BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of Avista **Draft 2021 Electric Integrated Resource Plan**	**DOCKET UE-200301**
In the Matter of Avista **Draft 2021 Natural Gas Integrated Resource Plan**	**DOCKET UG-190724**

COMMISSION STAFF COMMENTS REGARDING AVISTA CORPORATION d/b/a AVISTA UTILITIES DRAFT INTEGRATED RESOURCE PLANS SUBMITTED IN COMPLIANCE WITH RCWs 19.405, 19.280 and WACs 480-90-238, 480-100-600 through -630 AND UNDER CONSOLIDATED DOCKETS UE-191023 AND UE-190698, Order R-601

February 5, 2021

Contents

Introduction

On January 4, 2021, Avista Corporation d/b/a Avista Utilities (Avista or company) submitted its draft Integrated Resource Plan (Draft IRP) in Dockets UE-200301 and UG-190724. The Washington Utilities and Transportation Commission (UTC or commission) posted a Notice of Opportunity to File Written Comments and Notice of Recessed Open Meeting. Written comments are due by February 5, 2021, and the recessed open meeting is scheduled for 9:30 a.m. on Tuesday, February 23, 2021. The company will file its completed 2021 IRP (Final IRP) with the Commission by April 1, 2021.[1]

Commission staff (Staff) prepared these comments to assess whether Avista's Draft IRP satisfies the rules and statutes governing the company's IRP filings, highlight areas of strength in the Draft IRP, suggest opportunities for improvement in the final IRP, and make recommendations for the clean energy implementation plan and the next integrated resource planning cycle. In developing these comments, Staff consulted with Jeremy Twitchell from Pacific Northwest National Laboratory.

Summary of Staff Assessment

Electric: Avista's public process, data transparency, and analysis of results were executed well. While the company's handling of equity and the customer benefit mandate is understandably underdeveloped, Staff is comfortable with the trajectory and looks forward to working closely with the company. However, the company's Draft IRP can be improved in terms of clarity and thoroughness in certain areas. Staff has concerns that the utility is undervaluing flexible resources such as storage, solar, and distributed energy resources (DERs), because of incomplete analysis of the impact of climate change, lack of sub-hourly modeling, the lack of a comprehensive DER resource assessment, and limited application of nonenergy impacts.

Avista plans to meet or exceed the clean energy standard by acquiring 375 MW of clean energy resources by 2031. As shown in Figure 1, the preferred portfolio (or preferred resource strategy as labeled in the Draft IRP) has Avista economically exiting Colstrip in 2021 and over 300 MW of natural gas plants by 2040. The preferred resource strategy includes the addition of new natural gas peakers for system reliability in 2027 and 2036.

Natural gas: Overall, Staff is satisfied with Avista's analysis and resulting preferred portfolio for natural gas with the data available to-date and through Advisory Group participation. Without inclusion of the appendices with the Draft IRP, there are details missing Staff has not been able to fully analyze. Given that no new, large resource acquisitions are anticipated for natural gas this document is heavily focused on the electric IRP. Recommendations for the IRP process for natural gas often overlap with electric; Staff provides targeted comments on separate areas specific to natural gas.

[1] *See* Docket UE-180738, Order 02 (Nov. 7, 2019) and Docket UG-190724, Order 01 (Feb. 6, 2020).

Resource Type	Year	State	Capability (MW)
Colstrip	2021	WA/ID	(222)
Montana wind	2023	WA	100
Montana wind	2024	WA	100
Lancaster	2026	WA/ID	(257)
Kettle Falls upgrade	2026	WA/ID	12
Natural Gas Peaker	2027	ID	85
Natural Gas Peaker	2027	WA/ID	126
Montana wind	2028	WA	100
NW Hydro Slice	2031	WA	75
Rathdrum CT Upgrade	2035	WA/ID	5
Northeast	2035	WA/ID	(54)
Natural Gas Peaker	2036	WA/ID	87
Solar w/ storage (4 hours)	2038	WA/ID	100
4-hr Storage for Solar	2038	WA/ID	50
Boulder Park	2040	WA/ID	(25)
Natural Gas Peaker	2041	ID	36
Montana wind	2041	WA	100
Solar w/ storage (4 hours)	2042-2043	WA	239
4-hr Storage for Solar	2042-2043	WA	119
Liquid Air Storage	2044	WA	12
Liquid Air Storage	2045	ID	10
Solar w/ storage (4 hours)	2045	WA	149
4-hr Storage for Solar	2045	WA	75
Supply-side resource net total (MW)			1,024
Supply-side resource total additions (MW)			1,581
Demand Response 2045 capability (MW)			71
Cumulative energy efficiency (aMW)			121
Cumulative summer peak savings (MW)			111
Cumulative winter peak savings (MW)			116

Figure 1: *2021 Preferred Resource Strategy*[2]

Gas Transportation Customer Conservation

One tangential issue Staff brings to the Commission's attention is the requirement in RCW 80.28.380 for the utilities to identify and acquire all conservation measures that are available and cost-effective. While it has been the practice of the utilities to exclude gas transportation customers from participating in their conservation programs, Staff struggles to find an exclusion for gas transportation customers in the statutory language of RCW 80.28.380. Staff notes that the IRP does not address the provision of gas for these customers; they acquire their own gas. Thus, the CPA typically included in a gas IRP has not historically included any assessment of conservation for these customers. There is, however, a linkage between the conservation potential for these very large gas transportation customers and the expected distribution system improvements the company includes in the IRP. Acquiring that conservation should reduce the need for distribution system improvements.

[2] *Avista Draft 2021 Electric Integrated Resource Plan*, Docket UE-200301, pp. 1-5, Table 1.1 , (Avista Draft Electric IRP) (Jan. 4, 2020).

Staff expects the issue of conservation from gas transportation customers and its inclusion or exclusion from the target can be addressed on a case-by-case basis with each company during the approval of each company's CPA and target.

Recommendations related to the 2021 Final IRP

- **Clean Energy Action Plan**
  - Add a table to the CEAP that includes year-over-year capacity of all planned resources, including demand response.
  - Include planned Appendix G with details of about planned transmission and distribution improvements.
- **Climate change**
  - Provide discussion regarding the implications of possibly moving from a winter peaking utility to a dual or summer peaking utility.
- **Load Forecasting**
  - Clarify the date in which its economic inputs were finalized.
  - Discuss any adjustments to the forecast made in response to the ongoing pandemic.
  - Clarify the high and low load growth ranges used on page 3-14. For example, how did the company settle on the high and low assumptions for annual service area employment and population growth outlined in table 3.3? Please explain.
  - Discuss the assumptions behind the EV and solar PV forecasts that are inputs into the load forecast.
  - Clarify which of the two climate change forecasts the IRP uses.
- **Upstream Emissions & SCGHG**
  - Include in the narrative description required by WAC 480-100-620(11) a clear articulation of how the company calculated the SCGHG.
  - Discuss assumptions about the SCGHG in market purchases and charging storage resources with market purchases.
  - Explain why 1.0 percent is an appropriate upstream emissions factor for U.S. Rockies natural gas.
- **Sub-hourly Modeling Capabilities**
  - Clarify storage cost assumptions.
- **Customer Benefit Provisions in CETA**
  - Provide a scenario or, at minimum, a narrative regarding possible changes to resource decisions that could increase customer benefit.
  - If available and time permits, incorporate the DOH data in the CIA.
- **Resource Adequacy and Uncertainty**
  - Clarify the company's peak credit methodology, including the definition of "peak" terms.
  - Explain how the company incorporates uncertainty in the RA assessment.
- **Public Participation**
  - Provide an IRP update based on any recent planned resource acquisition.
- **Data Disclosure**

  - Ensure appendices include a record of stakeholder feedback and the company's response.
  - Provide context for the data files provided on the company's website and submit in the docket.
- **Natural Gas Design Day (Planning Standard)**
  - Explain the new design day methodology.
  - Explain why the new design day standard is now the most appropriate one.
- **Renewable Natural Gas**
  - Include details of RNG cost assumptions in the appendices.

Recommendations for the CEIP and future IRP planning cycles

- **Climate change**
  - Incorporate a suite of variables, including snowpack, streamflow, and rainfall parameters; meteorological trends; and load risks into the analysis. Staff believes further study is needed.
  - Consider additional resources, such as a climatologist or climate change specialist, to analyze climate impacts over time on Avista's system.
- **Load Forecasting**
  - Conduct a back cast of the load forecasting model, using actual values for their independent variable inputs to their load forecast to assess whether their models have systematic bias.
  - Include a section in the load forecasting chapter that "assess[es] the effect of distributed energy resources on the utility's load," as per WAC 480-100-620(3).
- **Sub-hourly Modeling Capabilities**
  - Develop a workplan to expand sub-hourly modeling and discuss with stakeholders.
  - Expand sub-hourly modeling capability to appropriately evaluate DERs on equal footing with utility-scale renewable and other supply-side resource options.
- **Demand-Side Resources and Distributed Energy Assessment**
  - Treat DERs as generation resource in modeling, not just net from load.
  - Optimize DERs with supply-side resources.
  - Account for rate increases or pricing signals that can move peak demand and change DER uptake.
  - Consider issuing a RFI for DR without prescriptive screens to better understand potential.
  - Take a proactive approach to DR program implementation in the CEIP, accounting for longer lead time of customer sited programs.
  - Ensure programs in the CEIP are scalable.
- **Distribution Planning and Non-Wires Alternatives**
  - Start a public distribution planning process in 2022.
- **Nonenergy Impacts**
  - Identify which nonenergy impacts are required and allowed for resource selection.
  - Include NEIs for all resources, as appropriate.

    - Consider how NEIs do and do not overlap with equity requirements.
    - Identify where real data collection makes sense and where continued use of proxy is fine.
- **Customer Benefit Provisions in CETA**
    - Incorporate the Department of Health Cumulative Impact Assessment (CIA) into the IRP CIA.
    - Utilize the customer benefit indicators developed through the equity advisory group to design and model a maximum customer benefit scenario.
- **Resource Adequacy and Uncertainty**
    - Incorporate the results of the regional resource adequacy program, as appropriate.
    - Discuss "peak" definitions within the advisory group.
- **State Allocation of Resource Need**
    - Facilitate a discussion between Washington and Idaho stakeholders concerning state allocation of resources.
- **Electrification Scenarios**
    - Consider effects of policy trends towards electrification on both the electric and natural gas systems.
- **Public Participation**
    - Provide additional time to review presentations prior to meetings.
    - Post meeting minutes in a timely manner and allow opportunity for revision.
    - Consider if additional staffing is required to adequately meet new IRP requirements.
- **Data Disclosure**
    - Provide contextual aids alongside data input files.
- **Natural Gas Design Day (Planning Standard)**
    - Explore the feasibility of using projected future weather conditions in its design day methodology, rather than relying exclusively on historic data. The company is conducting a similar analysis for a climate change scenario in its electric IRP.
- **Natural Gas CPA and Conservation Targets**
- **Renewable Natural Gas**
    - Use any up-to-date cost and other data that is available to model potential RNG resources.

Staff Assessment of 2021 Draft Integrated Resource Plan by Focus Area

Clean Energy Action Plan

To comply with statute and rules, Avista presented a ten-year clean energy action plan that *works towards implementing* the lowest reasonable cost solution, including incorporation of the social cost of greenhouse gas emissions as a cost adder in its analysis.[3] Specifically, each CEAP should:

- meet clean energy transformation standards, including customer benefit provisions[4];
- be informed by the utility's ten-year cost-effective conservation potential assessment;
- identify the potential cost-effective demand response and load management programs that may be acquired;
- establish a resource adequacy requirement and demonstrate how each resource, including renewable, nonemitting, and DERs, may reasonably be expected to contribute to meeting the utility's resource adequacy requirement;
- identify any need to develop new, or to expand or upgrade existing, bulk transmission and distribution facilities; and
- identify the nature and extent to which the utility intends to rely on an alternative compliance option identified under RCW 19.405.040(1)(b), if appropriate.

Avista's presents its draft CEAP as the lowest reasonable cost plan of acquisitions, given societal cost, clean energy, and reliability requirements.[5] Table 15.2 outlines Avista's CEAP energy-related projected new resources, identifying the year-over-year, resource ramp needed in the next ten years to meet energy needs of both Idaho and Washington[6] customers, including initial "targets" to acquire an **additional 375 MW** by 2031 of <u>new</u> clean energy resources:

- 180 aMW of clean energy by 2031
  - 144 aMW (300 MW) of Montana Wind
  - 31 aMW from renewing a (75 MW) long-term hydro purchase power agreement in 2031
  - 5 aMW from a 12 MW upgrade to the Kettle Falls Generating Station (existing)
- Along with, under median hydro conditions, 41 aMW of clean energy purchases *from* Avista's Idaho customers and 20 aMW of RECs.[7]

---

[3] WAC 480-100-620(12).

[4] WAC 480-100-610.

[5] Avista's plan exceeds goals of Washington's Energy Independence Act (EIA), relying on the Palouse and Rattlesnake Flat Wind contracts, generation from the Kettle Falls biomass facility and upgrades to the Clark Fork and Spokane River hydroelectric developments.

[6] Avista notes its CEAP is specific to Washington's portion of Avista's system needs in compliance with CETA.

[7] Avista notes, depending on the determination of the WUTC's decision regarding compliance with the 100 percent goal, Avista may need additional clean energy and/or RECs if renewable and non-emitting energy must be delivered to customers ***instantaneously***. Chapter 12 of the 2021 Draft IRP outlines the cost and energy acquisition impacts of this scenario.

Avista is planning to procure resources capable of meeting *Washington load*. Questions remain regarding whether such resources could be dispatched in a manner to serve Washington demand: Does this clean energy resource acquisition imply clean energy operations? Operationally, how this energy is getting used and whether such "use" meets the spirit and letter of CETA remains a topic of discussion during Washington clean energy legislation implementation.[8]

In the Draft CEAP, Avista signaled preference for renewable projects located in vulnerable population areas to "further develop those economies," indicating this does not include new generation facilities in Washington except for an upgrade to the Kettle Falls wood-fired facility, which Avista believes is not located in a vulnerable population area.[9]

Avista also provides a narrative and series of commitments related to the customer benefit provisions of CETA. The company plans to form an Equity Advisory Group (EAG) that is responsible to review the indicators and vulnerable populations, asserting the EAG will also help guide the design of the vulnerable population outreach and engagement and be used to distinguish and prioritize additional indicators and solutions needed to develop the upcoming Clean Energy Implementation Plan. Avista's CEAP also includes a discussion of its analytical enhancements to include energy and non-energy benefits, and the company concludes these enhancements *should* benefit vulnerable communities. Staff agree that identifying non-energy benefits is a good first step towards identifying customer benefit indicators and implementing programs in a manner that ensures equitable distribution of energy and non-energy benefits.

Staff notes Avista's projections outlined in this CEAP may change. Avista flagged in its Draft IRP analysis that a future request for proposal (RFP) may identify a lower cost clean resource to meet the first significant reliability shortfall and could yield resources more beneficial than those more broadly identified in the CEAP.

For the draft CEAP, Staff is unable to provide an overarching recommendation due to the extent of Avista's draft submittal, including lack of complete appendices and modeling data for examination. However, Staff offers several observations and suggestions for the Final IRP:

CEAP Presentation. The draft CEAP includes Table 15.1 with an outlay of DR programs, from 2024 through 2031, and a narrative, which identifies potential to reduce load by 37.6 MW by 2031, noting a 25 MW large commercial customer program offering *may come to fruition* before the Lancaster PPA ends in 2026. Staff appreciates the company's CEAP presentation in Table 15.2, representing the company's year-over-year resource need in average capacity (aMW), or the average power output of the facility over a given period, percent clean energy target and goal, available resources, including owned and contracted, delineated by resource type and general location (as appropriate), and projected shortfall.

---

[8] *See* "Use" discussion docket notice relating to Clean Energy Implementation Plans and Compliance with the Clean Energy Transformation Act, Docket UE-191023 (June 12, 2020).

[9] Avista Draft Electric IRP at 15-5. Note that Avista formats the pages of the IRP with dashes. To avoid confusion, throughout these comments Staff cites a single page as "XX-XX", and multiple pages in the draft IRP with a "XX-XX to XX-XX" format.

For nameplate capacity presentation (MW), Avista provides Table 1.1 in the IRP, which provides the company's "preferred resource strategy" through the 2045 but lists Demand Response at the bottom of the table with no timing specified, other than "2045 capability."[10] Staff points to the new IRP rules, which define CETA-related *resource need* as:

> *any current or projected deficit to reliably meet electricity demands created by changes in demand, changes to system resources, or their operation to comply with state or federal requirements. Such demands or requirements may include, but are not limited to, capacity and associated energy, capacity needed to meet peak demand in any season, fossil-fuel generation retirements, equitable distribution of benefits or reduction of burdens, cost-effective conservation and efficiency resources, demand response, renewable and nonemitting resources.*[11]

For the final CEAP, Staff suggest Avista also include incremental nameplate capacity (MW), or maximum capacity, including in tabular form year-over-year, showing the timing of all planned capacity resources: (1) existing and contracted resources (identified by resource type, location, or potential location); (2) peak import projections; (3) peak capacity needs before demand-side resources (developed from forecast + planning margin); (4) demand-side resources; and (5) peak capacity resource need net demand-side resources.

CEAP resources. The evaluation of delivery systems, including transmission expansion is becoming increasingly important because resources are becoming more geographically diverse and shared among utilities.[12] The definition of lowest reasonable cost in the IRP rules includes planned resources and "related delivery system infrastructure," which shows consistency with chapters 19.280, 19.285, and 19.405 RCW. Staff notes Avista's CEAP does not discuss significant transmission or distribution improvements. Instead, the company briefly explains these resources are "likely to be off system or utilize existing transmission assets, not requiring new investment in the next ten years," as shown in Appendix G.[13] Staff looks forward to reviewing Appendix G in the Final IRP, noting details were not provided for stakeholder review as part of the Draft IRP.

Recommendations for the Final IRP:

- Add a table to the CEAP that includes year-over-year capacity of all planned resources, including demand response.

---

[10] Staff notes in Table 1, demand response and load management programs are essentially footnoted, not included in the resource year-over-year ramp in the table or represented side-by-side with other resource type, contracts, or other plant acquisitions.

[11] WAC 480-100-605.

[12] Juan Pablo Carvallo et al., *Implications of a regional resource adequacy program on utility integrated resource planning - Study for the Western United States*, Energy Analysis and Environmental Impacts Division, Lawrence Berkeley National Laboratory, p. 15, Table 3.5 (November 2020).

[13] Avista Draft Electric IRP at 15-4.

- Include planned Appendix G with details about planned transmission and distribution improvements.

Climate change

Staff is concerned Avista's modeling of climate change in this IRP is not comprehensive. Avista considered historical weather trends during load forecasting and ran a climate change scenario. Still, the possible risks of climate change on resource adequacy and optimal resource portfolio deserve a more complete and nuanced approach in the future.

Avista's expected case load forecast incorporated historical trends that show HDD gradually declining and CDD gradually increasing. The company *contemplated* using two different data sets of trending HDD and CDD forecasts, one using Avista-specific data and the other using Northwest Power and Conservation Council (NWPCC) state-level data. Both forecasts indicate that Avista's summer peak will grow faster than the winter peak, with the average summer peak eventually higher than the average winter peak.[14] However, the NWPCC trended forecast shows the summer peak increasing faster, where the winter peak is growing slower than Avista's trended forecast.

Recent regional climate change analysis in the Northwest shows, "anticipated increases in temperature will alter the pattern of electricity use, where higher temperatures and more precipitation tend to result in more rain and less snow during the winter months, thus reducing the snow pack and subsequent summer flow."[15] Importantly, Avista's forecast shows the high end summer peak (95 percent confidence level) is never higher than the high end winter peak, while the NWPCC forecast shows the high end summer peak is expected to be higher than the winter peak around 2040.[16]

This analysis demonstrates to Staff there is a strong potential that climate change will likely move Avista from a winter peaking utility to a dual or summer peaking utility in the near future.

Avista is incrementally moving in the right direction in the 2021 IRP with respect to incorporating the effects of temperature changes over time; but overall, Avista's climate change analysis as fairly minimal. The company modeled only one *climate shift scenario* that deterministically examined impacts to hydro production and reduced gas plant maximum capabilities expected to result from climate change. Avista used NWPCC data that estimated additional hydro generation in the winter and less in the spring and summer. To simulate climate change impacts to load, Avista, with assistance from the Pacific Northwest Utility Conference Committee, used NWPCC data to create linear trends in load by month. This scenario results in marginally lower wholesale electricity prices and slightly lower emissions due to increased hydro production.

---

[14] Avista Draft Electric IRP at 3-23, Table 3.7

[15] Northwest Power and Conservation Council, "Update on Climate Scenario Selection for the 2021 Power Plan". *Available at* https://www.nwcouncil.org/sites/default/files/2020_04_p2.pdf.

[16] Avista Draft Electric IRP at 3-24 to 3-25, Figures 3.20 and 3.21.

Avista refers to the NWPCC assessment of climate change impacts in its preliminary resource adequacy assessment presented in December 2020. The company expresses concerns with the limited inputs used to derive the potential climate adjusted load and hydro conditions but does agree that there are great regional resource adequacy risks in this area.[17] Staff agrees and encourages Avista to use more rigor in its analysis exploring the effects of climate change on their system.

Further, to adequately account for the effect of climate change, Avista could consider acquiring additional expertise regarding temperature impacts over time on Avista's system, especially considering the company's hydro-reliance position, as shown in Figure 2. Staff suggests the company take a closer look at the methods peer utilities are taking. For example, Seattle City Light included a study on "Climate Change Effects on Supply and Demand," as an appendix to its IRP, dedicating resources to assess the IRP climate sensitivity on the utility's load-resource balance, including reduced snowpack, earlier melt, higher winter inflows, and lower summer inflows. This additional information provided insights into climate change scenarios' effects to potentially change the *expected base portfolio* for supply and demand.[18]

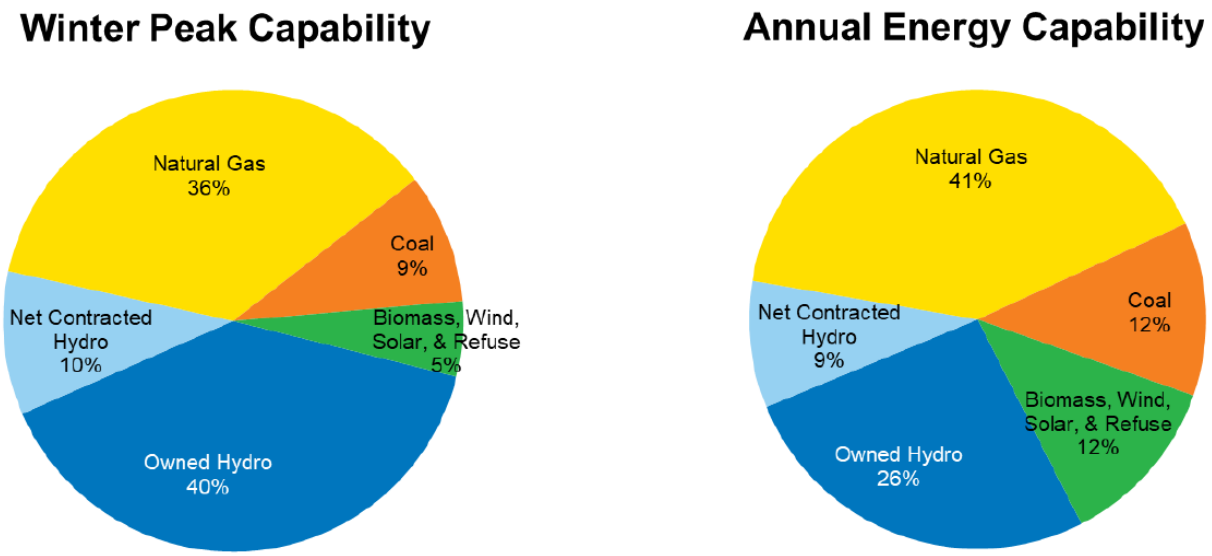

Figure 2: *2020 Avista Capability and Energy Fuel Mix*[19]

[17] Avista Draft 2021 Electric IRP at 7-12.

[18] NWPCC presentation on Climate Change and the 2021 Power Plan Workshop; *Seattle City Light* (May 1, 2019). Also see *Seattle City Light 2016 IRP*, Appendix 12.

[19] Avista Draft 2021 Electric IRP at 4-1, Figure 4.1.

Recommendation

For **Final IRP**:

- Provide discussion regarding the implications of possibly moving from a winter peaking utility to a dual or summer peaking utility.

For **next IRP**:

- Incorporate a suite of variables, including snowpack, streamflow, and rainfall parameters; meteorological trends; and load risks into the analysis. Staff believes further study is needed.
- Consider additional resources, such as a climatologist or climate change specialist, to analyze climate impacts over time on Avista's system.

Load Forecasting

In addition to the climate change-related recommendations above, Staff finds that the load forecast section could use some clarification in the Final IRP. Avista conducted base, high-, and low-load growth forecasts, as did its peer utilities. Comparisons to the other two utilities are difficult because the Draft IRP narrative lacks sufficient detail, including how Avista derived the input assumptions for the high- and low-load growth scenarios.

One area where the Avista Draft IRP falls short of its peer utilities is discussing whether and how the ongoing COVID-19 pandemic has impacted its load forecast. For example, the company does not specify when its economic inputs into the forecast were finalized, or whether it has made any adjustments to the forecast to account for observed load impacts from the state's stay-at-home orders. The state's (and the nation's) economy has been severely impacted since the pandemic's onset in early 2020. For Staff to appropriately evaluate Avista's forecast, especially considering the new 10-year Clean Energy Action Plan requirements which create mid-term requirements within the company's 2045 planning horizon, more information is needed.

Recommendation

In the **Final IRP**:

- Clarify the date in which its economic inputs were finalized.
- Discuss any adjustments to the forecast made in response to the ongoing pandemic.
- Clarify the high and low load growth ranges used on page 3-14. For example, how did the company settle on the high and low assumptions for annual service area employment and population growth outlined in table 3.3? Please explain.
- Discuss the assumptions behind the EV and solar PV forecasts that are inputs into the load forecast.
- Clarify which of the two climate change forecasts the IRP uses.

In the **next IRP**:

- Conduct a back cast of its load forecasting model, using actual values for their

independent variable inputs to their load forecast to assess whether their models have systematic bias.
- Include a section in its load forecasting chapter that "assess[es] the effect of distributed energy resources on the utility's load," as per WAC 480-100-620(3).

Upstream Emissions & SCGHG

For both the electric and natural gas IRP, Avista includes the social cost of greenhouse gases (SCGHG) as a cost adder in its portfolio optimization of resource options, including upstream emissions from natural gas. Avista describes the application of the SCGHG in several places in the IRP. However, Staff finds the Draft IRP lacks a separate detailed methodology as to how the company applies this cost adder in its electric portfolio optimization and preferred portfolio selection. Staff expects Avista to provide a narrative illustrating step-by-step how the SCGHG cost adder is applied throughout its modeling logic, including associated cost calculations, with the Final IRP.[20]

For upstream methane emissions, Avista uses a global warming potential (GWP) factor that was calculated based on the International Panel on Climate Change's Assessment Report 5 (IPCC AR5), which Staff prefers over older analyses. Avista uses the upstream methane leakage factor of 0.77 percent for Canadian natural gas, and uses 1.0 percent for the U.S. Rockies natural gas factor. Given that this U.S. Rockies natural gas emissions factor is significantly lower than any of the factors analyzed by the NWPCC in its analysis of upstream natural gas emissions, Staff recommends the Final IRP explain why the factor is appropriate.

In the expected case, Avista did not apply the SCGHG for market transactions but did include a scenario to test the effect of applying SCGHG to the annual average emissions rates of net market purchases. Including this value on market emissions led to additional procurement of wind and less storage and solar. This is likely due to the assumption that the energy used to charge storage resources comes from market purchases. Staff recommends additional narrative describing how Avista selected these assumptions regarding market purchases.

During the advisory group process, the company was responsive to Staff's request to use the annual *incremental* emissions rate instead of the annual *average* emissions rate when assuming a value for SCGHG reduction for energy efficiency. Avista performed a sensitivity to understand how this assumption changed the selection of energy efficiency. The company found that using the average rate savings are 12 percent lower by 2045 (10 aMW less) than when using the incremental rate.

Due to the uncertainty during rule development, Avista developed and performed three different scenarios to help inform the cost of CETA mandates:

- Baseline 1 incorporates the SCGHG but does not include the clean energy standards,
- Baseline 2 achieves the clean energy standards in CETA without using the SCGHG,
- Baseline 3 excludes both the clean energy standards and the SCGHG.

[20] WAC 480-100-620(11).

By varying the baseline assumptions and modeling the SCGHG in several ways, Avista provided useful insights into the effect of legislation. However, the Draft IRP provided insufficient narrative describing how the company included SCGHG in the scenarios and the preferred portfolio. Staff recommends a separate narrative that focuses on the different methods Avista used to model the SCGHG in addition to the individual explanations throughout the document.

Recommendation:

In its **Final IRP**, Avista should:

- Include in the narrative description required by WAC 480-100-620(11) with a clear articulation of how the company calculated the SCGHG.
- Discuss assumptions about the SCGHG in market purchases and charging storage resources with market purchases.
- Explain why 1.0 percent is an appropriate upstream emissions factor for U.S. Rockies natural gas.

Sub-hourly Modeling Capabilities

To fully capture the value of flexible resources such as storage or demand response, IRP models need to have enough granularity to capture intra-hour variables. Modeling sub-hourly dispatch can readily integrate resources offering more granular grid services into portfolio development. For storage resources, it is unclear what is included in the company's cost assumptions and Staff expects these details to be included in the Final IRP.

Staff is concerned about Avista's current ability to optimize <u>all</u> the resources needed for a reliable one hundred percent clean system. With increasing renewable energy on the grid Avista will be challenged to match generation and load. The current paradigm of planning to a peak in winter when the wind isn't blowing must be realigned to recognize that the utility must also plan to a summer peak with an intra-hour weather anomaly. Staff looks forward to updates from Avista regarding its sub-hourly modeling functionality in its ADSS software for the next IRP.[21]

Avista must expand its sub-hourly modeling capability to appropriately evaluate DERs on equal footing with utility-scale renewable and more traditional fossil resource options. Avista could also transition to a LTCE optimization platform that endogenously considers the sub-hourly benefits of DERs. Alternatively, the company can apply cost credits to better characterize the sub-hourly grid services DERs provide, which in turn may increase the likelihood Avista's preferred resource portfolio solution would include these resource options. As discussed within the *Demand-Side Resources and Distributed Energy Assessments* section of these Staff comments, Avista should not assume future IRPs that handle distributed generation simply as a load forecast decrement will be CETA compliant.

[21] Avista Draft Electric IRP at 14-6.

Recommendation

In the **Final IRP**:

- Clarify storage cost assumptions.

Prior to the **next IRP**:

- Develop a workplan to expand sub-hourly modeling and discuss with stakeholders.
- Expand sub-hourly modeling capability to appropriately evaluate DERs on equal footing with utility-scale renewable and other supply-side resource options.

Demand-Side Resources and Distributed Energy Assessments

Energy efficiency, demand response (DR), and other distributed energy resources (DERs) are essential to a clean energy system that adequately serves and benefits all customers. Avista has made a reasonable attempt to value acquisition of energy efficiency and demand response in the Draft IRP but has not sufficiently analyzed other DERs. Avista, like PSE and Pacificorp, performed potential assessments for EE and DR but only used a forecast of EV and PV adoption.

The modeling of DER is a major weakness in the Draft IRP. Electric vehicle charging and net-metered generation are accounted for in the load forecast, but DERs, except for EE and DR, are not otherwise valued as potential resources. Avista signaled plans to further integrate DERs in the 2025 IRP.[22] This is discussed further in the *Distribution Planning and Non-Wires Alternatives* section below.

Energy efficiency

CETA has not made any notable changes to the methods used to model energy efficiency (EE). Avista once again retained AEG to perform the conservation potential assessment (CPA) for both the electric and gas IRP. The draft IRP and associated data provide sufficient information to calculate the ten-year, four-year, and two-year cost-effective conservation potential under both CETA and the EIA. The pro-rata share of the ten-year potential is 101,566 MWh.[23] Avista used an iterative process to identify the cost-effective EE to be removed from the load forecast.

Figure 3 below shows the avoided cost of EE for energy and capacity with components broken out. Over the planning horizon the levelized price of EE is projected to be 3.5 cents per kWh.

[22] Avista Draft Electric IRP at 2-11 and 14-8.

[23] *Id*. at 5-8.

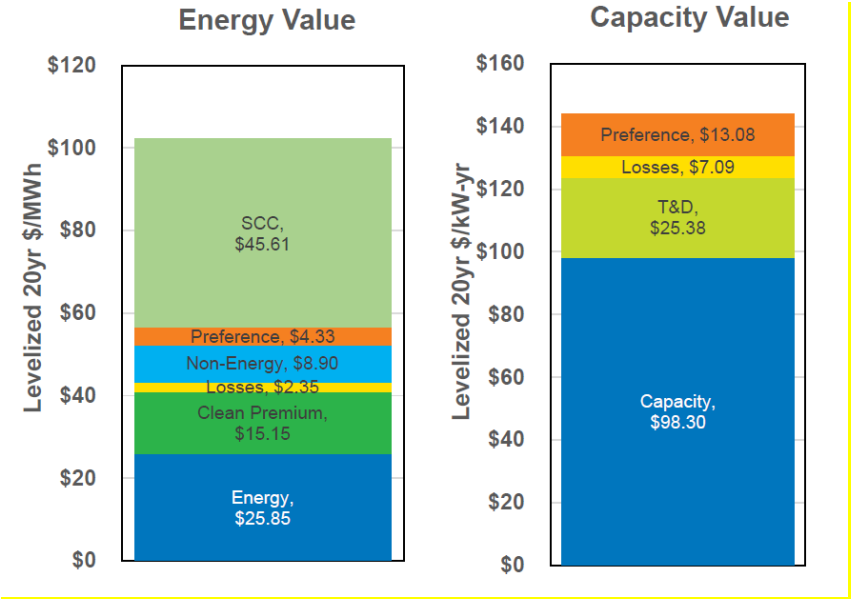

Figure 3: *Washington Energy Efficiency Avoided Cost*[24]

Demand response

To identify all cost-effective demand response as required by CETA, Avista hired AEG to perform a demand response potential assessment (DRPA) like the CPA for conservation and similar to the DRPA performed in the last IRP. [25] The DRPA includes sixteen residential and commercial programs, and Avista added Large Industrial Curtailment potential outside of the DRPA.[26] The programs include both controllable DR and rate design programs. Where automated metering infrastructure (AMI) is an enabling technology, Avista assumes AMI deployment will be complete in Washington in 2022 (in Idaho the company assumes full deployment in 2024).

DR is treated consistently among the Washington IOUs, including peak reduction as the primary use case of demand response. The amount of reliable capacity contribution from DR should vary by program type, number of events, and by length of event. PSE and Avista each appropriately evaluated sixteen potential demand response programs, including direct load control and pricing options. However, the utilities did not vary assumptions around the *number* and *length of events*, potentially underestimating the potential that a different program design might provide a better fit with the utility system needs. The amount of peak capacity credit given to DR for Avista was 60 percent of a gas-fired combustion turbine.

[24] Avista Draft Electric IRP at 5-14, Figure 5.7.

[25] WAC 480-100-610(4)(a)

[26] Potential assessments assume average market penetration and savings over sizeable populations. Large industrial potentials in Avista's service territory are more appropriately treated individually than on an average basis.

In line with the NWPCC methodology for 2021, the utilities assumed that energy efficiency takes place prior to demand response. In general, Staff agrees with this assumption. However, the specifics of each company's approach lacked the nuance needed to appropriately capture the potential for EE and DR programs to enhance or interfere with each other. Staff acknowledges that this is a complicated task but anticipates efforts to model the interaction effects will be enhanced by utility efforts to integrate EE and DR program efforts during implementation.

In recent years, utility modelling of demand response potential has received negative critiques from stakeholders. With the new mandate to pursue all cost-effective demand response, Staff expected the utilities to refine the modeling of this resource. Unfortunately, this round of IRPs has not made notable improvements over the last round. While Avista and AEG provided ample opportunity for public involvement around the achievable potential for DR, costs for DR were not made available during these meetings, thus not vetted by the advisory group.

Staff has significant concerns regarding the treatment of grid enabled water heaters. Washington has established that electric storage water heaters sold in the state that are manufactured after January 1, 2021, must include a demand response communications port.[27] Turnover of the state's electric water heater stock will take some time but will steadily increase the potential of this resource without additional equipment being required at customer premises. This technology allows frequent load curtailment requests by the utility while ensuring a large supply of hot water remains available to the customer.[28] While each utility included this technology in the potential assessments, no utility provided sufficient discussion of potential program costs and assumptions with the advisory group. Staff requests Avista give this technology additional consideration. Given the large size of a potential program and the current inexperience of northwest utilities with demand response, it is likely costs are overestimated and reliability is underestimated.

Recommendation

In the Final IRP:

- Provide the conservation potential assessment model and underlying data.
- Provide the demand response potential model and underlying data.

In the **next IRP:**

- Treat DERs as generation resource in modeling, not just net from load.
- Optimize DERs with supply-side resources.
- Account for rate increases or pricing signals that can move peak demand and change DER uptake.
- Consider issuing a RFI for DR without prescriptive screens to better understand potential.

In the **CEIP:**

[27] RCW 19.260.080

[28] *See* Bonneville Power Administration, CTA-2045 Water Heater Demonstration Report, (Nov. 9, 2018).

- Take a proactive approach to DR program implementation, accounting for longer lead time of customer-sited programs.
- Ensure programs are scalable.

Distribution Planning and Non-Wires Alternatives

The IRP rules require the utility to include assessments of a variety of distributed energy resources and the effect of distributed energy resources on the utility's load and operations.[29] Further, the commission strongly encourages utilities to engage in a distributed energy resource planning process as described in RCW 19.280.100. If the utility elects to use a distributed energy resource planning process, the IRP should include a summary of these results.

In the Draft IRP, Avista provides a narrative of its distribution planning efforts, explaining how the company continually evaluates its distribution system for reliability and level of service requirements, including voltage and power quality, for current and future loads. However, Avista did not identify any projects meeting the criteria for an economic non-wire alternative in the Draft IRP. The company contends its near-term distribution projects require capacity *increases* and duration requirements due to load growth exceeding the distributed energy resources (DERs) capability.[30]

Although distribution systems will vary from one utility to another based on the unique characteristics of each system, Staff points to Puget Sound Energy's Draft IRP, which illuminates the capacity value of such resource additions and illustrates the nexus between distribution system and integrated resource planning. For example, PSE includes a line item of distribution system planning incremental nameplate capacity for non-wires alternatives, beginning in 2022 and growing to 118 MW total in the outer years of the plan.[31] Staff supports Avista's continued efforts to continue to study new technologies and grow its situational awareness of other utilities' actions in this space.[32]

Staff suggests Avista continue to engage Staff and keep stakeholders updated on their commitment in the Draft IRP to *start a public distribution planning process in 2022* to identify and plan for future distribution needs. This will allow the company to better anticipate future impacts under CETA and:

- analyze interdependencies among customer-sited energy and capacity resources;
- reduce, defer, or eliminate unnecessary and costly transmission and distribution capital expenditures;
- identify and quantify customer values that are not represented in volumetric electricity rates and maximize system benefits for all retail electric customers; and

[29] WAC 480-100-620(3) Distributed energy resources.

[30] Avista Draft Electric IRP at 8-9.

[31] Puget Sound Energy Draft 2021 IRP, Docket UE-200304, pp. 1-4, Figure 1-4 ("DSP Non-Wire Alternatives").

[32] Avista describes its distribution system as consisting of approximately 350 feeders covering 30,000 square miles, ranging in length from three to 73 miles.

- identify opportunities for improving access to transformative technologies for low-income and other underrepresented customer populations.[33]

Recommendation

In **2022:**

- Start a public distribution planning process.

Nonenergy Impacts

As described in the appendix to this document, CETA has emphasized the consideration of nonenergy costs and benefits of resources in system planning. In the past, Staff has pushed utilities to account for nonenergy impacts (NEIs) such as the expected emissions of greenhouse gases and particulate matter with quantified health risks.[34] Avista's treatment of nonenergy costs and benefits in this IRP has gone further than any past effort, in large part because of the requirement to include the social cost of carbon.

To address other NEIs connected to public interest objectives such as public health, energy security, environmental benefits, costs, and risks, all three electric IOUs relied on a proxy method using data from the Environmental Protection Agency (EPA).[35] The EPA data includes NEI values generally applicable to all energy efficiency and renewable energy in the Pacific Northwest. Avista analyzed this data to align with its service territory, landing on a benefit value of $8.90 per MWh. The company then applied this benefit uniformly to energy efficiency measures to approximate unquantified NEIs.

While all utilities started with the EPA data, Avista's proxy benefit value is approximately one half what PSE used and one third of what Pacific Power plans to use in the 2021 IRPs.[36] Staff acknowledges that none of these proxy values accurately capture the value of NEIs, but we appreciate each utility acknowledging that the nonenergy benefits of EE are, on the whole, greater than zero. Prior to the next IRP, Staff expects significant work with utilities and stakeholders to identify which NEIs should be valued, what values can be adequately quantified, and when the use of proxy values is most appropriate.

The primary limitation to the approach Avista took to account for NEIs in the IRP is only applying NEIs (outside of the SCGHG) to energy efficiency. NEIs exist for ***all resources*** but most have traditionally only been included when evaluating demand-side resources, as the proximity of these resources to customers naturally increases impacts.

---

[33] RCW 19.280.100.

[34] *Staff Comments on 2018-2019 Biennial Conservation Plans*, Dockets UE-171087, UE-171091, and UE-171092, p. 8-9 (Dec. 1, 2017)

[35] Environmental Protection Agency, *Public Health Benefits per kWh of Energy Efficiency and Renewable Energy in the United States: A Technical Report*, (July 2019).

[36] PSE used a proxy value of $0.02 per kWh ($20.00 per MWh), Pacific Power used $28.70 per MWh, Avista used $8.90 per MWh.

Recommendation

In the **next IRP:**

- Identify which nonenergy impacts are required and allowed for resource selection.
- Include NEIs for all resources, as appropriate.
- Consider how NEIs do and do not overlap with equity requirements.
- Identify where real data collection makes sense and where continued use of proxy is fine.

Customer Benefit Provisions in CETA

In the Draft IRP, Avista did not perform a maximum customer benefit scenario or sensitivity as required by the new rule.[37] Staff understands that this work dramatically departs from the traditional planning done in the IRP and including it in the Draft IRP may not have been feasible. Staff encourages Avista to make best efforts to model a scenario that would maximize customer benefits in the Final IRP. Given that the maximum customer benefit scenario is a new requirement that will be improved upon and clarified over time, Staff requests the company develop a narrative describing Avista's current interpretation of the rule and proposed next steps regarding intent to model the scenario.

Avista completed commendable work by developing a preliminary methodology for geographically identifying highly impacted communities and vulnerable populations. Avista identified two census tracts as qualifying highly impacted communities. To identify vulnerable populations, the company used the Environmental Health Disparities Map maintained by the Department of Health (DOH) to score areas based on pollution burdens and population characteristics. The company acknowledges that this is an ongoing process that is currently missing several important inputs.

For the Draft IRP, no utility was able to incorporate the Cumulative Impact Assessment (CIA) prepared by DOH, which was expected by the end of 2020.[38] DOH's work on this has been delayed and may not be available for inclusion in the Final IRP. The baseline analysis Avista performed in this IRP identified where there are significant differences in energy use, energy cost, reliability, resiliency, and higher densities of power plant emissions. Avista will need to change its methods to incorporate the DOH data into the next IRP, but Staff is satisfied with the progress to date.

Plans for an equity advisory group (EAG) are well underway at Avista.[39] The company is conducting outreach and carefully considering how to successfully engage marginalized and hard to reach populations. The EAG is separate from the IRP advisory group and will identify

[37] WAC 480-100-620(10)(c).

[38] RCW 19.405.140.

[39] WAC 480-100-655(2).

vulnerable populations and develop customer benefit indicators that will be incorporated into the CEIP planning and the next IRP. Staff look forward to Avista growing its current robust low-income programs to serve other highly impacted communities and vulnerable populations.

Recommendation

In the **Final IRP:**

- Provide a maximum customer benefit scenario and a narrative regarding Avista's current interpretation of the rule and next steps for improvement.
- If available and time permits, incorporate the DOH data in the CIA.

Before the **next IRP:**

- Create the Equity Advisory Group by May 1, 2021, to provide useful and timely input for the planning cycle. Staff understands that Avista has already begun organizing this group and commends the company approach.
- Incorporate the DOH CIA into the IRP CIA.
- Utilize the customer benefit indicators developed through the equity advisory group to design and model a maximum customer benefit scenario.

Resource Adequacy Assessment and Uncertainty Analysis

As required by CETA, Avista must determine "resource adequacy metrics for the resource plan," and identify "an appropriate resource adequacy requirement and measurement metric consistent with prudent utility practice."[40] The IRP uses Avista's Reliability Assessment Model (ARAM) to test the current resource portfolio's reliability metrics and the contribution of each resource. Continuing from previous IRPs, Avista retains a 5 percent LOLP metric to ensure future system reliability.

In Table 11.5, Avista also shows resource adequacy analysis related to three other reliability metrics, including Loss of Load Hours (LOLH), Loss of Load Expectation (LOLE), and Expected Unserved Energy (EUE). The company currently targets a 16 percent planning margin to meet winter peaks, and 7 percent for summer peaks. This is in addition to meeting operating reserves and regulation requirements.

Avista begins its resource adequacy analysis narrative with a discussion of regional coordination, signaling that it is participating in the development of a potential regional resource adequacy program. The company estimates participation in a resource adequacy program will reduce its needs for new capacity by up to 70 MW in 2031 based on the current draft program design, where these savings will potentially allow the utility to require lower future resource acquisition if the program is developed and implemented.

Avista's draft IRP analysis shows a capacity need of 83 MW of natural gas-fired capacity for Washington customers by 2026, replacing the Lancaster Power Purchase Agreement (PPA), to maintain reliability targets for Washington customers during peak load hours. The company

[40] RCW 19.280.030(1)(g) and (i).

assumes 330 MW of market availability for the 2021 IRP, compared to 250 MW in the 2017/2020 IRPs. Avista also indicates that a future RFP may identify a lower cost clean resource to meet this reliability shortfall, but the current IRP modeling results selected a gas-fired resource in 2026.

The analysis of the contribution to RA by storage, DR, and variable energy resources is of particular interest to Staff in the first post-CETA IRP review. For the Final IRP, and into next IRP cycle, Staff suggest Avista include more information about how the company treats, or plans to treat, uncertainty in RA modeling within the IRP, including the following elements of its RA assessment:

Resource ELCC Analysis
For its (effective load carrying capability) ELCC analysis, Avista assigned peak credits to renewable and storage resources depending on resource ability to meet peak loads using its ARAM model. The company's ELCC calculations should be a measurement of that resource's ability to produce energy when the company is most likely to experience electricity shortfall, showing how that resource uniquely contributes to reliability requirements.

Avista appears to translate its "peak savings" for demand response into a peak credit that differs depending on duration. Specifically, Staff requests more description about how Avista derived the Peak Credit shown in Table 9.12. For energy storage, when an 8-hour resource only gets a 30 percent credit and a 70-hour resource only gets to 90 percent, Staff questions how the utility uniquely defines *peak* and *peak-related* demand terms.[41] Staff requests additional narrative related to the company's methodology related to Peak Credit, including how Avista specifically defines the terms "peak" and "peak-related" in the Final IRP.

Incorporation of uncertainty into RA assessment
Avista indicates "resource analysis identifies a natural gas CT to replace resource deficits if *pumped hydro* is not a feasible resource to meet the 2026 shortfall. Avista will conduct *transmission* and air permitting studies to prepare for this contingency. Avista expects this process to take at least two years."[42] Relatedly, in the Draft IRP narrative for resource adequacy, risk, and uncertainty analyses, it is not clear how the company accounts for *renewable contribution*, *storage efficiency*, or *construction*.[43] For example, construction risks could include delays for new assets, other future considerations for resource maintenance, plant upgrades, or transmission expansion uncertainties. Staff request additional narrative how the company incorporates uncertainty in the RA assessment in the Draft IRP, or if the company plans to address these elements in the next IRP cycle.

---

[41] *See* Natalie Mims Frick et al., *Peak Demand Impacts From Electricity Efficiency Programs Report*, Energy Analysis and Environmental Impacts Division, Lawrence Berkeley National Laboratory, Appendix B, Table B-2 (Nov. 2019).

[42] Avista Draft Electric IRP at 14-5.

[43] *See* Juan Pablo Carvallo et al., *Implications of a regional resource adequacy program on utility integrated resource planning - Study for the Western United States*, Energy Analysis and Environmental Impacts Division, Lawrence Berkeley National Laboratory, p.17, Table 3.5 (Nov. 2020).

Recommendation

In the **Final IRP:**

- Clarify the company's peak credit methodology, including the definition of "peak" terms.
- Explain how the company incorporates uncertainty in the RA assessment in the Draft IRP, or if the company plans to address these elements in the next IRP cycle.

In the **next IRP:**

- Incorporate the results of the regional resource adequacy program, as appropriate.
- Discuss "peak" definitions within the advisory group.

State Allocation of Resource Need

Historically, Avista's allocation of planned electric system resources between states has been determined using the Production-Transportation ratio, which is approximately 65 percent Washington and 35 percent Idaho. As the two states' policy objectives diverge, capacity and energy needs result from different drivers. In the Draft IRP, Avista has done an admirable job attempting to assign resource needs between one hundred percent Washington, one hundred percent Idaho, and a combined system need. Soon, both state commissions will need to grapple with complicated cost recovery allocation.

Avista faces difficult questions related to future rate recovery resulting from long-term resource planning in two states for one utility system: Idaho customers will not want to pay increased rates that may result from CETA and Washington customers will not want to pay for potentially stranded assets from new gas resources. Staff encourages the company to bring stakeholders together for an in-depth discussion and analysis prior to any formal filing. Ultimately interstate cost allocation must be adjudicated, but Staff believes a collaborative process is worth pursuing.

Recommendation

Before the **next IRP:**

- Facilitate a discussion between Washington and Idaho stakeholders concerning state allocation of resources.

Electrification Scenarios

In the electric IRP Avista performed three separate scenarios considering the effects that electrification of space and water heat in Washington could have on the portfolio. Avista states that the IRP is not the best vehicle to conduct these studies and recommends a separate regional study. While Staff does not disagree about the usefulness of a regional or statewide study, the company should continue to consider local policy trends towards electrification in both the electric and natural gas IRPs.

Recommendation

In **future IRPs**:

- Consider effects of policy trends towards electrification on both the electric and natural gas systems.

Public Participation

Avista demonstrated a robust public participation process during this IRP. They began by seeking input on a draft work plan and once filed, stayed true to the plan. Avista originally scheduled five technical advisory group meetings. When the scheduled meetings could not cover all the material with the depth the company and advisory group members wanted, Avista added additional webinars and a workshop. Avista provided Staff and the advisory group meaningful opportunities to discuss complex resource planning processes, data assumptions, and other interest topics throughout the IRP planning process. Avista's IRP advisory group is open to all members of the public who wish to participate.

Avista's IRP Team is exceptionally responsive to members of the advisory group, taking input under consideration and taking time to explain complex issues to ensure members were comfortable with their understanding. Deadlines on comments and requests were clear but not rigid. Further, the company provided draft presentations before meetings and followed-up with a final version that contained any last-minute changes or corrections.

Staff recommends more time to review presentations before IRP advisory group meetings, which is crucial for utilities to receive meaningful feedback during the meetings, especially considering Avista's IRP meetings now cover both gas and electric IRP topics. The company should provide advisory group members meeting minutes and follow-up documentation promptly, allowing members an opportunity to suggest revisions or clarifications as necessary. In the future, the company may need to expand its core IRP team to include additional administrative support, especially considering the new customer benefit provisions.

The company filed its Draft IRP on January 4, 2021, mostly complete, except for appendices. Staff notes the lack of appendices is mostly balanced by the excellent data access and availability of Avista staff to stakeholders. Staff also highlights the company's outstanding approach to transparent data access in the *Data Disclosure* section of this document.

In 2020, Avista put out a request for proposals (RFP) for renewable resources. **The RFP process is in its final stages, and there is a possibility that the company will finalize the acquisition of a resource before filing the Final IRP.** To the degree possible, Avista should update the Final IRP with any known resource. If an acquisition occurs soon after the Final IRP is filed, Staff recommends the company file, at minimum, an update to the preferred resource strategy and clean energy action plan so it can develop its CEIP based on the best available information.

Overall, Avista's public participation process is comprehensive and facilitates trust and transparency in the IRP development process. Staff provides recommendations to improve its

public participation process for the next IRP cycle, particularly related to the new documentation and administrative requirements outlined in the rule.[44]

Recommendation

In the **Final IRP:**

- Provide an update based on any recently completed resource acquisition.

In the **next IRP:**

- Provide additional time to review presentations prior to meetings.
- Post meeting minutes in a timely manner and allow opportunity for revision.
- Consider if additional staffing is required to adequately meet new IRP requirements.

Data Disclosure

Avista appears to have best satisfied the data disclosure objectives Staff have highlighted for this first CETA-compliant 2021 IRP cycle of the three Washington electric investor-owned utilities. Overall, the company seems to have provided the data stakeholders requested during the 2021 planning process on time.

Staff notes the *record of stakeholder comments and company responses* is one of the appendices not included in the draft.[45] Unlike peer utilities, Avista's IRP website does not contain an ongoing record of stakeholder comments, data requests, and questions received and addressed by the company.[46] Staff understands that Avista plans to provide this information in the Final IRP but suggests a contemporaneous documentation strategy.[47]

Avista made many data input files available in native format to facilitate stakeholder review of data underlying the company's planning decisions. Staff applauds Avista's commitment to make data and models accessible to stakeholders by posting them to the company's website and providing a webinar dedicated to understanding the PRiSM long-term capacity expansion model.

To further increase accessibility and transparency, the company should provide contextual aids and organize its Final IRP deliverable by including a master table of contents, readme files, and categorically grouping related data.

Recommendation

In the **Final IRP:**

- Ensure appendices include a record of stakeholder feedback and the company's

[44] WAC 480-100-620, -625, and -630.

[45] Appendix C of Avista's Draft Electric IRP serves as the placeholder for public participation comments. However, the company has not filed any appendices with its draft deliverable.

[46] PacifiCorp's 2021 IRP stakeholder feedback website posts stakeholder feedback forms and company responses to said forms, when available. Avista's IRP website does not appear to include similar postings.

[47] WAC 480-100-620(17).

response.
- Provide context for the data files provided on the company's website and submit data files in the docket.

In the **next IRP:**
- Provide contextual aids alongside data input files.

Natural Gas Design Day (Planning Standard)

Avista's peak day planning standard for natural gas is new to this IRP. In previous plans, the company had used a coldest-on-record standard and has changed to a 99 percent probability of experiencing an extremely cold temperature in each of its service areas. The data underlying Avista's new design day calculation indicates a warming trend in parts of its service territory, but it is still based on historic data, not projections of future temperatures.

Staff requests Avista include a future climate change sensitivity similar to that provided by PSE in its next natural gas IRP and provide more explanation around the new design day methodology, including why this new standard is the appropriate choice. Staff believes a few extra sentences explaining how it combines temperatures "with a 99% probability of a weather occurrence" would make the methodology clearer. In its explanation, Avista should provide additional narrative around Table 2.4 and Figures 2.4 through 2.8 to further describe the trends they depict. On the surface, it seems counterintuitive, for instance, that the new design day methodology has Medford's planning standard significantly warmer than the previous methodology did, while Klamath Falls' peak day has gotten slightly colder, even though the two cities are not that far apart.

Recommendation

In the **Final IRP**:
- Explain the new design day methodology, providing a more detailed narrative.
- Further explain why the new design day standard is now the most appropriate one.

In **future IRPs**:
- Explore the feasibility of using projected future weather conditions in its design day methodology, rather than relying exclusively on historic data. The company is conducting a similar analysis for a climate change scenario in its electric IRP.

Natural Gas CPA and Conservation Targets

Avista once again retained AEG to perform the potential assessment for both the electric and gas IRP in Washington and Idaho. (Avista uses the Energy Trust of Oregon to conduct its Oregon CPA.) The continuity in CPA contractors allowed Avista to make very few minor changes to the CPA methodology. AEG estimated that Avista's achievable economic conservation potential for its Washington territory is 3.6 million dekatherms by 2040.

Staff has no suggested changes concerning natural gas CPA and conservation targets *at this time*. It is important to note that Staff will be further analyzing the details of the CPA, including

avoided costs, as part of the CPA approval process described in Appendix 1 to these comments.

Renewable Natural Gas (RNG)

The Draft IRP discusses RNG at length, including state and regional policy considerations, internal steps the company has been taking to prepare for an RNG program, gas quality specifications, and options to build or buy projects. Avista acknowledges that its cost-effectiveness evaluation methodology for RNG is a work in progress. A voluntary RNG program is currently in development. Staff look forward to reviewing detailed assumptions of RNG in the Final IRP.

Recommendation:

In the **Final IRP:**

- Include details of RNG cost assumptions in the appendices.

In **future IRPs**:

- Use any up-to-date cost data that is available to model potential RNG resources.