schedule and budget information, and cost-effectiveness evaluation results for the project. The Company also provided reports required by the Department of Energy related to the ARRA grant for the project. These reports show the appropriateness of expenditures, and the schedule of the project. Based on the information received, the Company provided adequate documentation regarding the prudence of this project.

[89] Avista's response to Public Counsel Data Request 314.
[90] Avista's supplemental response to Public Counsel Data Request 98.

b. Pullman Project

Q. Is the Pullman Project used and useful for service in Washington?[91]

A. Yes, to the extent it was complete in the 2011 test year, the Pullman Project provides the means to deliver a flow of power to customers. As I discussed previously, the Pullman Project is within Avista's Washington service territory and connected to Avista's system in Washington. In addition, the Pullman Project provides customer benefits because the distribution grid will operate with lower line losses through voltage reduction and re-conductoring selected feeder circuits.

Q. How much was Avista's investment for the Pullman Project as of the test 2011 period, and what is the completion status?

A. The Company had invested $4,827,814.00 in the Pullman Project as of the 2011 test year. The project is currently 71 percent complete, and Avista plans for the project to fully operational by the end of January 2013[92].

Q. Is a Commission prudence determination appropriate for the Pullman Project?

A. Yes. Although the Pullman Project is considered a demonstration project, it is subject to a prudence review. This is particularly appropriate because the costs of this demonstration project are significant. To date, Avista has invested over $15 million in the Pullman Project.[93]

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[91] RCW 80.04.250.

[92] Avista's response to Public Counsel Data Request 244, Attachment A Revised, and Avista's response to Staff Data Request 398.

[93] Exhibit No. ___ (DFK-1T), at 21 and Avista's response to Public Counsel Data Request 99 Attachment A, at 2.

Q. Turning to the prudence criteria, is there a need for the Pullman Project?

A. Yes. The Company's BCP selected the Pullman Project in the preferred portfolio as part of the Company's ongoing energy conservation program and as a cost-effective conservation program.[94] The project is also summarized in the Company's preferred resource strategy in its 2011 IRP.[95] Similar to the Spokane Project, I analyzed the BCP and the IRP, and find that the Pullman project is an appropriate method to achieve conservation, to the extent that it is cost-effective.

Similar to the Spokane Project, part of the Pullman Project also fulfills a need to continually upgrade and replace the distribution infrastructure, although on an accelerated basis. The Company also showed the project will provide for improved reliability and interoperability of its electric grid.

Starting in 2004, the Company made plans to gradually replace older, pre-1981 transformers and similar distribution network assets.[96]

Q. Did Avista include the energy efficiency savings from the Pullman Project in the conservation target in the Company's Biennial Conservation Plan?

A. Yes. In the Company's 2012-13 BCP, Avista has a target range for smart grid efficiency estimated between 32,387 to 60,147 MWh for the biennium.[97] This range of energy efficiency for the smart grid system upgrades, including the Pullman

[94] Docket UE-111882, Biennial Conservation Plan, at 34.
[95] Docket UE-101482, 2011 Electric IRP, at 5-14, and Table 8-1, at 8-8.
[96] Avista's response to Public Counsel Data Request 314.
[97] Docket UE-111882, Biennial Conservation Plan, page 35, values in Table 3.1, plus and minus 30%.

Project, is consistent with Avista's description of its smart grid projects in this case.[98] The Company anticipates energy savings for the Pullman project of 6,261 MWh per year.[99]

Q. How did Staff measure the cost-effectiveness of the Pullman Project?

A. As shown in the following table, Staff evaluated the cost-effectiveness of the Pullman Project by comparing the cost of the project to the long-term avoided cost of energy in dollars per MWh. The avoided cost for Avista is $100/MWh.[100]

Q. What are the individual aspects and costs of the Pullman Project?

A. The Pullman Project is a complex implementation of multiple smart grid technologies simultaneously installed in and around the city of Pullman. This complexity provides a test-bed for a number of smart grid initiatives that could benefit customers and will permit future evaluation of these initiatives which will be useful for the Company, the region and the nation. The costs of these projects are as shown it Table 3:[101]

[98] Avista's response to Public Counsel Data Requests 98 and 99.
[99] Avista's responses to Public Counsel Data Request 99, Attachment A, at 11, and Avista's response to Staff Data Request 394, Attachment B.
[100] Robert Lafferty Exhibit No. ___ (RJL-6), at 96, and Response to Public Counsel Data Request 239, Attachment B.
[101] Derived from Avista's response to Public Counsel's Data Request 99, Attachment A, at 5.

Table 3 –Pullman Project Expenditures

Smart Grid Project Component	Financial Assumption	Cost ($1000)	Percent
[redacted]			
Install AMI	Capital	4,302	14.9%
Install AMI	Expense	2,953	10.2%
Distributed Generation	Expense	306	1.1%
[redacted]			
Customer Energy Efficiency	Capital	681	2.4%
Customer Energy Efficiency	Expense	2,709	9.4%
WSU Data Analysis and Reporting	Expense	809	2.8%
WSU Smart Grid Curriculum	Expense	762	2.6%
Project Management & Data Analysis	Capital	1,211	4.2%
Project Management & Data Analysis	Expense	507	1.8%
[redacted]			
TX Fiber Make Ready Construction	Capital	68	0.2%
Gas Meter AMI	Capital	750	2.6%

The Company did not separate the different parts of the project for life-cycle analysis. The only life-cycle (levelized) benefit-cost analysis the Company performed was for all the elements of the Pullman Project combined.

Q. What did the Pullman Project's cost analysis show?

A. The life-cycle cost of the Pullman Project is $159/MWh, which is significantly higher than Avista's $100/MWh long-term avoided cost.[102] This demonstrates that the overall Pullman Project is not cost-effective. The project could be considered

[102] Avista response to Staff Data Request Data Request 98, Attachment B.

cost-effective up to the long-term avoided costs of $100/MWh. This translates into a project that is 63% cost-effective and benefits customers to that extent.

Q. Why is the Spokane Project cost-effective, but the Pullman Project is not cost-effective?

A. The nature of the two projects a quite different. The shaded rows in table above represent the costs associated with implementation of the Pullman smart grid feeder project which are similar to the Spokane Project. The Pullman Project incorporates many additional cost elements and this makes it different from the Spokane Project from a cost perspective. Only 48% of the Pullman costs are similar in nature to the Spokane Project.

Q. Aside from cost-effectiveness, is the Pullman Project otherwise appropriate as a demonstration project?

A. Yes. For example, the Pullman Project is sufficiently sized to enable the Company to determine the feasibility of large scale implementation.

Moreover, although some of the technology being used in the Pullman Project is the same as the Company is using in Spokane, the Pullman Project includes the additional aspects of a customer pilot program. Some of these additional elements I identified earlier (e.g., regional demand-response transactive signal, remote control of home thermostats) are very innovative and experimental.

For example, the regional transactive signal is the two-way signal between an electric customer and a remote location. The signal allows an outside entity to

evaluate energy use and make real time adjustments to indoor temperate at the customer's home.

Some of this technology has previously been evaluated on a much smaller scale in Western Washington by Battelle Pacific Northwest Laboratory. This previous study involved transactive signals for just over 100 homes in the Port Angeles, Washington area, but used a different approach to communicating with customers than envisioned with the Pullman Project.[103]

The transactive signal in the Pullman Project will potentially be used across three substations in the Pullman area. The scope of this project is much larger than previous studies in the region, with at least 1,500 customers targeted for this portion of the project. A study involving this number of end users provides a larger base to evaluate a large scale implementation.

Q. Will the Pullman Project ultimately provide an analysis regarding the potential full scale implementation of the technology?

A. Yes. The Company plans to measure and validate smart grid costs and benefits for customers, the Company, regulators, and the nation. This information may provide the foundation of business cases for future smart grid investments if the project is successful.

Q. Is the Pullman Project based on pilot studies or estimates that provide for a likely cost beneficial project in the future?

[103] Pacific Northwest Gridwise Testbed Demonstration Projects, Olympic Peninsula Project, October 2007.

A. No. The Company has not shown that the project is based on previous studies that are cost-effective. The individual technologies used in the Pullman Project have been the subject of pilot projects elsewhere, although some of the methods for demand response are still quite new or experimental.

Q. Has Avista shown that the benefits of the Pullman Project are greater than or equal to the costs of that project?

A. No. To date, the Company has not provided the basis for a cost beneficial project. As I previously discussed, the Company has provided information which shows the project is not currently cost-effective, with a resource cost of $159/MWh. The Company has not shown that any future implementation of this technology on a larger scale would be cost-effective.

Q. Are there any non-monetary benefits of the Pullman Project that should be taken into account?

A. The only non-monetary benefit the Company has quantified is that carbon dioxide production would be reduced by 2,367 tons, based on the 6,764 MWh per year of energy savings as a result of the project. However, the Company has not shown or mentioned any other non-monetary benefits which are driving this project forward.

Q. Applying the second prudence criterion, what alternatives did Company consider in its decision to acquire the Pullman Project?

A. Avista is implementing the Pullman Project within the existing distribution system, where the wholesale replacement of the entire physical system is impractical and

cost-prohibitive. The alternatives practically available to the Company are dissimilar to the acquisition process through RFPs for generation resources. Staff's analysis of the alternatives considered for the Spokane Project apply equally to the Pullman Project. In other words, through time, the Company has considered appropriate alternatives in selecting appropriate equipment and technology to acquire for this project.

Q. Applying the third prudence criterion, did the Company demonstrate the involvement of management or board of Directors in the decision making process regarding the Pullman Smart Grid Project?

A. Yes. The Company has provided a signed Charter for the project, and has also supplied presentations that were given to Avista management staff, which includes members of the Board.[104] The Charter was signed by the President, CEO, Vice President, and Director of the Company. Based on the information provided, the Company demonstrated involvement of management or the Board of Directors in the decision making process for this project. Staff believes this level of involvement is appropriate, and meets the prudence criterion.

Q. Applying the fourth prudence criterion, did Avista provide adequate documentation regarding the prudence of the Pullman Project?

A. While Avista's direct testimony did not provide adequate documentation to demonstrate prudence, the information Staff and other parties developed during

[104] Avista's supplemental response to Public Counsel Data Request 98.

discovery provided a sufficient basis for evaluating prudence of the project. Through the discovery process Avista provided a project Charter, business case, project schedule and budget information, and cost-effectiveness evaluation results for the project. The Company has also disclosed reports that are required by the Department of Energy related to the grant received for the project. These reports are required to show the appropriateness of expenditures, and the schedule of the project. Based on the information received, the Company eventually provided adequate documentation regarding the prudence of this project.

Q. Based on your conclusion that the Pullman Project is not cost-effective, what rate treatment of this project do you recommend?

A. I recommend the Pullman Project be included in rate base only to the extent the project is cost-effective for customers, 63% as described previously, and to disallow a return on the portion that is not cost-effective (the remaining 37 percent.) Staff recommends allowing the return of, i.e. the depreciation expense, the non-cost-effective portion. Because Staff recommends a return of the investment, but not a return on the investment, the impact is a reduction to revenues of $85,000.[105] Staff witness Ms. Breda reduces the Company's Pullman investments for 2012 and 2013 in her attrition study.

[105] Based on Avista's response to Public Counsel Data Request 244.

Q. What is the basis for your recommendation?

A. As I noted when I first described the Pullman Project, this project is a demonstration project. I reviewed some past Commission orders regarding demonstration projects or research and development. The Commission has allowed recovery of costs for research and development or unsuccessful projects, so long as the projects were conducted for customer benefit, and so long as the investment was prudent. The Commission does not allow a project in rate base that is not used and useful for service, but has allowed the costs to be amortized to expenses.

A relevant previous Commission decision involved a Pacific Power & Light Company (Pacific) rate case, Cause U-83-33, and the issue was rate recovery of certain projects Pacific terminated before they went into service. The Commission stated it was "in the best interests of the ratepayers that the Company continue to explore various alternatives and projects in an attempt to fully evaluate the costs and benefits available."[106]

In a later case, Pacific proposed to recover through expense $4.7 million in "costs of various investigations which did not result in actual projects."[107] The Commission reasoned that an uncompensated write-off "could have the effect of discouraging regulated utilities from terminating marginal projects or declining to enter reasonably required investigations to meet anticipated problems".[108] The Commission noted its policy "of encouraging prudent research projects" and that recovery of the prudent costs (i.e., via expense treatment), but no return on these

[106] *Utilities and Transp. Comm'n v. Pacific Power & Light Co.,* Cause U-83-33, Second Supplemental Order (February 9, 1984), at 28.
[107] *Utilities and Transp. Comm'n v. Pacific Power & Light Co.,* Cause U-84-65, Fourth Supplemental Order (August 2, 1985), at 9.
[108] Id.

costs (i.e., no inclusion in rate base) was an appropriate sharing of these costs between ratepayers and shareholders.[109] My recommended treatment is consistent with these decisions.

c. Workforce Training Project

Q. Is it appropriate to apply the used and useful standard or the prudence standard to the Workforce Training Project?

A. No. The Company had no investment in this project on its books during the 2011 test period.[110] Therefore, a used and useful or prudence analysis is premature.

3. Conclusions on the Prudence of the Smart Grid Projects

Q. What is your conclusion regarding the prudence of Avista's acquisition of the three Smart Grid Projects you have identified?

A. Based on the documents I reviewed, Staff site visits to Spokane and Pullman in July 2012, and the analysis I conducted, I conclude that the Spokane Project is used and useful and is prudent under the Commission's prudence standard. For the Workforce Training Project, because the Company had no investment in that project as of the 2011 test period, it is premature to make a determination of used and useful or prudence.

[109] Id. at 9-10 (citing *Utilities and Transp. Comm'n v. Pacific Power & Light Co.*, Cause U-83-33, Second Supplemental Order (February 9, 1984), at 28.
[110] Avista's supplemental response to Staff Data Request 394C, Attachment I.

For the Pullman Project, the Company was able to show the project used and useful to the level it was completed through the test year, but was not able to show the project as cost-effective, and although a prudent demonstration project, not use and useful to the extent it is not cost-effective. The cost-effective level of the 2011 test year investment is $3,036,695, and I recommend that amount be included in rate base. The excess, $1,791,119, I recommend be amortized over the life of the facility, with no return on the unamortized balance.

The Company requested a prudence finding for $41.1 million. Staff is making a prudence recommendation concerning the $11.1 million in 2011 expenditures. The Company should request a prudence finding for the remaining $30 million in 2012 and 2013 expenditures in future cases.

Q. Does this conclude your testimony?

A. Yes, it does.