

Attachment

**Avista Corporation's 2017 Electrical Integrated Resource Plan
Docket UE-161036**

I. Introduction

RCW 19.280.030 and WAC 480-100-238 direct investor-owned energy companies (IOUs) to develop an integrated resource plan (IRP) every two years. The IRP, or plan, must identify “the mix of energy supply resources and conservation that will meet current and future needs at the lowest reasonable cost to the utilities and its ratepayers.”¹ The IRP touches every aspect of a company’s operations and provides essential public participation opportunities for stakeholders to assist in the development of an effective plan. In preparing an IRP, utilities are required to consider changes and trends in energy markets, resource costs, cost of risks associated with greenhouse gas emissions, state and federal regulatory requirements, and other shifts in the policy and market landscape.² The statute and the Commission’s rule require that IOUs conduct a comprehensive analysis of the costs, benefits, and risks of various approaches to meeting future resource needs using commercially available information. The intent is for each regulated utility to develop a strategic approach that fits its unique situation, while minimizing risks and costs for the company and its ratepayers.

The Washington Utilities and Transportation Commission (Commission) recognizes the significant efforts that Avista Corporation dba Avista Utilities (Avista or Company) performed in the modeling and analyses in the 2017 Integrated Resource Plan (IRP or Plan), as well as engaging with Staff and other stakeholders. The Commission determines that Avista’s 2017 IRP complies with the rules set forth by the Commission, and recommends Avista address several areas for improvement in developing the next IRP. In the following sections, we provide comments on the 2017 IRP and identify specific areas for improvement in the 2019 IRP.

II. Summary of 2017 Electric Integrated Resource Plan

Avista projects its Washington and Idaho energy load to grow 0.45 percent annually between 2018 and 2037, and peak load to grow at 0.42 percent in the summer and 0.39 percent in the winter. Avista’s projections of the rate of growth in total energy demand and peak demand are lower relative to previous IRPs, which the Company primarily attributes to declining residential use per customer forecasts due to energy efficiency standards.³

¹ WAC 480-100-238(2)(a); see also RCW 19.280.020(9).

² RCW 19.280.020(11); WAC 480-100-238(2)(b).

³ Avista 2017 IRP (Docket UE-161036), at p. 12-1. Avista’s 2015 IRP (Docket UE-143214) projects peak load at 0.74 percent for winter and 0.85 percent in summer, at p. 3-24.

Due to the lower load growth projection relative to the 2015 IRP, Avista expects that it can delay building new capacity until 2026 when the Lancaster Facility power purchase agreement expires. As Table 1 illustrates, Avista’s Preferred Resource Strategy (PRS) for the next 20 years includes a mix of solar, demand response, energy efficiency, storage, upgrades to existing assets, and new natural gas-fired generation.⁴ Energy efficiency offsets more than 50 percent of projected load growth through the 20-year IRP timeframe.

Table 1. Avista's preferred resource strategy for the previous (2015) and current (2017) IRPs

Year(s)	PRS-2015 IRP	PRS-2017 IRP
<u>Generation</u>		
2018		15 MW (Solar)
2019		
2020	102 MW (Simple Cycle CT)	
2021		
2022		
2023		
2024		
2025	38 MW (Thermal Upgrades)	
2026	306 MW (Combined Cycle CT)	204 MW (Simple Cycle CT)
2027	102 MW (Simple Cycle CT)	
2028		34 MW (Thermal Upgrades)
2029		5 MW (Storage)
2030		102 MW (Simple Cycle CT)
2031		
2032		
2033	3 MW (Thermal Upgrades)	
2034	47 MW (Simple Cycle CT)	47 MW (Simple Cycle CT)
2035		
2036		
2037		
Total	597 MW	392 MW
<u>Demand Side</u>		
20 years	193 MW (Energy Efficiency)	203 MW (Energy Efficiency)
2025-2037		44 MW (Demand Response)
2025-2037	<1 MW (Distribution Efficiency)	<1 MW (Distribution Efficiency)
Total	193 MW	247 MW

In December 2017, the Company executed a 20-year Power Purchase Agreement (PPA) with an independent solar developer to construct a 28 MW shared community solar resource to supply

⁴ The Preferred Resource Strategy is often referred to as the ‘Expected Case’ in other integrated resource plans. It refers to lowest-reasonable cost mix of supply-side and demand-side resources based on the set of assumptions that the Company believes is most likely to occur over the next 20 years.

energy to its voluntary Solar Select commercial and industrial customers.⁵ Avista increased its 2017 IRP solar capacity demand projections from 15 MW to 28 MW of utility-scale solar to meet customer fuel preference, not to meet near-term system capacity needs.

III. Comments and Modeling Improvements

Modeling Changes in the 2017 IRP

Avista's analysis of its resource needs over the 20-year planning horizon is comprehensive, and the Commission is satisfied with the scope of analysis and overall presentation. Avista should be commended for its efforts to provide thorough analysis and, in particular, for addressing the Commission's concerns in the 2015 IRP. A summary of the Commission's requests in the 2015 Acknowledgment letter and Avista's responses to those requests includes the following four topics:

a. Demand-Side Resource Potential

In the 2015 IRP Acknowledgment Letter, the Commission wrote that it expected Avista to reconcile its demand-side resource potential (energy efficiency potential and demand response) with that of the region, as calculated by the Northwest Power and Conservation Council (Council). In the 2017 IRP, the Company's method for determining conservation potential is generally consistent with the Council's method. Specifically, Avista's Conservation Potential Assessment (CPA) utilized an end-use model to account for items such as measure life, lost opportunities, and measure growth.

The Commission also requested that Avista calculate the economic and achievable potentials within the IRP model rather than relying on an outside, third-party model. In response, Avista changed its model to compare individual energy efficiency resources directly within the Company's Preferred Resource Strategy Linear Programming Model (PRiSM) model itself.⁶ PRiSM selects energy efficiency as a resource, where the value of conservation measures includes the energy value, the Council's 10-percent Power Act adder, and the value of lost savings. For the 2018-2019 CPA, the two-year achievable potential was 69,899 MWh for Washington electric operations. As required by rule, Avista used the higher pro rata share of the utility's 10-year conservation potential of 73,636 MWh as the basis for calculating its biennial conservation target.

⁵ On March 29, 2018, the Commission allowed the proposed Voluntary Solar Select Program tariff (Schedule 87), filed by Avista Corporation, to go into effect by operation of law (Docket UE-180102).

⁶ Pages 5-2 to 5-6 of Avista's 2017 IRP.

b. Colstrip Units 3 & 4 and Emissions Modeling

In the 2015 Acknowledgment Letter, the Commission stated that it was unconvinced by the Company's analysis that Colstrip Units 3 & 4 would remain economic in all scenarios. For the 2017 IRP, the Commission requested that Avista incorporate prospective carbon pricing policies in the expected case, and urged the Company to develop a 'high-cost' scenario that includes previously unquantified potential costs.

In response to the request to include prospective carbon prices, Avista modified its IRP to model policies that force emissions restraints or reductions. Rather than using price on emissions as an input to the model, Avista produces a shadow emissions price as an output of the model.⁷

The Company also developed the High-Cost Colstrip Retention scenario.⁸ It suggests the shadow emissions price of shutting down the plant between 2024 and 2037 is \$12.21 per metric ton for the utility.⁹ Avista's analysis shows that shutting down the plant as compared to the High Colstrip Cost scenario would save customers 0.35 percent over running the plant for the remainder of the IRP study period, although this scenario also exposes customers to more volatile power supply costs.¹⁰ The Commission finds that the categories of costs and assumptions in Avista's High-Cost Colstrip Retention scenario are reasonable for the 2017 IRP, but notes additional analysis relating to environmental regulation is warranted. The Commission's recommendations related to Colstrip Units 3 & 4 for the 2019 IRP are outlined below in further detail in the Comments and Recommendations section of this document.

c. Storage Resources

In the 2015 IRP Acknowledgment Letter, the Commission requested that the Company continue to acquire the most up-to-date data related to the operational characteristics of specific storage technologies. Throughout the 2017 IRP process, Avista worked with its Advisory Committee to ensure that its resource costs assumptions use the latest publicly available information. The 2017 IRP energy storage costs are significantly lower than in previous plans, and for the first time the PRS identifies storage in its 20-year IRP timeframe.

⁷ Page 10-25 of Avista's 2017 IRP.

⁸ Page 12-6 of Avista's 2017 IRP: Including the pricing in the market analysis, the total carbon price is \$23.88 per metric ton. The High Colstrip Cost Scenario includes: requirements for SCR by the end of 2023, Units 1 & 2 close in 2018, which shifts common facility costs earlier than expected, adding a baghouse system by the end of 2023, and assumes the State of Montana will reduce carbon emissions following the Clean Power Plan's "mass-based with new sources levels," but delayed until 2024.

¹⁰ Page 12-6 of Avista's 2017 IRP.

d. Planning Reserve Requirements

In the 2015 Acknowledgment Letter, the Commission requested that the Company address its over-reliance on regional capacity surplus to meet the planning reserve margin. In the 2017 IRP, Avista adds a new 7 percent summer planning margin to the mandatory reserve requirements, based on the reduced regional capacity associated with the anticipated shutdown of coal plants. Avista plans to meet the 14 percent winter and 7 percent summer planning margin requirements using its owned resources or power purchase agreements, without relying on short-term market purchases.¹¹

The Commission also requested that the Company work with regional stakeholders, including Council Staff, to publish information about Avista's reserve requirement needs. The Company addresses this request by publicly discussing its planning criteria in this IRP and with the Council.¹²

Comments and Recommendations for the 2019 IRP

An IRP is an iterative process in which the Company regularly updates its assumptions and responds to the external environment. For example, load growth rate forecasts and environmental regulation risks change from year to year. As such, in reviewing each IRP, the Commission asks the Company to consider new modeling scenarios or other improvements in its next Plan. The following section explains the topics and issues on which the Commission requests the Company conduct further analysis.

a. Colstrip Units 3 & 4

In its 2015 IRP Acknowledgment Letter, the Commission requested that Avista incorporate carbon pricing policies and develop a more complete suite of potential costs for a 'high-cost' scenario for Colstrip Units 3 & 4. The Commission observed that Avista "could not estimate some of the potential costs of continued operation of the units and did not include them in the 'high-cost' analysis."

In response, Avista developed the High-Cost Colstrip Retention scenario in its 2017 IRP. Avista included the following assumptions in its High-Cost Colstrip Retention scenario.

- Selective Catalytic Reduction (SCR) equipment is required by the end of 2023, instead of 2028, to reflect an expansion of the Environmental Protection Agency's regional air quality programs.¹³

¹¹ Page 6-4 to 6-6 of Avista's 2017 IRP.

¹² Northwest Power and Conservation Council's Seventh Power Plan, Chapter 4, p. 7, REG-4.

¹³ Page 12-2 of Avista's 2017 IRP. The Expected Case includes SCR beginning service in 2028.

- Units 1 and 2 shut down in 2018, rather than in 2022, and shift common facility costs earlier than in the PRS.
- A fabric filter (baghouse) system is added to enhance particulate removal by the end of 2023.
- State of Montana reduces carbon emissions to meet the Clean Power Plan's mass-based standard with new sources levels, but implementation is delayed until 2024.

The IRP states that the annual costs through the study period (2018-2037) are 3.7 percent higher in the High-Cost Colstrip Retention scenario than in the PRS. It also found that shutting down the entire plant would save customers 0.35 percent over running the plant for the remainder of the IRP study period in the high-cost scenario.

We conclude that the categories of costs and assumptions Avista used in its High-Cost Colstrip Retention scenarios are reasonable in that they have the possibility of occurring.¹⁴ However, we note that there are other categories of costs regarding environmental regulation that also have a reasonable possibility of occurring. For instance, at the time the Company developed its IRP, it did not identify the costs of outstanding liabilities of remediation responsibilities associated the closure of Colstrip Units 3 & 4, or how those liabilities might grow with continued operation of the units. Such open-ended liabilities should be accounted for in assessing the monetary risk of operating the units and in the risk the liabilities add to the portfolio.

We are also deeply concerned with the direct costs of continued operation of Colstrip Units 3 & 4 and the magnitude of economic risk of continued investment in those units. The Plan does not explicitly express or discuss risks imposed on the utility and its ratepayers, including costs of risks associated with Colstrip's fuel source, projected capital investments, and ongoing operational expenses. In the 2019 IRP, the Commission expects Avista to consider the following questions pertaining to Colstrip Units 3 & 4:

1. Regarding fuel source cost and risk:
 - a. How dependent is Colstrip on a single-source mine for its fuel?
 - b. How well understood is the supply of coal from the Colstrip mine?
 - i. What are the financial risks of the type of mining used to extract the existing coal?
 - ii. As the need for fuel for Colstrip declines, how does the cost per unit of coal from the Colstrip mine increase?
 - iii. What are the counter-party risks of mine operation?
 - iv. What risks to coal supply and coal cost does the Joint Colstrip ownership agreement impose? How will Avista manage them?

¹⁴ Avista does not provide probabilities of the occurrence of its individual assumptions that affect the economics of Colstrip, for either those assumptions in its high-cost scenario or PRS.

- c. How does the fuel supply risk from Colstrip compare to that of natural gas?
2. Does Avista have an assessment of the cost related to the counter-party risk of Riverstone ceasing operation of its share of Colstrip Unit 3?¹⁵ If not, why not?
3. Does Avista have an assessment of the cost of the counter-party risk of Riverstone being financially unable or otherwise failing to pay its share of decommissioning and remediation costs for Unit 3?
4. What are the economics of the high-cost scenario under a “low gas” scenario forecast?
5. How are the economics of Colstrip Units 3 & 4 affected if natural gas prices continue to remain relatively flat?
6. What are Avista’s best estimates of remediation and decommissioning costs associated with Colstrip Units 3 & 4?
7. Has the Company quantified capacity replacement costs for Colstrip Units 3 & 4 that it could use as a basis of seeking replacement capacity as an alternative to any large capital investments it faces at Colstrip?
8. What is the risk of the failure of a large cost component of Colstrip Units 3 & 4 (such as: the heat exchangers, steam turbine or drive shafts) over Avista’s expected 20-year life of the plant?

The economic viability of Colstrip Units 3 & 4 are dependent on the outcome of numerous future events. To properly capture the expected cost of Colstrip over the 20-year horizon of the Plan, the probability of each event needs to be assessed and the cost weighted by its probability of occurrence. This comprehensive approach produces a probability distribution for the set of possible total cost outcomes of the operation of Colstrip Units 3 & 4 over the planning horizon. The Commission recognizes that the approach taken to achieve this analysis may vary; however, regardless of the approach used, each utility’s resource plan must comprehensively assess all categories of cost and risk, particularly for complex resources like Colstrip Units 3 & 4 that are included in the Plan.

In its next IRP, Avista should assess all categories of operational costs for Colstrip Units 3 & 4 and explicitly identify the range of possible costs in each category over the expected life of the units. Avista should also identify whether the costs are known or if they are open-ended. If costs are not known and measurable, the risk that such unknowns add to the utility portfolio should be identified by modeling a range of possible costs or other suitable means. As appropriate, the probability needs to be assessed and the cost weighted by its probability of occurrence. The Company’s 2019 Plan should clearly and transparently identify cost data and discuss in detail the relationship between the range of these input assumptions, portfolio modeling logic, and the output of the modeling, as well as how the Company used such analysis to choose its PRS.

¹⁵ Riverstone purchased the assets of Talon Energy.

b. Conservation Potential Assessment

In its comments in this docket, Commission Staff wrote that it has concerns with how the Company performs its conservation potential assessment (CPA), such as the Company's exclusion of conservation measures from the CPA prior to determining its technical potential.¹⁶ We share Staff's concern. It is critical that the Company achieve all cost-effective conservation, not only because this is required under the Energy Independence Act, but also because conservation and efficiency resources are the foundation of a least-cost resource stack.

In its 2019 IRP, the Company must ensure the entity performing the CPA evaluates and includes the following information:

1. All conservation measures excluded from the CPA, including those excluded prior to technical potential determination.
2. The rationale for excluding any measure.
3. A description, and source, of Unit Energy Savings data for each measure included in the CPA.
4. An explanation for any differences in economic and achievable potential savings.

The Company should also share its proposed energy efficiency measure lists with the Conservation Advisory Group prior to completing the CPA.

c. Demand Response and Advance Metering Infrastructure (AMI) Project

In previous filings before the Commission, the Company has indicated that it intends to deploy Advance Metering Infrastructure (AMI) technology. According to the Company, the purported benefits of AMI include time-of-use and capacity-based pricing that can reduce cost to the utility and its ratepayers as well as support additional energy efficiency. However, the 2017 IRP does not consider the adoption of AMI technology in its energy efficiency or demand response modeling, nor does it demonstrate any potential benefits of deploying AMI. The Commission notes that the IRP is also one of the Company's opportunities to develop a record for the future demonstration of prudent resource acquisition.

d. Forecasted Price of Natural Gas

The forecasted price of natural gas is one of the most significant inputs to an IRP. To forecast such prices over the 20-year horizon of its IRP, Avista uses two methods, one for the short-term and another for the remaining term of the 20-year study period.

¹⁶ Commission Staff Comments Regarding Electric 2017 Integrated Resource Plan Under RCW 19.280 and WAC 480-100-238. October 30, 2017. P. 3.

The short-term forecast period uses two to three years of executed natural gas contracts, and the long-term forecast relies on a mix of consultant and institutional forecasts. Since at least 2011, the result has been a series of IRPs with high-side bias of natural gas prices throughout the 20-year horizon. The error in these repeated forecasts of higher natural gas prices is clearly evident in Avista's 2015 IRP.¹⁷ As the Company relies on its executed contracts for the short-term forecast, the bias materializes in the long-term forecasts.

The Commission does not expect utilities to predict future natural gas prices with perfect accuracy, acknowledging this exercise is a forecast. At a minimum, however, we expect the utility to question and investigate the facts and reasoning used by the consultants to derive their forecasts, given that past IRPs have included a high-side bias to natural gas prices. Prior to basing continued investment in an existing resource on long-term natural gas forecasts through the IRP planning horizon, Avista must ensure its natural gas price forecast represents the most reasonable expectation of the future.

e. Distribution System Upgrade Planning

In its 2017 IRP, Avista lists its distribution efficiency potential as less than one MW for winter peak reduction (MW) and energy (aMW).¹⁸ In the Commission's policy on energy storage, the Commission noted that the growth of distributed energy resources increasingly affects distribution grid operations.¹⁹ Through the IRP's discussion of transmission and distribution (T&D) planning, there are opportunities to evaluate alternative technologies to solve T&D constraints. As such, during the time that the Commission considers whether to adopt rules governing transmission and distribution planning, the Commission expects utilities to apply the same IRP principles to evaluate distribution system projects on a more granular basis.

Specifically, any analysis of a distribution system upgrade should include consideration of storage options that capture locational benefits associated with the site in question. Avista states that its proprietary Avista Decision Support System tool is capable of capturing sub-hourly benefits. The Commission encourages Avista's use of sub-hourly models in the core IRP development process to identify distribution system enhancements in its next IRP. Further, Avista should perform a study to determine ancillary services valuation in the market and use that value to evaluate the cost effectiveness of storage and peaking technologies using intra-hour

¹⁷ Docket UE-101482, Avista 2011 Electric IRP, pp. 7-5, Docket UE-121421 Avista 2013 Electric IRP, pp. 7-29, Docket UE-143214 Avista 2015 Electric IRP, pp. 10-7.

¹⁸ Page 11-7 of Avista's 2017 IRP.

¹⁹ Dockets UE-151069 and U-161024 (*Consolidated*): Report and Policy Statement on the Treatment of Energy Storage Technologies in Integrated Resource Planning and Resource Acquisition (October 11, 2017).

modeling capabilities.²⁰ The Commission advises Avista to model generic commercially available storage technologies within the IRP, including consideration of efficiency rates, capital cost, operation and maintenance, life cycle costs, and ability to provide non-power supply benefits.

f. Optimal Planning Reserve Margin

For the 2017 IRP, Avista's peak planning methodology includes operating reserves, regulation, load following, wind integration, a 14 percent planning margin over winter-peak load levels, and a 7 percent planning margin over summer-peak load levels. The Company's total requirement for planning margin and other reserves equates to a 22.6 percent planning margin. Avista stated in its IRP that it does not plan to use short-term market purchases to meet the 14 and 7 percent planning margin requirements. The Commission considers this the correct approach and the proper fulfillment of the Company's obligation to acquire resources to meet customer demand. In the 2019 IRP, the Commission urges Avista to monitor winter and summer resource adequacy and continue to analyze planning margins, using its loss of load model, and continue to work with the Council to validate and update its requirements while examining additional tools such as Expected Loss of load and Expected Unserved Energy.

g. Update Legacy Studies

For the 2017 IRP, ancillary services from storage and natural gas-fired resources were valued using the method of analysis from the 2015 IRP cycle. For future IRPs, citations to legacy analysis should be accompanied by a rationale for why the study does not need to be updated.

h. Portfolio Scenario Cost Comparison

To determine its Preferred Resource Strategy, Avista uses its PRiSM model to develop an efficient frontier that weighs the costs and risks of each portfolio scenario, in line with statutory requirements to consider the lowest reasonable cost portfolio.²¹ In this IRP, Avista chose the least-cost portfolio along its efficient frontier.²² Avista notes that in previous IRPs, the Company has selected a portfolio with a lower risk but a higher cost.

In displaying the costs and risks of a portfolio scenario in its IRP, Avista should prominently display a comparison chart of the present value of revenue requirement of each portfolio scenario

²⁰ Ancillary services include, but are not limited to, spinning reserves, moving load following demand, voltage regulation and/or frequency response.

²¹ RCW 19.280.030(f).

²² Avista 2017 Electric IRP, at pp. 11-14.

along with its associated risk. This will aid the Commission, stakeholders, and state policymakers in comparing the tradeoffs of one portfolio with another.

i. Emissions Price Modeling and Cost Abatement Supply Curve

State statute and Commission rule require an electric utility's preferred portfolio to represent the lowest reasonable cost, which includes "public policies regarding resource preference adopted by Washington state or the federal government, and the cost of risks associated with environmental effects including emissions of carbon dioxide."²³ That is, the Company must consider both known regulatory costs and the risk of future costs.

Since the 2015 IRP, there have been significant changes to greenhouse gas emissions regulations, including increases to the renewable portfolio standards in California and Oregon, possible repeal and replacement of the Clean Power Plan (CPP), the implementation of Washington's Clean Air Rule, and, more recently, ambiguity with the rule's legality. Despite the uncertainty surrounding the Clean Air Rule and the CPP, there continues to be considerable legislative and regulatory risk associated with greenhouse gas emissions. In the last two years at the Washington State legislature, more than a dozen bills were introduced that would impose a cost on greenhouse gas emissions, or place limits on emissions.²⁴ Voters rejected a carbon tax at the ballot in 2016,²⁵ but another initiative has been filed, which may appear on the ballot in November 2018.²⁶ Additionally, Washington State and the federal government are being sued to require regulation of the impacts of fossil fuels.²⁷

These uncertainties in carbon policy exemplify the shifting regulatory terrain challenging the Company's planning efforts. In this environment, it is imperative that utility planners recognize the risks and uncertainties associated with greenhouse gas emissions and identify a reasonable, cost-effective approach to addressing them.

²³ RCW 19.280.020(11); WAC 480-100-238(2)(b).

²⁴ See, e.g. HB 1144, HB 1155, HB 1646, HB 2230, HB 2839, SHB 2995, SB 5127, SB 5385, SB 5509, SB 5930, SB 6096, SB 6203, SB 6335, and SB 6629.

²⁵ Washington Carbon Emission Tax and Sales Tax Reduction, Initiative 732.

²⁶ Seattle Times, "New Washington initiative would put fee on carbon emissions", March 2, 2018. <https://www.seattletimes.com/seattle-news/environment/new-washington-initiative-would-put-fee-on-carbon-emissions/>

²⁷ Associated Press, "Activists Sue Washington State for Tougher Climate Policy", February 16, 2018. <https://www.usnews.com/news/best-states/washington/articles/2018-02-16/activists-sue-washington-state-for-tougher-climate-policy>, and Bloomberg, "Teenagers Defeat Trump's Move to Kill Climate Change Lawsuit", March 7, 2018. <https://www.bloomberg.com/news/articles/2018-03-07/youths-defeat-trump-s-move-to-kill-climate-change-lawsuit>

Avista's IRP includes three stochastic studies—the PRS, a case with the social cost of carbon, and a benchmarking case excluding a cost of carbon. The PRS modeled emissions restrictions that result in an emission price as an output, or shadow price, rather than directly assigning emission prices as an input. The Company only included existing state and Canadian provincial carbon trading and taxing regulations.²⁸ In contrast, the 2015 IRP used a fixed price of \$13 per metric ton as an input into the model. Avista made the methodological change because it believes there is great uncertainty regarding future regulations and any estimated price of carbon would be arbitrary.²⁹ As a result, the model in the 2017 preferred portfolio produces a cost of carbon shadow price of prospective environmental regulations near zero, depending on the water year, until the early 2020's, that remains below \$5 per metric ton until 2030.

As we note at the beginning of this document, RCW 19.280.030(f) requires utilities to prepare a long term plan that identifies the near term and future needs at the lowest reasonable cost and risk to the utility and its ratepayers. The law requires that the utility, in determining the lowest reasonable cost, consider "the risks imposed on the utility and its ratepayers, public policies regarding resource preference adopted by Washington state or the federal government, and the cost of risks associated with environmental effects including emissions of carbon dioxide."³⁰ By modelling only existing state and provincial regulation in its preferred portfolio, the Company's price of carbon does not consider the complete risk of additional regulation and, as a result, risks not meeting the statutory requirements. In future IRPs, Avista should incorporate in its preferred resource strategy the cost of risk of future greenhouse gas regulation in addition to known regulations. This cost estimate should come from a comprehensive, peer-reviewed estimate of the monetary cost of climate change damages, produced by a reputable organization. We suggest using the Interagency Working Group on Social Cost of Greenhouse Gases estimate with a three percent discount rate.³¹ Avista should also continue to model other higher and lower cost estimates to understand how the resource portfolio changes based on these costs.³²

The Company must also develop a supply curve of emissions abatement measures in its next IRP. We envision this as a tool that considers all mechanisms for reducing emissions – such as

²⁸ Avista 2017 Electric IRP, at pp. 7-4.

²⁹ Avista 2017 Electric IRP, at page 7-4 and Appendix A, p. 218.

³⁰ RCW 19.280.020(11).

³¹ See Technical Support Document:-Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis – Under Executive Order 12866- Interagency Working Group on Social Cost of Greenhouse Gases, United States Government. August, 2016. https://www.epa.gov/sites/production/files/2016-12/documents/sc_co2_tsd_august_2016.pdf.

³² For example, for complying with Washington state Executive Order 14-04, the Washington State Energy Office recommends state agencies use the Interagency Working Group on Social Cost of Greenhouse Gases estimate with a two and one-half percent discount rate.

energy efficiency, emissions controls, and plant conversions – and their costs. This analysis should identify all programs and technologies commercially available in Avista's service area, then use the best available information to estimate the amount of emissions reductions each option might achieve, and at what cost. This tool would increase transparency on the issue, and would allow the Company, the Commission, and stakeholders to engage in meaningful and informed conversations regarding the costs and benefits of reducing Avista's emissions. It would also guide policymakers in their efforts to reduce emissions in a least-cost manner. We encourage the Company to work with Staff and members of the Advisory Committee, who can provide further detail and assist in scoping this request.

IV. Public Process

The process for developing the 2017 IRP saw a high level of public participation. IRP Advisory Committee meetings were well attended by customers, advocates, and industry experts. Furthermore, the Commission received more than 100 individual written comments from customers and elected officials. The vast majority of the commenters urged the Commission to require that Avista close Colstrip Units 3 & 4.

At the request of stakeholders, the Commission held the Company's IRP presentation in Avista's service territory. On November 8, 2017, the Commission held its Recessed Open Meeting in Spokane Valley for Avista's presentation of its IRP, and to hear oral comments from customers and stakeholders. The majority of commenters at the meeting asked that the Commission do everything within its authority to expedite the closure of Colstrip Units 3 & 4.

It is important that the Commission take this opportunity to thank the members of the public that participated in the Company's Advisory Committee process, commented in the docket, and made oral statements at the public meeting. Public participation is not only required by law, but is necessary to ensure transparency into the utility and the Commission's actions.

We also note that the IRP is the Company's 20-year plan, and the Commission does not determine whether to approve or reject the IRP. The IRP is an analysis of the economics of a utility's operations and makes various assumptions about the future. It is one opportunity for the Company to lay the groundwork for demonstrating that its actions are prudent and in the public interest. The Commission, in turn, has an opportunity to opine on the Company's analysis and provide it with feedback and direction, which we have done in this Acknowledgment Letter.

As the Commission has noted in the past, we continue to expect the Company to provide written responses to all Advisory Committee questions submitted to the Company in writing, and to provide minutes for each Advisory Committee meeting.

V. Conclusion

The Commission acknowledges that Avista's 2017 Electric Integrated Resource Plan complies with RCW 19.280.030 and WAC 480-100-238, on the condition that the recommendations made concerning the 2017 IRP are addressed in its submission of the 2019 Integrated Resource Plan. The Commission expects Avista to follow the recommendations outlined in this letter as it develops future IRPs.

VI. Separate Statement of Commissioner Balasbas on Part III i.

I agree with my colleagues that in future IRPs, Avista should incorporate the cost of risk of future greenhouse gas regulation in addition to known regulations in its preferred portfolio. However, for the reasons outlined below, I respectfully disagree with my colleague's expectation that Avista use in its preferred portfolio the social cost of carbon as the proxy for future greenhouse gas regulation.

The 2018 legislature considered, but did not take final action on, House Bill No. 2839 and Senate Bill No. 6424. These bills, among other provisions, amended Commission statutes to require use of a "greenhouse gas planning adder" when evaluating integrated resource plans as well as intermediate-term and long-term resource options selected by electrical and gas companies under Commission jurisdiction.³³ The greenhouse gas planning adder can also be referred to as the social cost of carbon. The legislature's mere consideration of this provision indicates there is not clear authorization in current statute for the Commission to require use of the social cost of carbon in IRPs.

The expectation for Avista to use the social cost of carbon in its preferred portfolio is a clear statement that the 2018 legislation was irrelevant. I strongly disagree and would instead defer to the legislature's judgment of the Commission's statutory authority.

When commenting on IRPs, it is appropriate for the Commission to request scenarios using specific assumptions. However, I do not believe the Commission should mandate use of specific assumptions in the *utility's* preferred portfolio. My preference would have been to ask Avista to model a separate scenario in its 2019 IRP that uses the social cost of carbon. Then Avista can decide whether that model outcome should be used in its preferred portfolio (i.e. the lowest reasonable cost portfolio).

Finally, I disagree with my colleagues mandating the use of the social cost of carbon to represent the "lowest reasonable cost" portfolio. As the Federal Energy Regulatory Commission recently stated in an order, "Without complete information, an analysis using the Social Cost of Carbon

³³ ESHB 2839, Section 3

calculations would necessarily be based on multiple assumptions, producing misleading results.”³⁴ While IRPs are by necessity assumption driven, I am concerned that requiring use of a speculative tool to choose a preferred portfolio could lead to higher than necessary rates for utility customers.

³⁴ FERC Docket Nos. CP14-554-002, CP15-16-003, CP15-17-002 Order on Remand Reinstating Certificate and Abandonment Authorization, ¶ 41 (Issued March 14, 2018)