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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF AVISTA)	
CORPORATION'S 2017 ELECTRIC)	CASE NO. AVU-E-17-08
INTEGRATED RESOURCE PLAN)	
)	COMMENTS OF THE
)	COMMISSION STAFF
)	

COMES NOW the Staff of the Idaho Public Utilities Commission, by and through its Attorney of record, Daphne Huang, Deputy Attorney General, and in response to the Notice of Filing and Notice of Modified Procedure issued in Order No. 33900, submits the following comments.

BACKGROUND

On August 31, 2017, Avista Corporation dba Avista Utilities filed its 2017 Electric Integrated Resource Plan (IRP). The IRP outlines and analyzes the Company's strategy for meeting its customers' projected energy needs over the next 20 years.

The Company states its 2017 Preferred Resource Strategy (PRS) includes energy efficiency, generation upgrades, and new natural gas-fired generation. PRS development depends on modeling techniques to balance cost, reliability, rate volatility, and renewable resource requirements. The Company's management and Technical Advisory Committee (TAC) guide the development of the PRS and IRP by providing input on modeling and planning assumptions.

TAC members include customers, Commission Staff, the Northwest Power and Conservation Council, consumer advocates, academics, environmental groups, utility peers, government agencies, and other interested parties. *Id.*

The Company states its 2017 PRS describes a reasonable low-cost plan along the efficient frontier of potential resource portfolios accounting for fuel supply risks and price risks. *Id.* Major changes from the 2015 IRP include a reduced contribution from natural gas-fired peakers, and inclusion of demand response, solar, and storage resources. *Id.*

The Company also states it values each new resource and energy efficiency option against the Expected Case Mid-Columbia electricity market price forecast to identify its future value and inherent risk measured by year-to-year portfolio cost volatility. The Company then inputs these values and their associated capital and fixed operation and maintenance costs into a PRS Linear Programming Model (PRiSM) that optimally mixes new resources along an Efficient Frontier. *Id.*

The Company's IRP describes the Company's plan for complying with the State of Washington's Energy Independence Act (EIA). The Company explains that Washington's EIA required or requires the Company to meet 9% of retail load from qualified renewable resources by 2016 and 15% by 2020. The EIA also requires the Company to acquire all cost-effective conservation and energy efficiency measures. The Company states it will satisfy its EIA obligations through the IRP timeframe by combining qualifying hydroelectric upgrades, the Palouse Wind project, and Kettle Falls Generating Station output. *Id.*

The Company reports its 2017 Action Items chapter outlines activities the Company intends to perform between the publication of the 2017 IRP and publication of its 2019 IRP. The Company notes the 2017 Action Items are based on input from Commission Staff, the Company's management team, and the TAC, and action item categories include generation resource-related analysis, energy efficiency, and transmission planning. *Id.* at 1-7.

STAFF ANALYSIS

The Avista 2017 IRP guides the Company's resource strategy for the next two years and provides insight into its preferred resource procurements for the next 20 years. Through analysis of existing energy resources and load and future energy needs, the Company shows it can meet customer energy needs through 2037 with Company-owned or contractually-controlled generation resources, conservation, and market purchases. However, the Company expects a capacity deficit in November 2026 if new resources are not added to the system. Staff believes the Company's

IRP satisfies the Commission's requirements as outlined in Order No. 22299 and as later adopted in Order Nos. 24729 and 25260. Although Staff believes the IRP meets its regulatory obligations, Staff identified deficiencies that may have impacted the selection of the Company's Preferred Resource Strategy.

Economic and Load Forecast

Staff reviewed the assumptions, methodologies, and models used in the load forecast and believes the load forecasts prepared by Avista for its 2017 IRP are reasonable. Avista projects annual load growth will decrease from the 0.6% found in the 2015 IRP to 0.47% in the 2017 expected case energy forecast.

Avista builds generation capacity to meet winter and summer peak loads and uses historical temperature extremes for peak load forecasting. The highest peak loads are expected to occur in winter where peak loads reflect a greater range of temperature fluctuation and use per customer. However, summer peak load is forecasted to grow faster than winter peak and could result in a future summer peak load exceeding winter peak.

Peak load growth is projected to be lower than energy growth. Winter peak is expected to grow by 0.42% annually and summer peak is expected to grow by 0.46% annually. This is a decrease from the 2015 IRP winter peak growth rate of 0.74% and a summer peak growth rate of 0.85%.

Existing Supply Resources

Avista's existing resources mix is approximately equal parts hydroelectric and thermal resources. IRP at 6-1. The Company owns six hydroelectric projects on the Spokane River and two on the Clark Fork River for a total of 972 megawatts (MW) of nameplate hydro capacity. The Company owns seven thermal resources (one coal, five natural gas, and one wood burning facility), all of which are expected to operate through the 20-year IRP planning period. The Company's coal resource is a 15% ownership in Colstrip plant Units 3 and 4 (247 MW). The Company's natural gas resources are the Rathdrum (167 MW), Northeast (61 MW), Boulder Park (25 MW), Coyote Springs 2 (288 MW), and the Kettle Falls Combined Turbine (8 MW). The remaining Company-owned thermal resource is the Kettle Falls wood-fired facility (51 MW).

In addition to those Company-owned resources, Avista also buys energy through Mid-Columbia hydro contracts (165 MW), PURPA contracts (47 MW), and other contractual rights

and obligations (416 MW). The Lancaster power purchase agreement is by far the largest of these contracts (283 MW). Lastly, the Company has about 3.5 MW of customer-installed generation, most of which is rooftop solar. The Company issued a Request for Proposal (RFP) in April 2017 to develop a 15 MW community solar project to meet increasing demand of commercial and industrial customers for 100% renewable energy.

The Company's load and resource balance compares the capabilities of existing resources with monthly forecast average load and peak demand over the 20-year IRP planning period. Without new resources, the Company expects to be capacity deficit in November 2026.

Energy Efficiency and Demand Response

Avista has a long history of successfully acquiring demand-side management (DSM) resources. The Company reports its DSM efforts since 1978 have decreased its load requirements by about 12%. The 2017 IRP identifies 88,000 megawatt hours (MWhs) of savings in 2018, which increases to 1,516,000 MWhs of cumulative savings in 2037. This IRP also estimates 53% of future load growth can be served with demand-side resources, which delays the Company's first year capacity deficit by five years from what it would have been without DSM. IRP at 5-1 and 6-1.

As a result of an action item in the Company's 2013 IRP, Avista's 2015 IRP began testing a methodology to model demand-side resources concurrently with supply-side resources in PriSM, the Company's resource selection model. Avista refers to this process as "co-optimization." IRP at 5-6. In previous IRPs, the Company used the traditional method of estimating the amount of achievable energy efficiency in a Conservation Potential Assessment and included that amount of energy efficiency in the PRS. The 2015 IRP used both methods in order to test the co-optimization next to the traditional method and found that while co-optimization did not change the amount of energy efficiency in the PRS, it included differing levels of efficiency in each portfolio along the Efficient Frontier which the Company may select depending on its preference for risk-reduction in future scenarios.

During the development of the IRP, Staff asked the Company to model Idaho DSM resources using utility costs rather than total costs. Although the Company had already modeled resources in this IRP based on total costs, it responded to Staff's request in two ways. First, the Company applied a 1.28 adjustment factor to the already-identified DSM savings in order to approximate the amount that would have been identified using only utility costs. This method

identified 15,370 MWh of Idaho savings in 2018. Second, the Company committed to using only utility costs when it models Idaho DSM in its 2019 IRP.

Staff believes modeling supply-side and demand-side resources concurrently using only costs incurred by the Company is important to ensure both types of resources are given equal treatment in the IRP process. Staff appreciates the significant progress Avista has made towards this goal and looks forward to full implementation in the 2019 IRP.

In addition to energy efficiency, Avista also explored options for demand response in its 2017 IRP. The Company considered residential demand response, but determined the high-penetration of natural gas space and water heat, low customer interest, and the Company's inability to offer an incentive while remaining cost-effective made the program unworkable. Although residential demand response was not feasible in this IRP, the Company remains committed to re-evaluating the possibility for residential demand response to meet winter or summer capacity needs in its 2019 IRP.

Although residential demand response was not feasible, the Company retained Applied Energy Group to study the potential for commercial and industrial demand response in this IRP. Using primarily firm curtailment, but also direct load control and opt-in critical peak pricing, the study found the Company has 6 MW of achievable demand response in 2018, increasing to 27 MW by 2037.

Long Term Position

Avista's first capacity deficit and energy deficit both occur in 2026. IRP at 6-1. The expiration of the 283 MW Lancaster power purchase agreement drives the Company's next resource deficiency. The Lancaster contract expires in 2026 and the Company plans to build a 204 MW natural gas peaker plant that year, and to begin investing in 34 MW of thermal upgrades to make up the difference. The 2017 IRP assumes the Lancaster contract will not be renewed, but [REDACTED]. Avista has not adequately explained why the IRP does not consider a Lancaster contract extension. Avista plans to build a generating resource to meet the load formerly served by Lancaster. Staff believes the Company still should have modeled scenarios that included renewing the Lancaster contract to determine the most economic resource for customers.

Avista explained that it carefully considers reserve margins requirements when establishing its capacity and energy deficits. Reserve margins are the amount of capacity a utility

must have available in the event load exceeds expectations or resource output is compromised because of unplanned events, including outages and unexpected weather events. Reserve margins for the Company were developed to accommodate a large hydroelectric system, where higher planning margins are required to account for water condition variability. In addition to hydro conditions, the Company's contingency case also carefully considered the impact of an outage at Coyote Springs 2 plant because it is the Company's largest plant relative to meeting peak load.

After analysis that included comparing the deviation between summer and winter load, the Company determined a 14% winter peak hour planning margin was sufficient. Including operating reserves, Avista plans using a 22.6% planning margin in the winter. Because the Northwest Power and Conservation Council's (NWPPCC) loss of load probability study projects deficiencies in 2021 stemming from major coal plant retirements, Avista included a summer peak hour planning margin for the first time. Because Avista's summer capacity is less constrained than winter capacity, Avista determined 7% (15.6% including operating reserves) was adequate.

Avista currently meets its reserve requirements with short-term spot market purchases, but because the NWPPCC shows this capacity is shrinking across the region, the Company intends to meet the planning margin using Company-owned resources or power purchase agreements. Reserve margins can increase customer rates because it is costly to maintain infrequently used resources. However, recent Western Electric Coordinating Council reserve rule changes allow the Company to hold less spinning reserves and instead implement additional frequency response reserves. Staff acknowledges the Company's efforts to optimize planning reserves to mitigate customer expenses, even though it creates operational complexity.

Policy Considerations

Avista's Climate Policy Council monitors the Company's exposure to environmental regulations. At the state level, the most notable regulations are Washington's Renewable Portfolio Standard (RPS) and Washington's Clean Air Rule which were implemented January 1, 2017. The RPS will be met through a combination of hydroelectric upgrades, the Palouse Wind power purchase agreement, and the Kettle Falls Generation facility. The Company does not have any generation that falls under the Clean Air Rule.

At the federal level, the Environmental Protection Agency's (EPA's) Clean Power Plan (CPP) and the Regional Haze Rules impact the Company's generation fleet. The Company states that "this IRP used the CPP goals to guide the development of the emission reduction forecast of

this IRP” and that the CPP was “used to develop this IRP,” but the Company did not clearly state that each of the Company’s portfolios comply with the existing rule.

The Regional Haze Federal Implementation Plan (FIP) for Montana was finalized September 2012. The Company states: “Colstrip Units 3 and 4 are not currently affected, although the units will be evaluated for Reasonable Progress at the next review period in September 2017. Avista does not anticipate any materials impacts on Colstrip Units 3 and 4 at this time.” IRP at 7-6.

However, the Montana Department of Environmental Quality Operating Permit Technical Review Document (effective June 21, 2015) states:

Construction of the Units 3 and 4 fell outside the applicability timeframe identified within the [Clean Air Act]; therefore, a [Best Available Retrofit Technology] analysis was unnecessary for those particular units. In addition, EPA did not require emission limits or controls pursuant to the Reasonable Progress portion of the Regional Haze FIP for Units 3 and 4.

Staff recommends the Company specify what capital investments, if any, are required to meet all state and federal regulations, including Regional Haze requirements, for Colstrip Units 3 and 4 over the 20-year planning period.

Transmission and Distribution Planning

Staff believes Avista’s 2017 IRP thoroughly identified, analyzed, and planned for transmission and distribution needs. As part of the bulk electric system, the Company is obligated to coordinate transmission planning activities with neighboring utilities and compliance entities. The Company must maintain reliable transmission and distribution systems and plan for projects that impact the Western Interconnect.

Avista actively participates in regional transmission planning forums and develops an annual transmission and distribution plan. The Company’s planning assessment identifies projects needed to mitigate future reliability and load-service requirements. Planned projects include transmission line rebuilds for system reinforcement, mitigation for voltage rises that exceed facility ratings, station rebuilds and breaker replacements to resolve performance issues, and supervisory control and data acquisition installations for operational resilience.

Avista states its distribution planning identifies system capacity and service reliability constraints. Several pilot projects have been deployed to determine the best practice for meeting

customer needs while maintaining reliability. The Company states that as storage, photovoltaic solar, and demand response technologies mature, they will likely play a larger role as either primary or capital deferment solutions for future distribution constraints.

Generation Resource Options

Avista considered a range of generating resources to meet future capacity and energy deficits. The Company stated it “only modeled resources with well-defined costs and operating histories as options to meet future resource needs.” IRP at 9-1. Included in this list of modeled resources were “natural gas-fired combined cycle combustion turbines (CCCT), natural gas fired reciprocating engines, large scale onshore wind, energy storage, photovoltaic solar, hydroelectric upgrades, and thermal unit upgrades.” IRP at 9-1. Other generation resources, such as woody biomass, geothermal generation, landfill gas, anaerobic digesters, cogeneration, nuclear, off-shore wind, and new coal were analyzed for cost but not explicitly modeled because they are either not available at an appropriate size, location, and price for Avista’s needs, or they have significant waste and emissions requirements.

Market Analysis

Avista’s 2017 IRP modeled market conditions and net market values to select future resource portfolios. The Company used the AURORA model with an area resource base of approximately 240,000 MW to simulate the Western Interconnect electricity market and estimate the dispatch of resources to serve regional loads “given fuel prices, hydroelectric conditions, and transmission and resource constraints.” IRP at 10-1. This regional market analysis lets the Company evaluate new resource options on “their net value within the wholesale marketplace, rather than the summation of their installation, operation, maintenance and fuel costs.” IRP at 10-1. The Company states natural gas, solar, wind, and storage resources are projected to dominate new generation additions in the Western Interconnect with emission constraints, coal plant closures, and low natural gas prices contributing to that outcome.

This analysis resulted in a 20-year levelized price of Mid-Columbia energy at \$35.85 per MWh and \$4.20 per dekatherm (Dth) for Stanfield natural gas over the planning period. Fuel cost and availability are identified as important drivers of the wholesale electricity market and resource valuation.

Staff appreciates the efforts taken to forecast future energy usage and acknowledges forecasting future energy use and market prices is challenging. Staff reviewed the inputs and assumptions used in this modeling and found most of them to be reasonable. In particular, Staff supports the Company's inclusion of negative pricing in its pricing model. However, Staff has concerns about the natural gas and coal price forecasts Avista used to model both regional and Company-owned resource dispatch.

When developing the first five years of its natural gas price forecast, Avista used a combination of "market forwards" (contract prices for natural gas future options) and a forecast from a "prominent energy consultant." IPR at 10-7. The first two years of the forecast are based entirely on market forwards, with a 25% shift in the weighting between market forwards and the consultant's forecast over the next three years. The last fifteen years of the forecast are based entirely on the consultant's forecast:

Years 2018-2019: 100% market forwards
Year 2020: 75% market forwards, 25% consultant
Year 2021: 50% market forwards, 50% consultant
Year 2022: 25% market forwards, 50% consultant
Years 2023—2037: 100% consultant

IRP at 10-7.

Staff believes using market forwards to support near-term forecasts may be reasonable. However, Staff is concerned the Company's gas price forecast remains extremely low throughout the entire planning period. Staff determined Avista's gas price forecast is very similar to the Energy Information Administration's High Oil and Gas Resource Technology case, which aligns closely with current market forward prices extended over 20 years. Staff believes planning to an extremely low gas price forecast is inappropriate because it assumes a "best case" scenario rather than a robust planning criteria designed to limit disproportionate price risk.

Staff also has concerns with the Company's coal price forecast for Colstrip. The Company states that regional coal plants, which usually have medium to long-term fuel contracts, are modeled using publically available coal prices from the Federal Energy Regulatory Commission because coal price contracts for individual plants are not publically available. These prices are escalated at 1.2% for railed coal and 1.4% for mine mouth coal over the 20-year IRP planning period. When it modeled future coal prices for Colstrip Units 3 and 4, "Avista used escalation rates based on expectations from existing and . . . future contracts." IRP at 10-8.

But Staff found Colstrip's coal contract expires in 2019 and the Rosebud mine (owned by Westmoreland) that feeds Colstrip is expected to be depleted in 2024.¹ Given those constraints, Staff asked Avista how it modeled fuel price risk for Colstrip in this IRP. The Company responded that it did not consider fuel availability or price increases to be risks for Colstrip and therefore did not model those risks. While this may be justified, the Company did not provide any evidence supporting its claim that coal price risk is not a significant factor for Colstrip operations. Staff recommends that price risk for coal associated with Colstrip operations be explicitly modeled in the Company's 2019 IRP.

All 23 customer comments filed in this case related to Colstrip. Most of the comments opposed investing in the plant and a few supported the plant. Staff recognizes the valid concerns of these customers and continues to scrutinize this and other resource investments.

Staff also reviewed the Company's change in its price forecast that now allows for negative pricing during high-load periods. The Company states: "[t]raditionally, [negative pricing] events occur at night when loads are lower. Given increasing solar penetration, negative pricing is now occurring during the mid-afternoon." IRP at 10-22. A change in the supply curve of the hydro resources now allows negative marginal pricing, "which is important to avoid overvaluing solar and other non-dispatchable resources during oversupply events." IRP at 10-22. In addition, this allows better dispatch of least cost generation, thereby decreasing operation costs. Staff believes this change is reasonable to get the most accurate valuation and dispatch of resources.

Preferred Resource Strategy

The Preferred Resource Strategy is the Company's plan to meet resource needs over the 20-year IRP planning period. The PRS is developed by first calculating the operating costs of existing resources and new potential resources using AURORA with Expected Case forecasts of fuel costs, customer load, and hydro conditions. The Company's internally-developed PRiSM model "evaluates resource values by combining operating margins with capital and fixed operating costs" to create "an Efficient Frontier of resources, or least-cost portfolios, given a certain level of risk and constraints." IRP at 11-5. Avista's management chooses the PRS from the Efficient Frontier of portfolios depending on its risk and cost preferences.

¹ Westmoreland Coal Securities Exchange Commission (SEC) Form 10-K.

Avista's 2017 Preferred Resource Strategy				
Resource	By End of Year	ISO Conditions (MW)	Winter Peak (MW)	Energy (aMW)
Solar (Solar Select Program)	2018	15	0	3
Natural Gas Peaker	2026	192	204	178
Thermal Upgrades	2026-2029	34	34	31
Storage	2029	5	5	-0
Natural Gas Peaker	2030	96	102	89
Natural Gas Peaker	2034	47	47	43
Total		389	392	344
Efficiency Improvements	Acquisition Range		Winter Peak Reduction (MW)	Energy (aMW)
Energy Efficiency	2018—2037		203	108
Demand Response	2025—2037		44	<0
Distribution Efficiencies			<1	<1
Total			247	108

IRP at 11-7.

Avista is currently acquiring a utility-scale solar facility for commercial and industrial customers voluntarily choosing solar for their power supply mix. The Company determined that program options are more competitive compared to building new resources and is therefore starting a commercial demand response program in 2025. The Company plans to upgrade existing thermal facilities prior to the 2026 deficit, and intends to replace the Lancaster Facility with new natural gas peakers at the end of the power purchase agreement in 2026.

There are significant changes from the PRS identified from the 2015 IRP to the current PRS, mostly driven by lower load growth projections and contract extensions that pushed resource needs out from 2020 to 2026. In the 2017 IRP, new resource needs are 191 MW lower due to reduced load growth, there is a higher conservation projected at system peak, and demand response and storage are added. The Company believes it will acquire less energy efficiency due to lower projected loads, but it estimates energy efficiency will offset 53% of projected load growth throughout the 20-year planning period.

Although PRiSM created 15 portfolios along the Efficient Frontier with varying levels of risk and cost, Staff notes the Company selected the least cost, but highest risk, portfolio. Staff recognizes the Company believes the increase in price was not sufficient for the risk reduction provided by the higher cost-portfolios. Staff encourages the Company to carefully consider risk mitigation since such a large portion of its future generating resources depends on historically volatile natural gas.

Portfolio Scenarios

After developing the PRS under the Expected Case, Avista modeled several additional futures around higher or lower than the Expected Case load forecast: early Colstrip retirement dates, meeting resource deficiencies with market purchases, meeting resource deficiencies exclusively with market purchases, and a CCCT to replace Lancaster. Staff acknowledges the Company's effort to respond to stakeholder requests for alternate scenario analysis and is primarily concerned with the alternate load forecasts and Colstrip retirement analyses.

Avista states changes to the load forecast impacted the size and timing of resource acquisition, but it did not significantly change the resource selection. In its Portfolio Scenarios, Avista clarified the assumptions for Colstrip capital expenses in its Expected Case and modeled two additional Colstrip scenarios, one with a 2030 retirement date and one with a 2035 retirement date.

In the Expected Case, Colstrip is cost-effective for the 20-year IRP planning period, but dispatches less due to carbon regulation projections, receives Selective Catalytic Reduction (SCR) in 2028, incurs significant capital expenses for Coal Combustion Residual (CCR) requirements and water management issues, and incurs increased operating and management costs when Units 1 and 2 retire. These environmental investments were not mentioned in the Company's earlier description of Colstrip compliance costs (see IRP at 7-6), so Staff reiterates its recommendation that the Company clearly identify the specific regulatory requirement driving each investment.

The 2030 and 2035 Colstrip retirement dates were selected to reflect plausible retirement dates. Staff believes these adequately reflect the retirement dates that appear to be under consideration by Colstrip's co-owners in Oregon and Washington. According to the Company, early retirement avoids the SCR investment, but merely accelerates the timeline for installing CCR requirements. The Company's IRP did not identify either the cost of the SCR's or the CCR requirements and it did not explain why CCR requirements are not avoided in early retirement.

For the 2030 retirement, the Company replaced the Colstrip resource with natural gas peakers and a CCCT. The 2035 retirement "only shows replacement with peakers," but the Company states that a CCCT could also replace the plant. IRP at 12-3. The Company's analysis found that "[r]etiring Colstrip early increases costs compared to the PRS, while pushing the retirement date out to 2035 is the least cost of the retirement scenarios...." IRP at 12-3.

Staff appreciates Avista's additional analysis of the Colstrip plant and encourages the Company to continue analyzing alternatives and cost mitigation strategies for the plant since the

plant's retirement is as likely to be driven by its co-owners' regulatory requirements as it is by Avista's economic analysis of the resource. In future analyses, Staff recommends the Company specify significant capital investments required for plant operation and provide a more transparent assessment of the costs and availability of fuel for the plant. If load growth continues to lag expectations, it may be possible to meet customer demand with a resource mix that is smaller, less expensive, and takes advantage of low market prices more than the Company's current resource mix estimates.

Action Items

The 2017 IRP Two-Year Action Plan includes generation, energy efficiency/demand response, and transmission and distribution planning items the Company will implement in order to support its PRS.

To support its generation resources, the Company will review existing generation facilities for opportunities to upgrade capacity and improve efficiency and report progress on the Post Falls Hydroelectric redevelopment project. Commercially available storage technologies will be modeled to include efficiency rates, capital cost, operation and maintenance, life cycle, and ability to provide non-power supply benefits. The Company will study the value of ancillary services for storage and peaking technologies. The Company also committed to continue studying the Energy Imbalance Market and planning for possible participation. Avista will also continue monitoring state and federal environmental policies affecting its generating fleet.

Regarding energy efficiency and demand response, the Company commissioned a 20-year Conservation Potential Assessment. The Company will also determine if and how to move from historical to forward-looking estimates of deferred transmission and distribution and evaluate alternative technologies to solve transmission and distribution constraints. The Company will examine the need for a residential demand response program and update the existing commercial and industrial analysis. For Idaho, Avista will use the Utility Cost Test methodology to screen energy efficiency program options.

The Company's ongoing transmission activities include participating in Bonneville Power Administration rate proceedings and in regional efforts to facilitate long-term economic expansion of the Western transmission system.

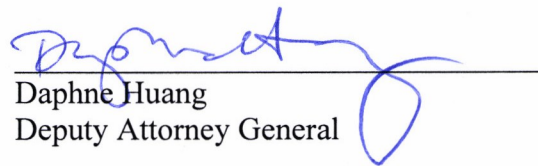
Staff believes the action plan is sufficient to implement the preferred portfolio.

STAFF RECOMMENDATION

After reviewing the Company's 2017 IRP, Staff believes the Company performed sufficient analyses, reasonably considered supply and demand-side resources, and provided acceptable opportunities for public input, resulting in an IRP that satisfies the requirements in Commission Order Nos. 25260 and 22299. Staff thus recommends the Commission acknowledge the Company's 2017 IRP.

Staff also recommends the Company expand its IRP analysis as explained in the above comments.

Respectfully submitted this 15th day of December 2017.


Daphne Huang
Deputy Attorney General

Technical Staff: Stacey Donohue
Joseph Terry


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CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT I HAVE THIS 15th DAY OF DECEMBER 2017, SERVED THE FOREGOING **COMMENTS OF THE COMMISSION STAFF**, IN CASE NO. AVU-E-17-08, BY MAILING A COPY THEREOF, POSTAGE PREPAID, TO THE FOLLOWING:

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