

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

LC 75

In the Matter of

AVISTA CORPORATION, dba AVISTA
UTILITIES,

2021 Integrated Resource Plan.

ORDER

DISPOSITION: STAFF'S RECOMMENDATION ADOPTED

This order memorializes our decision, made and effective at our October 14, 2021 Special Public Meeting, to adopt Staff's recommendation in this matter: acknowledge Avista Corporation's 2021 Integrated Resource Plan (IRP) as consistent with our IRP guidelines, acknowledge Staff's 15 recommendations, and acknowledge the company's 2021 IRP Action Plan. The Staff Report is attached as Appendix A.

Made, entered, and effective Oct 15 2021.



Megan W. Decker
Chair



Letha Tawney
Commissioner



Mark R. Thompson
Commissioner



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Oregon's regulated utilities in order for the Commission to consider acknowledgement of a utility's resource plan.²

The IRP Guidelines and Commission rules require a utility to file an IRP with a planning horizon of at least 20 years within two years of its previous IRP acknowledgment order, or as otherwise directed by the Commission.³ Further, the IRP must also include an "Action Plan" with resource activities that the utility intends to take over the next two to four years.⁴ The ultimate goal of the IRP is to select the "portfolio of resources with the best combination of expected costs and associated risks and uncertainties for the utility and its customers."⁵ This is often referred to as the "least cost/least risk portfolio."

The Commission reviews the utility's plan for adherence to the procedural and substantive IRP Guidelines and generally acknowledges the overall plan if it is reasonable based on the information available at the time.⁶ However, the Commission also explains: "We may also decline to acknowledge specific action items if we question whether the utility's proposed resource decision presents the least cost and risk option for its customers."⁷ The Commission may also decline to acknowledge specific Action Items if they are complete or substantially complete by the time the Commission issues its acknowledgment order.⁸

Also applicable to review of Avista 2021 IRP is whether it complies with all of the Commission requirements in its previously acknowledged IRP. Accordingly, in addition to IRP guidelines, Staff reviewed whether Avista complied with the Commission's order in its previous IRP, LC 72.

Analysis

Background

General Description of the IRP

Avista's 2021 IRP is a plan for meeting customer natural gas needs over the next 20 years. The IRP focuses on forecasting future customer demand for natural gas, determining the options available to meet customer demand, and identifying a resource

² Order Nos. 07-002 and 07-047. Additional refinements to the process have been adopted: See Order No. 08-339 (IRP Guideline 8 was later refined to specify how utilities should treat carbon dioxide (CO₂) risk in their IRP analysis); Order No. 12-013 (guideline added directing utilities to evaluate their need and supply of flexible capacity in IRP filings).

³ Order No. 07-002 (Guidelines 1(c) and 3(a)) and OAR 860-027-0400.

⁴ Order No. 14-415 at 3 and Order No. 19-106 at 2.

⁵ Order No. 07-002 at 1-2.

⁶ Order No. 07-002 at 1.

⁷ Order No. 07-002 at 1.

⁸ Order No. 14-252 at 7.

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portfolio with the best blend of cost and risk for customers. The IRP brings together customer demand forecasts with available resource options, including supply-side resources as well as demand-side measures, to provide a valuable planning tool for Avista, its customers, regulatory agencies, and other stakeholders.

Procedural History

Avista's 2018 IRP (LC 72) was acknowledged on March 25, 2019 (Order No. 19-106). On March 11, 2020, the Company was granted an extension of the filing date of its next IRP from August 31, 2020 to April 1, 2021 (Order No. 20-071).

Avista held five Technical Advisory Group (TAG) meetings leading up to the filing of the 2021 IRP. The TAG meetings covered various aspects of the IRP development, including the resource stack, resource portfolio considerations, and risk analyses.

In January 2021 Avista circulated a draft IRP for informal stakeholder comment. Staff's comments on the draft IRP and Avista's responses to those comments can be found in Appendix 0.2 of the IRP.

Avista filed its 2021 IRP on April 1, 2021. The following table summarizes the procedural history since the filing.

Procedural history summary

Date	Procedural Activity in LC 75
April 1, 2021	Avista filed its 2021 IRP
April 20, 2021	Avista presents overview at public meeting
April 21, 2021	Pre-hearing conference to determine schedule
June 1, 2021	Opening Comments Filed by Staff, the Citizens' Utility Board of Oregon ("CUB") and the Alliance of Western Energy Consumers ("AWEC")
June 22, 2021*	Avista files Reply Comments
August 3, 2021	Staff, CUB, and AWEC filed Final Comments
August 20, 2021	Avista Final Reply Comments filed

* This item was filed one day after the schedule. Stakeholders agreed to accept the late comments.

Avista introduced the IRP to the Commission in a presentation at the April 20, 2021 Public Meeting. On April 21, 2021, the Commission hosted a prehearing conference to determine the procedural schedule.

Since the initiation of the IRP filing, Staff submitted 78 data requests (DR). In addition to the TAG meetings, the Company agreed to host additional informal and collaborative phone and web meetings for further clarification of information by request.

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Avista's 2021 IRP Summary

The defining feature of this IRP is that Avista does not anticipate a need for any significant capital investments in Oregon to meet demand in the next 20 years. The Company's expected case demand growth declined from 1.2 percent to 1.0 percent and the levelized price of natural gas also declined 10 percent. The Company identifies resource needs to meet demand only under the high growth, low gas price scenario, and a resource compliance need in the carbon reduction scenario.

The Company's action plan does not include any significant resource acquisitions in Oregon as does not anticipate any capital work for supply side or distribution upgrades in the next four years. The Company's Action Plan instead focuses on exploring potential modeling improvements for the next IRP. Given the Company's conclusion and Action Plan, Staff and stakeholders focused their analysis and comments on determining whether the Company conducted sufficient analysis to lead to these conclusions particularly regarding the demand forecast and distribution needs, and opportunities to expand the modeling of greenhouse gas regulations.

Generally, staff found Avista's analysis and conclusions in the 2021 IRP were documented appropriately and that the 2021 IRP was an adequate assessment of least-cost, least-risk planning. Staff, AWEC, and CUB did identify some improvements for the next IRP. These improvements are captured in staff's recommendations below.

This Staff Report explores Avista's Action Plan, formal comments by stakeholders and the Company, and other issues raised throughout this docket. This report lists the Company's action items with relevant discussions of issues raised by parties, followed by discussion of additional topics brought by parties.

Action Item Discussion

Below is a summary of the items in the Action Plan Avista has proposed in the 2021 IRP.

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Action Item	In LC 72	New
1. <u>Carbon Modeling</u> - Further model carbon reduction in Oregon and Washington		x
2. <u>Modeling Tools</u> - Investigate new resource plan modeling software and integrate Avista's system into software to run in parallel with Sendout		x
3. <u>EO 20-04</u> - Model all requirements as directed in Executive Order 20-04		x
4. <u>Energy Efficiency</u> - Avista will ensure Energy Trust (ETO) has sufficient funding to acquire therm savings of the amount identified and approved by the Energy Trust Board.	x	
5. <u>Demand Forecast</u> - Explore the feasibility of using projected future weather conditions in its design day methodology.		x
6. <u>Distribution</u> - Regarding high pressure distribution or city gate station capital work, Avista does not expect any supply side or distribution resource additions to be needed in our Oregon territory for the next four years, based on current projections. However, should conditions warrant that capital work is needed on a high-pressure distribution line or city gate station in order to deliver safe and reliable services to our customers, the Company is not precluded from doing such work.	x	

2021 Action Plan Ongoing Activities

The following activities are considered ongoing and are the same as those included in the 2018 IRP (LC 72):

- Continue to monitor supply resource trends including the availability and price of natural gas to the region, LNG exports, methanol plants, supply and market dynamics and pipeline and storage infrastructure availability.
- Monitor availability of resource options and assess new resource lead-time requirements relative to resource need to preserve flexibility.
- Meet regularly with Commission Staff to provide information on market activities and significant changes in assumptions and/or status of Avista activities related to the IRP or natural gas procurement practices.
- Appropriate management of existing resources including optimizing underutilized resources to help reduce costs to customers.

Overall, Staff supports the Company's action items and also has additional recommendations.

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2021 IRP Compliance with Commission Guidelines and Previous Orders

Staff has concluded that Avista complied with the Commission's IRP Guidelines. All resources appeared to have been evaluated on a reasonably consistent and comparable basis. Risks and uncertainties were appropriately considered and the selected resource portfolio balanced costs and risks well. At the same time, Staff has identified opportunities for the next IRP that may lead to more robust modeling of resources and risks.

Staff recommends acknowledgement of the IRP and associated Action Plan Items 1 through 6, and identified Ongoing Activities. Staff has, however, identified additional analysis and improvements that should be part of Avista's next IRP. They are found in Staff's recommendations later in this memo.

Staff also determined that Avista complied with the recommendations from the previous order acknowledging Avista's 2018 IRP. Specifically, the company received nine recommendations to either improve the 2018 IRP or to undertake prior to the next IRP as part of Order No. 19-106. They are listed below:

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2018 IRP Recommendations	Completed
Continue to pursue improvements to its demand and growth models for its next IRP.	✓
Report in its first IRP update on how it is addressing these recommended improvements for its customer growth forecast models.	✓
Work with the Avista TAC to consider additional peak day factors by the next IRP.	✓
Update Staff and stakeholders in the future regarding possible pipeline projects.	✓
Include a section in the next IRP that explores large-scale supply interruptions, like the October 2018 Enbridge incident, and the role of Avista's storage resources.	✓
Dedicate a TAC meeting, prior to the IRP update, to working with Staff and stakeholders to develop a shared understanding of forward price curve modeling techniques.	✓
Hold a TAC meeting prior to its first IRP update to identify a scientifically accurate and reliable stochastic modeling approach to replace the 200-draw Monte Carlo technique.	✓
Clarify the historical use and capacity of regulators and if the data does not match planning assumptions that the Company re-evaluate the use of operational assumption in its distribution planning by the next IRP	✓
All future IRPs utilize a 4-year Action Plan.	✓

Staff Recommendations

Below is a list of Staff's recommendations. Staff begins by discussing the items from the Company's Action Plan in the order provided by the Company. Staff then discusses additional topics identified by stakeholders and Staff. Staff provides recommendations throughout this section. Please note that these recommendations are numbered in the order they appear in this Staff Report and are different from the numbers listed in Staff's Final Comments.

Carbon Modeling (Action Item No. 1)

Avista's first action item is to further model carbon reduction in Oregon and Washington. In the 2021 IRP, Avista used updated assumptions about carbon compliance costs for

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Oregon and Washington, and continues to assume no risk of carbon compliance costs in Idaho.

Stakeholder Comments - CUB recommends that Avista model a range of carbon prices for Idaho, with \$0 at the lower end. CUB also requests that Avista discuss the risks of not including a price for carbon in Idaho. CUB notes in Final Comments that Idaho Power developed carbon price scenarios, and believes Avista should conduct similar studies.

Staff's Position - Staff initially suggested that the Company consider using the social cost of carbon (SCC) associated with different types of gas as an adder to the cost of natural gas. Staff also recommended that the Company assume that there is a risk that there may be future carbon compliance costs in Idaho, as these compliance costs could occur at the state or federal level.

Avista's Position - In Response Comments, the Company explained that it would monitor federal and state policies and model carbon prices based on those policies. Avista argues that to assume a carbon price risk without the backing of law or policy would be subjective. In Final Reply Comments, the Company agreed to apply Social Cost of Carbon assumptions for future compliance costs in the 2023 IRP. The Company does not agree to applying a non-zero carbon compliance cost for Idaho because it has yet to be proposed by the Idaho Commission.

Additionally, Staff stands by its and CUB's assertion that there is a risk of future carbon compliance costs in Idaho. However, Staff appreciates the Company's intent to work with each individual jurisdiction on assumptions for that jurisdiction. If the Company ultimately does not assume a risk for carbon compliance costs in its Idaho jurisdiction, Staff requests that the Company instead provide justification for the exclusion of this cost and an analysis of how these assumptions do or do not impact resource modeling in Oregon. **Staff supports the acknowledgement of Action Item 1 with the following recommendations for the 2023 IRP:**

Recommendation 1: Provide a workshop in the next IRP development process to discuss the use of the social cost of greenhouse gases to help inform carbon risk in its portfolios.

Recommendation 2: If the Company models zero carbon risk for its Idaho customers, the Company should provide justification for the exclusion of this

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cost and explain how this modeling choice impacts or does not impact Oregon customers.

Modeling Tools (Action Item No. 2)

Avista plans to investigate new resource modeling software to run in parallel with Sendout in the next IRP before fully replacing it. Avista plans to eventually replace the Sendout modeling software because it is no longer being supported. Avista has mentioned these plans at a TAC and other meetings.

Staff finds Avista's proposal reasonable and supports the Company's transition to a supported software. Staff notes that stakeholders have appeared supportive in meetings where this issue has been discussed. **Staff supports the acknowledgement of Action Item 2 with no additional recommendations or modifications.**

EO 20-04 (Action Item No. 3)

Avista commits to modeling "all requirements as directed in Executive Order 20-04." Avista intends to model any requirements set by the Commission in response to EO 20-04 and as a result of the Commission's EO 20-04 Workplan.

Stakeholder Comments - AWEC acknowledges that there is uncertainty with how to model EO 20-04 compliance and that discussion is ongoing.

Staff's Position - Staff appreciates the Company's overall engagement on activities related to EO 20-04, and specifically the intent to model outcomes from these activities. Staff also sees the benefit of having a broader discussion across policies to inform near-term resource plans. Staff notes that Avista has been supportive of Staff's efforts to implement OPUC's EO 20-04 Workplan and engaged with Staff prior to filing this IRP, throughout the IRP process, as well as in the Natural Gas Fact-Finding (NGFF) docket (UM 2178).

Staff recommended Avista convene a stakeholder workshop to discuss strategies to achieve near-term emissions reductions while working toward Oregon Department of Environmental Quality's (DEQ) Climate Protection Program goals. Staff suggested consideration of a pilot program, such as an SB 844 greenhouse gas (GHG) reduction project or an SB 98 Renewable Natural Gas (RNG) project.

Avista's Position - As an alternative to holding a stand-alone workshop, Avista suggests a workshop could also be held as part of the NGFF workshops being held by Staff, or as part of Avista's next IRP.

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Staff Conclusion

Staff recommended that the Company hold a workshop to discuss near-term actions the Company can take to reduce emissions. While the Company initially proposed holding a workshop leading up to the next IRP, or in the NGFF docket, in its Final Comments it suggested this could be held as part of the NGFF workshops being held by Staff. Staff is supportive of the Company leveraging the NGFF docket to model and share strategies for GHG emission reductions but is not confident the NGFF docket can adequately accommodate a discussion that includes strategies to leverage SB 98 or SB 844 programs, along with the risks associated with any compliance model developed for UM 2178. Staff stands by the recommendation to hold a separate workshop and requests that it build from the work in UM 2178 and explore how SB 98 and SB 844 programs might be used to assist in implementation. **Staff supports the acknowledgement of Action Item 3 with the following recommendations prior to the 2023 IRP.**

Recommendation 3: Host a workshop within two months of the publishing of DEQ's Clean Power Plan Rules, to discuss challenges and opportunities to incentivize near-term actions to reduce GHGs to meet Clean Power Plan targets, including consideration of SB 98 and SB 844 programs.

Energy Efficiency (Action Item No. 4)

Avista intends to provide sufficient funding to Energy Trust of Oregon to acquire annual energy efficiency savings as approved by Energy Trust's Board.

Stakeholder Comments - AWEC supports the acquisition of all cost-effective energy efficiency.

Staff's Position - Staff supports this action item. Staff also finds that the amount of energy efficiency identified lacks context within the body of the IRP without a comparison to past forecasts. Staff recommended that the Company provide a comparison between the current conservation potential assessment (CPA) to that of the last IRP in future.

Avista's Position - Avista agrees to provide a comparison between CPAs in the next IRP.

Staff Conclusion

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Staff supports the acknowledgement of Action Item 4 with the following recommendations for the 2023 IRP.

Recommendation 4: In future IRPs, provide a comparison between the current CPA and the last CPA, including a narrative explanation of major changes in the potential.

Demand Modeling (Action Item No. 5)

Avista is moving towards more sophisticated weather modeling and proposes to explore the feasibility of using projected future weather conditions in its design day methodology. In the last IRP, the Company relied on the coldest day on record by service territory for its peak day forecast. In this IRP, Avista proposed using a coldest average temperature each year for the past thirty years, combined with a 99 percent probability of a weather occurrence. Avista argued that using a rolling thirty years helps account for climate trends. In the next IRP, Avista will explore projected future weather conditions, which would move beyond historic data towards considering future climate predictions.

Stakeholder Comments - In Opening Comments, regarding demand generally, CUB requested that Avista include a No Growth scenario in its next IRP, and the impact on Oregon customers specifically in such a scenario.

Staff's Position – Staff's questions about Avista's "99% probability" approach were resolved through comments and DRs. Staff supports Avista using more recent weather data to account for trends. In Opening Comments, Staff recommended that the Company switch from three years to five years of input data for its use per customer (UPC) forecast. Staff believes that using five years of data instead of three is more accurate and thus preferred.

In Final Comments, Staff recommended that the Company include a scenario in the next IRP with zero or declining growth. Staff supports CUB's recommendation for a No Growth scenario, to address the concern of planning for the potential of lower than expected growth in natural gas demand.

Avista's Position - In Response Comments, Avista offered to discuss a No Growth scenario with the TAC as a potential scenario in the next IRP. In Final Reply Comments, Avista agreed to work with Staff and TAC and consider an array of use per customer estimates, including five-year UPC. Avista also proposed to include varying growth scenarios with a range of growth sensitivities to create a low demand scenario.

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Staff Conclusion

Staff agrees that the new peak day methodology using historic data appeared to better represent more recent weather and supports Avista's effort to consider projected future weather conditions to accomplish more accurate weather modeling. Additionally, for UPC, Staff recommended that the Company switch from three years to five years of input data for its UPC forecast. Avista countered with the proposal to model different time frames, including three and five and compare different years of UPC data in the next IRP. Staff finds Avista's proposal reasonable and supports the approach.

Staff and CUB recommended a zero load growth scenario as flat or declining loads are a reasonable risk for Avista's Oregon territory. Avista returned with a proposal to provide a range of sensitivities to create a low demand scenario. Staff appreciates the modeling effort that Avista is offering to conduct. However, Staff is unclear as to whether the low growth scenario will ultimately show a zero growth situation or lower. Staff emphasizes the importance of modeling a scenario that informs a situation where demand is not growing as it had in the past. Staff supports studying a range of growths to inform a low growth scenario so long as one scenario models zero or negative growth. **Staff supports acknowledgement of Action Item 5 with the following recommendations for the 2023 IRP:**

Recommendation 5: In the next IRP, study a range of historic data for modeling use per customer, including five years of historic usage.

Recommendation 6: Include a scenario in the next IRP with zero or declining growth.

Distribution (Action Item No. 6)

In Avista's sixth action item, the Company states it does not anticipate a need for any supply side or distribution additions in its Oregon territory, but would not be precluded from capital work in order to deliver safe and reliable service.

Stakeholder Comments - AWEC asked in Opening Comments whether the Company will be reducing the frequency of rate case filings since it is indicating that it does not have many distribution projects planned.

Staff's Position - Staff believes that the Company has conducted sufficient analysis to conclude that there are no needs for significant capital investments for its distribution system in its Oregon territory. Staff noted in Opening Comments that the Company had previously identified the Klamath Falls city gate station and Sutherlin city gate station in

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previous IRPs as areas it was monitoring for potential capacity constraints. Staff requested that the Company provide updates on these areas, and any others it is monitoring for capacity constraints.

Avista's Position - In the Company's Response Comments, stated that it would continue to monitor customer usage at the Sutherlin and Klamath Falls city gates.

In Response Comments to AWEC regarding the cadence of rate cases, the Company maintained that it is unable to predict the future frequency of rate cases due to the number of unknowns that impact the need for a rate case.

Avista participates in quarterly updates with Staff and any interested outside stakeholders where capital projects (in addition to other topics) are presented and estimates are provided by project. The Company explained it is committed to continuing these updates to keep stakeholders informed of capacity or pressure issues.

Staff Conclusion

Staff approached its analysis of distribution system planning with the intent of determining whether Avista has conducted sufficient planning to conclude that there is no need for major distribution system upgrades. The Company reassured Staff that it does not intend to make any substantial Oregon plant investments related to added capacity in the next four years and that its load study reviews do not indicate a need for any distribution plant investments over the next four years.

Staff is satisfied with the Company's responses to questions about distribution planning and proposed that in the next IRP, Avista should continue to keep the Commission apprised of any future distribution projects, including the Sutherlin and Klamath Falls city gate projects. In addition to existing quarterly updates, Staff requests that the Company provide brief updates in future IRPs on Klamath and Sutherlin, as these areas have been identified for potential investments, even if there has been no change. Staff also requests that the company provide a list of areas or projects where the Company is monitoring for capacity or pressure issues in future IRPs. **Staff supports the acknowledgement of action item 6 with the following recommendations for the 2023 IRP:**

Recommendation 7: In the next IRP, Avista should continue to keep the Commission apprised of the Sutherlin and Klamath Falls city gate projects.

Recommendation 8: Provide a list of areas or projects where the Company is monitoring for capacity or pressure issues.

Ongoing Activities

Avista provided a list of ongoing action items that inform the IRP development process and overall resource planning. Avista plans to continue with the following activities:

- Continue to monitor supply resource trends including the availability and price of natural gas to the region, LNG exports, methanol plants, supply and market dynamics and pipeline and storage infrastructure availability.
- Monitor availability of resource options and assess new resource lead-time requirements relative to resource need to preserve flexibility.
- Meet regularly with Commission Staff to provide information on market activities and significant changes in assumptions and/or status of Avista activities related to the IRP or natural gas procurement practices.
- Appropriate management of existing resources including optimizing underutilized resources to help reduce costs to customers.

Staff Conclusion

Staff appreciates Avista's ongoing efforts to inform and resource planning. **Staff supports acknowledging Avista's ongoing activities as part of its Action Plan.**

Issues Outside of the Action Plan Raised by Stakeholders

Stakeholders and Staff raised a number of issues outside those addressed in the Action Plan. These included comments about the use of demand response, community climate goals, a variety of renewable resources such as renewable natural gas and hydrogen, transport procurement, and planning for supply interruptions. These issues and associated recommendations from Staff are described below.

Demand Response

Demand response was identified as a resource option that should be given more consideration as a competing resource.

Stakeholder Comments - In Opening Comments, CUB suggested that Avista consider demand response programs as an option for reducing GHGs by managing loads. CUB

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provided example programs in other states and suggested the Company study opportunities to remove barriers to participation in demand response programs.

Staff's Position - Staff agrees with CUB and requested that Avista consider demand response as a demand-side resource option.

Avista's Position - Avista agreed to provide an estimate of demand response potential in the next IRP.

Staff Conclusion

Demand response is not currently modeled as an available resource option in this IRP. Staff and CUB believe that demand response is a key demand-side resource option to model going forward as demand response programs for natural gas utilities exist in other states and is being explored by NW Natural. Demand response will be an important tool to help meet future clean energy goals by reducing peak usage. Avista has agreed to estimate demand response potential for the next IRP. **Staff recommends the following addition to the 2023 IRP:**

Recommendation 9: Include an estimate of demand response as a demand side resource in the next IRP.

Community Climate Goals

In Opening Comments Staff requested information on whether communities in the Company's Oregon service territory are considering natural gas emissions in their climate goals and further inquired about Avista customers' anticipated willingness to pay for GHG reduction programs. Avista's IRP referenced two studies conducted with Washington and Idaho customers regarding customer adoption potential of RNG programs. These reports suggested that the cost differential between conventional fossil gas and RNG, as well as outstanding questions about the how effective RNG projects will be in reducing GHG emissions, may be significant barriers to program enrollment. The Company has not conducted a similar study in Oregon. Staff, CUB, and AWEC engaged in discussion over the information Avista provided about community climate goals and customers' willingness to pay for greenhouse gas reductions.

Stakeholder Comments - In Final Reply Comments, CUB supports Staff's recommendation to work with communities to identify ways to reduce greenhouse gas

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emissions. CUB cautioned that some communities in Oregon may attempt to move towards phasing out natural gas.

In Final Reply Comments, AWEC found Avista's comments regarding Community Climate Goals informative, and representative of many customers, particularly regarding the cost of fuel switching. AWEC recommends an electrification study to see how the electric system will operate under increased loads.

Staff's Position - In Final Comments, Staff recommended that prior to the next IRP, the company conduct market research similar to what the Company did in Washington to more fully reflect Oregon customer willingness to pay for various carbon reduction strategies.

Avista's Position - In Response Comments, Avista noted that some Oregon cities in their service territory, including Ashland and Talent, are considering natural gas emissions in their climate plans. Avista has been engaging with these communities on their climate plans and described its communications with some businesses and communities in Oregon that are concerned about affordability.

In Final Reply Comments, Avista proposed to investigate the feasibility of conducting market research in Oregon on willingness to pay for carbon reduction strategies and will do so if it can be conducted at reasonable cost. In the next IRP, Avista will provide results or explain why the research did not occur.

Staff Conclusion

Staff maintains its recommendation that prior to the next IRP, the company conduct market research to more fully reflect Oregon customer willingness to pay for various carbon reduction strategies in addition to any Climate Protection Program (CPP) activities by repeating a study similar to one conducted by the Company in its Washington and Idaho territory. This would inform the feasibility and potential adoption rates of possible emission reduction strategies. Staff appreciates that there are customers who are concerned about affordability when considering GHG reductions, and would like to learn more about Oregon customer behavior and preferences on this topic. **Staff recommends the following addition to the 2023 IRP:**

Recommendation 10: Prior to the next IRP, repeat the market research conducted in Washington to assess the willingness of Oregon customers to pay for various

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carbon reduction strategies, in addition to CPP compliance activities. Present results at a TAC meeting.

Additional Renewable Resources

Staff and stakeholders had a number of comments regarding Avista's assumptions about renewable natural gas (RNG), hydrogen, and the costs of these technologies.

Stakeholder Comments

RNG - In Opening Comments, CUB recommended that the Company evaluate a variety of RNG sources and ownership structures prior to committing to an RNG project.

Hydrogen - In its Opening Comments, CUB also recommended that the company provide a description of its current infrastructure and whether it is able to handle hydrogen. CUB also asked that the Company provide information on the capital investment needed to handle hydrogen on system.

RNG/Hydrogen - In Final Comments, AWEC requested more information on the barriers that exist for developing RNG and renewable hydrogen projects, and recommended the company take action now to invest in these projects, believing they will be critical to meeting future regulations.

Staff's Position

RNG - In both Opening and Final Reply Comments, Staff was interested in understanding how Avista intends to identify and mitigate RNG investment risks to ratepayers, given that many aspects of a project can shift financial and environmental risk between ratepayers and the Company. Staff requested that as part of its 2021 IRP Update Avista provide an update to its RNG pipeline, including information on project type, location, ownership structure, carbon intensity and emission reduction potential, development timeline, and measures the Company is considering to mitigate customer risk. In Final Reply Comments, Staff recommended that Avista engage with stakeholders early in the development process to discuss potential RNG project types and ownership structures and ways to mitigate or balance project risks fairly.

Hydrogen - Staff requests more information on the infrastructure needs to accommodate hydrogen blends, the current capabilities of Avista's system, an overview of hydrogen pilots (completed or planned) and any upgrades necessary to do so.

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Technology Costs - In Final Reply Comments, Staff requested Avista describe assumed technology changes and their impact on future levelized costs in the text of the next IRP.

Avista's Position

In Final Reply Comments, Avista agreed to provide an update to its RNG project pipeline with the requested information to the extent possible in the 2021 IRP Update. Avista also agreed to present information on the capabilities of its system to accommodate hydrogen and to provide updated levelized cost information for renewable technologies in the 2023 IRP.

Staff Conclusion

Technology Costs

Staff sought clarity in how improvements in renewable gas technology that decrease the expected levelized cost were modeled. The Company confirmed that Avista's assumed levelized costs include future technology improvements that lower the levelized cost. Staff finds the Company has reasonably modeled the expected future costs of these renewable resources. In the Company's next IRP, Staff recommends Avista describe the assumed technology changes and their impact on future levelized costs.

RNG

Staff was interested in understanding how Avista intends to identify and mitigate RNG investment risks to ratepayers. Staff notes that RNG project risk to ratepayers will vary greatly based on whether the project is a 'buy' versus a 'build' project. This concern was echoed by CUB in its Opening Comments, who recommended that the Company evaluate a variety of RNG sources and ownership structures prior to committing to an RNG project.

Staff recommends that Avista engage with stakeholders early in the development process to discuss potential RNG project types and ownership structures and ways to mitigate or balance project risks fairly. Staff recommends Avista provide an update on its RNG project pipeline as part of its 2021 IRP Update. Staff recommends the update include, at a minimum, project type, location, ownership structure, carbon intensity and emission reduction potential, development timeline, and measures the Company is considering to mitigate customer risk.

Hydrogen

Staff and CUB were interested in understanding the infrastructure needs to accommodate hydrogen blends. Staff supports a more detailed accounting of

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Avista's current gas infrastructure and its ability to accommodate various blends of hydrogen. Where that accommodation includes necessary upgrades, the Company should also provide an accounting of the upgrades required. Staff recommends that if and when future upgrades are considered, that the Company report on the costs associated with including upgrades that enable the inclusion of varying percentages of hydrogen.

Staff recommends the following additions to the 2021 IRP Update and 2023 IRP respectively:

Recommendation 11: Work with stakeholders and Staff to confirm information that should be included in an RNG project pipeline update in the 2021 IRP Update, including, but not limited to consumer risks and costs assessment associated with buy vs build RNG options.

Recommendation 12: In the next IRP, provide an analysis of the capabilities of Avista's system to accommodate hydrogen, where upgrades would be required to accommodate hydrogen, an overview of any past or planned hydrogen pilots, and estimated costs of those upgrades.

Recommendation 13: In the next IRP, describe the assumptions for changes to renewable technologies and their impact on future levelized costs in the text of the next IRP.

Commodity Transport Procurement

Staff request that the Company discuss long-term commodity transport procurement strategies at a TAC meeting before the next IRP. Staff is interested seeing that the Company is considering long-term investments in transport contracts with the context of integrated resource planning.

Stakeholder Comments - AWEC notes that Avista has diverse supply side resources. AWEC also notes that the price for firm transportation may increase in the near future, which could play into decisions about long-term transport procurement.

Staff's Position - In Final Comments, Staff recommends that Avista discuss its strategy for transport contracts as the Company's transport needs may be changing, while the contracts themselves can be quite long.

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Avista's Position - In Final Reply Comments, Avista agrees to discuss transport procurement strategies at a TAC meeting.

Staff Conclusion:

Staff believes that long-term procurement strategies for transport contracts warrant additional discussion, as the transport needs may change in the future. **Staff recommends the following action in advance of the 2023 IRP:**

Recommendation 14: Discuss long-term transport procurement strategies at a TAC meeting before the next IRP.

Supply Interruption Scenario

Avista looked into a possible future large-scale supply interruption scenario in this IRP, found that a catastrophic event of this kind would lead to immediate unserved load, and concluded there would be limited value in pursuing such a scenario where there is a supply interruption in the first year when there would not be enough time to build resources to address the event. Avista ended its analysis at this conclusion and did not pursue the scenario further.

Stakeholder Comments - In Final Comments, AWEC recommended that Avista conduct further analysis on a supply interruption scenario, including the role of curtailment and entitlement orders in system reliability. AWEC recommended that this scenario happen during the winter season.

Staff's Position - Staff recommended that Avista work with stakeholders to develop a scenario with a significant supply interruption.

Avista's Position - In Final Reply Comments, Avista agrees to build upon its modeling in this IRP to develop a supply disruption scenario in the next IRP.

Staff's Analysis and Recommendations

Staff and AWEC requested that the Company model a scenario where there is a large-scale supply interruption. Avista concluded that there was limited value in pursuing this

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activity based on the assumption that the disruption happened immediately and that it would be challenging to predict how other actors in the region would behave.

Staff disagreed with the premise of Avista's arguments and believes that the Company can work with stakeholders to create a reasonable scenario that can inform risks and resource decisions, including the timing of the event and assumptions about other activities in the region that occurred in response to the real event in 2018. The purpose would be to understand the impact of such a situation, what investments would be necessary to overcome it, and then determine if such investments are reasonable. Staff requests that Avista work with TAC to develop a scenario with a future large-scale supply interruptions, like the October 2018 Enbridge incident. **Staff recommends the following action as part of the 2023 IRP:**

Recommendation 15: Work with TAC to develop a scenario with a future large-scale supply interruptions, like the October 2018 Enbridge incident.

Conclusion

Staff appreciates the excellent work of Avista and each of the stakeholders participating in this IRP. Staff appreciates the contributions of AWEC and CUB with formal comments in this docket. Staff has presented a series of recommendations above. Staff recommends acknowledgement of Avista's IRP and Action Plan with the associated additions summarized below. Below is a summary of Staff's recommendations in this proceeding.

Action Plan Recommendations

Carbon Modeling (Action Item No. 1)

Further model carbon reduction in Oregon and Washington

Recommendation: **Acknowledge**

Additional Recommended Action Items for the 2023 IRP:

Recommendation 1: Provide a workshop in the next IRP development process to discuss the use of the social cost of greenhouse gases to help inform carbon risk in its portfolios.

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Recommendation 2: If the Company models zero carbon risk for its Idaho customers, the Company should provide justification for the exclusion of this cost and explain how this modeling choice impacts or does not impact Oregon customers.

Modeling Tools (Action Item No. 2)

Investigate new resource plan modeling software and integrate Avista's system into software to run in parallel with Sendout

Recommendation: **Acknowledge**

EO 20-04 (Action Item No. 3)

Model all requirements as directed in Executive Order 20-04

Recommendation: **Acknowledge**

Additional Recommended Action Items for the 2023 IRP:

Recommendation 3: Host a workshop within two months of the publishing of DEQ's Clean Power Plan Rules, to discuss challenges and opportunities to incentivize near-term actions to reduce GHGs to meet Clean Power Plan targets, including consideration of SB 98 and SB 844 programs.

Energy Efficiency (Action Item No. 4)

Avista will ensure Energy Trust (ETO) has sufficient funding to acquire therm savings of the amount identified and approved by the Energy Trust Board.

Recommendation: **Acknowledge**

Additional Recommended Action Items for the 2023 IRP:

Recommendation 4: In future IRPs, provide a comparison between the current CPA and the last CPA, including a narrative explanation of major changes in the potential.

Demand Modeling (Action Item No. 5)

Explore the feasibility of using projected future weather conditions in its design day methodology.

Recommendation: **Acknowledge**

Additional Recommended Action Items for the 2023 IRP:

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Recommendation 5: In the next IRP, study a range of historic data for modeling use per customer, including five years of historic usage.

Recommendation 6: Include a scenario in the next IRP with zero or declining growth.

Distribution (Action Item No. 6)

Regarding high pressure distribution or city gate station capital work, Avista does not expect any supply side or distribution resource additions to be needed in our Oregon territory for the next four years, based on current projections. However, should conditions warrant that capital work is needed on a high-pressure distribution line or city gate station in order to deliver safe and reliable services to our customers, the Company is not precluded from doing such work. Examples of these necessary capital investments include the following:

- Natural gas infrastructure investment not included as discrete projects in IRP
 - Consistent with the preceding update, these could include system investment to respond to mandates, safety needs, and/or maintenance of system associated with reliability
 - Including, but not limited to Aldyl A replacement, capacity reinforcements, cathodic protection, isolated steel replacement, etc.
 - Anticipated PHMSA⁹ guidance or rules related to 49 CFR Part §192 that will likely require additional capital to comply
 - Officials from both PHMSA and the AGA have indicated it is not prudent for operators to wait for the federal rules to become final before improving their systems to address these expected rules.
 - Construction of gas infrastructure associated with growth
 - Other special contract projects not known at the time the IRP was published
- Other non-IRP investments common to all jurisdictions that are ongoing, for example:
 - Enterprise technology projects & programs
 - Corporate facilities capital maintenance and improvements

Recommendation: **Acknowledge**

Additional Recommended Action Items for the 2023 IRP:

Recommendation 7: In the next IRP, Avista should continue to keep the Commission apprised of the Sutherlin and Klamath Falls city gate projects.

⁹ Pipeline Safety and Hazardous Materials Safety Administration

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Recommendation 8: Provide a list of areas or projects where the Company is monitoring for capacity or pressure issues.

Ongoing Activities

- Continue to monitor supply resource trends including the availability and price of natural gas to the region, LNG exports, methanol plants, supply and market dynamics and pipeline and storage infrastructure availability.
- Monitor availability of resource options and assess new resource lead-time requirements relative to resource need to preserve flexibility.
- Meet regularly with Commission Staff to provide information on market activities and significant changes in assumptions and/or status of Avista activities related to the IRP or natural gas procurement practices.
- Appropriate management of existing resources including optimizing underutilized resources to help reduce costs to customers.

Recommendation: **Acknowledge**

Additional Staff Action Item Recommendations for the 2023 IRP:

Recommendation 9: Include an estimate of demand response as a demand side resource in the next IRP.

Recommendation 10: Prior to the next IRP, repeat the market research conducted in Washington to assess the willingness of Oregon customers to pay for various carbon reduction strategies, in addition to CPP compliance activities. Present results at a TAC meeting.

Recommendation 11: Work with stakeholders and Staff to confirm information that should be included in an RNG project pipeline update in the 2021 IRP Update, including, but not limited to consumer risks and costs assessment associated with buy vs build RNG options.

Recommendation 12: In the next IRP, provide an analysis of the capabilities of Avista's system to accommodate hydrogen, where upgrades would be required to accommodate hydrogen, an overview of any past or planned hydrogen pilots, and estimated costs of those upgrades.

Recommendation 13: In the next IRP, describe the assumptions for changes to renewable technologies and their impact on future levelized costs in the text of the next IRP.

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Recommendation 14: Discuss long-term transport procurement strategies at a TAC meeting before the next IRP.

Recommendation 15: Work with TAC to develop a scenario with a future large-scale supply interruptions, like the October 2018 Enbridge incident.

PROPOSED COMMISSION MOTION:

Acknowledge Avista Corporation's 2021 IRP as consistent with the Commission's IRP guidelines, acknowledge Staff's 15 recommendations, and acknowledge the Company's 2021 IRP action plan.

LC 75 – Avista's 2021 Integrated Resource Plan