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To: Chair Decker and Commissioner Tawney

From: Kim Herb – Utility Strategy & Planning Manager, Energy Resources and Planning
Division, Oregon Public Utility Commission

Re: Oregon Court of Appeals A178216 Opinion and LC 83



Since Cascade's last IRP was acknowledged, Oregon's Department of Environmental Quality developed the rules for the Climate Protection Program (CPP) as a decarbonization policy reflecting the priorities expressed in Executive Order 20-04. On December 19, 2023, the Oregon Court of Appeals found the CPP's rules invalid on procedural grounds. Given this time frame, OPUC Staff has not had enough time to consider how this opinion – and any subsequent actions by DEQ – would change Staff's recommendations. As such recommendations around such activities as Community Climate Investments remain in place. However, Staff anticipates further conversation about the implication of this opinion in forthcoming IRP acknowledgement decisions. Any changes notwithstanding, resource planning has always been performed under conditions of uncertainty. Staff's final comments and recommendations to Cascade's IRP are just one element of an extensive and ongoing conversation on utilities' role in decarbonizing the Oregon economy.

Sincerely,

Kim Herb

Utility Strategy & Planning Manager
Oregon Public Utility Commission

BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

Docket No. LC 83

In the Matter of

Cascade Natural Gas, 2023 Integrated
Resource Plan.

Staff Final Comments

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1: Executive Summary

The 2023 Natural Gas Integrated Resource Plan (IRP) is Cascade Natural Gas's (the Company or Cascade) first since the Oregon Department of Environmental Quality's Climate Protection Program (CPP) went into effect. Staff recognizes the new challenge that decarbonization represents for Oregon natural gas companies. Two days before Staff's Final Comments were due, the Oregon Court of Appeals ruled the Oregon Department of Environmental Quality's (DEQ) CPP rules to be invalid, placing further regulatory uncertainty on Cascade.¹ In addition, at the federal level, the Infrastructure Investment and Jobs Act (IIJA) and the Inflation Reduction Act (IRA) both brought significant change to the utility and energy industries. In the face of these challenges, the public review of Cascade's 2023 IRP represents an important conversation on the evolution that will be necessary in natural gas resource planning.

In Opening Comments, Staff identified a variety of issues with Cascade's 2023 IRP. With the benefit of other parties' Opening Comments, Cascade's Reply Comments, the Commission workshop, and continued engagement with the Company, these Final Comments summarize this proceeding and state Staff's conclusions in three sections: 1) Long-Term Plan, 2) Action Plan, and 3) Line Extension Allowances.

Long-Term Plan

Cascade's reliance on a variety of unreasonable inputs and omission of other important inputs leads Staff to recommend the Commission not acknowledge the Company's long-term plan. Cascade's cost for alternative fuels was optimistically low. Cascade's modeling of demand-side measures relied on an unreasonably low avoided cost and was limited to only energy efficiency, thus reflecting an overly limited role of demand-side measures and inflating future load needs. Cascade's modeling of long-term investments stress-tested the Company's Preferred Portfolio, which provides insight into how the Company's planned investments will perform under a variety of future conditions. However, Cascade overlooked a requirement to use retail prices as a regressor in the demand forecast for this IRP, resulting in the omission of a variable that is reasonably expected to lower demand given the significant rate impacts Cascade predicts. Further, Cascade can enhance future planning efforts by modeling the non-renewal of pipeline contracts as a sensitivity.

Action Plan

The only investments Staff recommends the Commission acknowledge are CCIs and energy efficiency. Cascade's 2023 IRP included limited Action Plan details.² Staff raised this concern in

¹ OPB. *Oregon Court of Appeals finds state carbon reduction rules invalid* December 20, 2023, p 1.

² Staff is aware that due to the Oregon Court of Appeals December 19, 2023 ruling, CCIs may no longer be available for purchase in 2024. Staff plans to leave this and other CPP-related recommendations in this round of comments.

Opening comments and the Company’s clarifications in Reply Comments, meetings with Staff, the Company’s SB 98 filing in UM 2307, and the Commission workshop have provided more detail. Staff’s understanding is that Cascade updated and modified its Action Plan and now is only seeking acknowledgement of CCIs, the RNG, and energy efficiency.

Cascade has withdrawn all distribution investments from this Action Plan, and Staff finds that the procurement of RNG is too far along to be considered for acknowledgement in an IRP. Therefore, at this stage in this proceeding, the Commission has relatively few investments to consider for acknowledgement. However, this proceeding has advanced how distribution system planning can be improved. Several stakeholders discuss how non-energy benefits and costs should be considered. Staff agrees that the non-energy impacts of non-pipe solutions should be considered.

Table 1: Revised Action Plan and Staff Recommendations

Oregon Action Item Number and Description		Staff Recommends	Further Discussion
1	Purchase 236,132 CCIs for compliance with the CPP for compliance period one.	Acknowledge	Section 3
2	Purchase 325,020 CCIs for compliance with the CPP for compliance period two.	Acknowledge	Section 3
3	Procure 11,950,471 therms of RNG or RNG attributes to meet CPP decarbonization for compliance period one.	Not Acknowledge	Section 3
4	Procure 62,670,245 therms of RNG or RNG attributes to meet CPP decarbonization for compliance period two.	Not Acknowledge	Section 3
5	Acquire 772,570 therms of energy efficiency in 2024.	Acknowledge	Section 3
6	Acquire 816,866 therms of energy efficiency in 2025.	Acknowledge	Section 3
7	Acquire 831,951 therms of energy efficiency in 2026.	Acknowledge	Section 3
8	Acquire 848,951 therms of energy efficiency in 2027.	Acknowledge	Section 3

At this stage, little is known publicly about what actions DEQ will take in response. Staff sees the least amount of planning medium- to long- term risk in operating as if the CPP were still in effect, as Oregon will most likely re-introduce the Program before the next IRP is filed.

Line Extension Allowances

Cascade's line extension policy is outdated, does not reflect incremental GHG emission reduction compliance costs associated with providing new gas service, and should be updated.

2: Long-Term Plan

Cascade’s reliance on a variety of unreasonable inputs and omission of other important inputs leads Staff to recommend the Commission not acknowledge the Company’s long-term plan. Cascade’s cost for alternative fuels was optimistically low. Cascade’s modeling of demand-side measures relied on an unreasonably low avoided cost and was limited to only energy efficiency, thus reflecting an overly limited role of demand-side measures and inflating future load needs. Cascade’s modeling of long-term investments stress-tested the Company’s Preferred Portfolio, which provides insight into how the Company’s planned investments will perform under a variety of future conditions. However, Cascade overlooked a requirement to use retail prices as a regressor in the demand forecast for this IRP, resulting in the omission of a variable that is reasonably expected to lower demand given the significant rate impacts Cascade predicts. Further, Cascade can enhance future planning efforts by modeling the non-renewal of pipeline contracts as a sensitivity.

2.1 – Alternative Supply-Side Resource Assumptions

In Opening Comments, Staff found Cascade’s assumptions about the cost of RNG and hydrogen to be insufficiently supported. This has made the modeling of these alternative supply-side resources too optimistic. The Citizens’ Utility Board (CUB) put this into perspective for RNG by showing that the price Cascade is currently paying ranges from [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL].³ In Reply Comments, Cascade conceded this point, writing: [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL].⁴ Staff finds that too significant an error to retain confidence in Cascade’s capacity expansion modeling. Climate Advocates, a joint filing by the Green Energy Institute, Citizens Climate Lobby, Climate Reality Project, Climate Solutions, Columbia Riverkeeper, Energize Bend, Oregon Physicians for Social Responsibility, Sierra Club, The Environmental Center, and 350Deschutes, has concerns about the safety and reliability of hydrogen.⁵ Cascade has no specific action item for an investment in hydrogen. However, Climate Advocates recommends that “any further study of hydrogen should not be subsidized with ratepayer dollars.”⁶ Staff does not see an inappropriate

³ See Docket No. LC 83, CUB, Opening Comments, October 5, 2023, p 6.

⁴ See Docket No. LC 83, Cascade, Reply Comments, November 2, 2023, p 10.

⁵ See Docket No. LC 83, Climate Advocates, Opening Comments, October 5, 2023, pp 6-7.

⁶ See Docket No. LC 83, Climate Advocates, Opening Comments, October 5, 2023, p 3.

level of expenditure on hydrogen, which remains an operating expense within the reasonable confines of resource planning because Cascade is not seeking acknowledgement of incremental expenditures. Staff finds exploring hydrogen's resource potential remains a reasonable planning endeavor for Cascade and encourages the Company to explore and critique objective third-party sources that could be used to project costs and availability, as well as safety concerns, as part of the TAG process for developing future IRPs.

2.2 – Demand-Side Measures

In Opening Comments, Staff found Cascade's modeled avoided cost to be unreasonably low and the scope of potential demand-side measures unreasonably narrow.⁷ The Company's modeling of demand-side measures in this IRP is therefore not reasonably expected to maximize alternatives to supply-side resources.

Cascade compared the cost-effectiveness of demand-side measures to a CPP compliance cost of \$4.50 per Dekatherm (Dth). This is significantly lower than marginal CPP compliance costs. Cascade's assumed avoided cost should include the marginal cost of acquiring decarbonized gas. Staff recognizes that the Oregon Court of Appeals' ruling invalidating the CPP creates more uncertainty in what the environmental compliance avoided costs will be, however, in UM 2307, the Company seeks to procure RNG under an Oregon statute, SB 98, therefore a higher avoided cost remains relevant, even in the near-term.

While the avoided costs are ultimately an issue for UM 1893, the best means of capturing a granular avoided cost in the next IRP is to endogenously model all demand-side management (DSM) options. For Staff, the full range of gas DSM extends beyond energy efficiency to include demand response and interruptible tariffs. In this IRP, Cascade only modeled energy efficiency demand-side measures that the Energy Trust of Oregon (Energy Trust) included in the RA model, Energy Trust's assessment of deployable, cost-effective energy efficiency using the avoided cost of the last IRP.

Only modeling for energy efficiency is too narrow a scope of resource selection for planning purposes. In the next IRP Cascade should begin modelling all demand-side measures endogenously in PLEXOS and then plan to pursue those selected for inclusion in the Preferred Portfolio.

Climate Advocates recommends Cascade "[p]roactively analyze building electrification as a resource."⁸ Staff agrees. Climate Advocates went further, to recommend the Commission direct the Company to "use consistent methods for incorporating supply-side and electrification incentives in its planning, and to expressly enumerate the electrification incentives incorporated into its analysis, disaggregated by market segment as appropriate (e.g., new vs. existing construction, income-qualified vs. market rate customers)." Staff concurs with this

⁷ See Docket No. LC 83, OPUC Staff, Opening Comments, October 5, 2023, pp 24-38.

⁸ See Docket No. LC 83, Climate Advocates, Opening Comments, October 5, 2023, p 13.

recommendation and notes the topic of electrification may be taken up in more detail in the OPUC process to update its IRP guidelines. However, this recommendation currently falls within a reasonable interpretation of the existing IRP guidelines.⁹

To this end, in LC 81 Avista put forth an effort to model electrification as a resource. This allowed Staff to engage on the modeling questions in more detail. Staff ultimately found that Avista's approach could be improved. For example, Avista only considered incentives that covered the entire project cost for electrification. This may have led to an overestimation of the resource cost of electrification by assuming too high of a required incentive to procure program participation.¹⁰ Regardless, Staff and the Commission appreciated the work and leadership by Avista around electrification in LC 81. Staff encourages Cascade to work with the TAG to explore an approach for modeling electrification as a proactive resource strategy, including identifying and seeking alignment on electrification inputs and assumptions.

2.3 – Stress Testing the Preferred Portfolio

Cascade deserves credit for adequately modeling a variety of scenarios. Cascade's 2023 IRP models a consistent set of portfolios across all six scenarios, which allows the Preferred Portfolio's performance to be tracked across different futures in comparison to other portfolios.

2.4 – Demand Forecast

Staff finds Cascade's demand forecast to be unreasonable, because it omits retail prices as an independent variable. The Commission directed Cascade to perform this analysis and the Company failed to comply with this important directive. Cascade expects RNG procurement to have an upward impact on retail rates. Appendix J of this IRP documents the significant magnitude of the expected bill impact. For example, the Preferred Portfolio shows Schedule 101 residential rates steadily doubling in real terms by 2050.¹¹ However, Cascade's demand forecast does not incorporate the downward pressure on the quantity of gas demanded that higher rates are reasonably expected to have.

Staff finds retail price to be a statistically significant predictor of demand in a case study in Prineville. Staff was unable to reproduce Cascade's automation code, which runs approximately 200 regression models in a single execution of code. Instead, Staff has manually reproduced two of the Company's models, residential customer count and residential use per customer, both in Prineville. Staff found that an increase in rates of one dollar per therm reduces the count of customers by 58 and use per customer by 0.04 therms per month.¹²

⁹ See Docket No. UM 1056, OPUC, Order No. 07-002, January 8, 2007, Appendix A, p 1.

¹⁰ See Docket No. LC 81, OPUC, Staff Final Comments, December 7, 2023, p 4.

¹¹ See Docket No. LC 83, Cascade, 2023 IRP, Appendix J, p 3.

¹² Final Prineville Residential Rate Elasticity Exploration Results.docx.

While Staff has performed a specific illustrative example of the impact of retail price increases on demand at a single gate, Cascade has agreed to perform this analysis on all regression models during this proceeding.¹³ In Reply Comments, the Company made a commitment to present these results in the Company's Final Comments. Staff looks forward to reviewing this important analysis.

Climate Advocates recommends an assumption of zero growth no later than 2027 due to changes in federal and state policy incenting building electrification. By implication, Climate Advocates' recommendation raises the analytic question: What should the reference demand forecast be? This is the outcome assumed to be the central tendency of customer demand for gas. Cascade provided a no-growth load forecast in this IRP in the Company's High Electrification scenario. So, it is not correct to say Cascade failed to take the possible impacts of electrification policy into consideration. What this IRP does not do is assume a high electrification scenario is the most likely outcome. Staff does not see sufficient evidence that Cascade should have made this assumption. In Reply Comments, Cascade proposed developing an end-use model for this purpose.¹⁴ Such a model might better capture near-term impacts of electrification policy that may be missing from the historical data used in the Company's regression analysis.

Climate Advocates wants the Commission to "provide guidance to both gas and electric utilities as to how they should incorporate climate data and provide realistic climate-related demand projections in future resource planning. This guidance should be based on the best available science and informed by climate experts, not just the utilities themselves."¹⁵ Staff finds this to be a valid point. If left to the regulated companies themselves, the assumptions might correlate to what drives the most capital expenditures rather than the representative concentration pathway (RCP) that is most widely identified by climate experts to be representative of the next 20 years. Electric companies are incented to assume high RCPs and gas companies are incented to assume lower RCPs. Indeed, PGE uses RCP 4.5 as its lower bound and RCP 8.5 as the upper bound.¹⁶ PacifiCorp does the same.¹⁷ In Reply Comments, Cascade stated the Company is planning to hire a climate expert and make revisions to the climate-related assumptions as early as the update to this IRP.¹⁸ In response to Climate Advocates' recommendation for the OPUC to provide guidance to the gas and electric utilities on incorporating climate data, Staff will include this as a topic for consideration when the OPUC commences a process to update its IRP guidelines in the coming year.

While adding a range of climate scenarios has value, developing a common understanding of which RCP should be considered the planning case would be helpful too. In LC 81, Staff recommended Avista work with stakeholders on finding the most reasonable method to adjust

¹³ See Docket No. LC 83, Cascade, Reply Comments, November 2, 2023, p 6.

¹⁴ See Docket No. LC 83, Cascade, Reply Comments, November 2, 2023, p 6.

¹⁵ See Docket No. LC 83, Climate Advocates, Opening Comments, October 5, 2023, p 14.

¹⁶ See Docket No. LC 80, PGE, 2023 IRP, March 31, 2023, pp 319-320.

¹⁷ See Docket No. LC 82, PacifiCorp, 2023 IRP, March 31, 2023, p 125.

¹⁸ See Docket No. LC 83, Cascade, Reply Comments, November 2, 2023, p 13.

weather data and pointed to a method known as Multivariate Adaptive Constructed Analogs (MACA), currently employed by Oregon State University’s Institute of Natural Resources, as a reference standard.¹⁹ Staff does not have a strong position on this methodological question, and we see the Company’s TAG workshops as the place for utilities to facilitate this conversation until a widely recognized best practice emerges.

Additionally, akin to the recommendation in Avista’s IRP, before the next IRP, Cascade should work with PacifiCorp to collect the load forecasts used in planning that most closely reflects a building electrification scenario for any overlapping territories. Cascade should discuss with the TAG the extent to which the Company might be able to model the equivalent in its next IRP.

2.5 – Non-Renewal of Contracts

In Opening Comments, Climate Advocates recommends the Commission adopt a similar directive for Cascade as the Commission ordered in LC 79, requiring the Company’s model to have the option of selecting the retirement of a resource.²⁰ Staff agrees. If the retirement of a contract, or any other resource, were a least-cost option for customers, Cascade should be using PLEXOS to identify such opportunities. In Reply Comments, Cascade agrees to incorporate this into the next IRP.²¹

In Opening Comments, Climate Advocates proposed a related directive on excess pipeline capacity. This directive would require Cascade to “uncover the impact to ratepayers if Cascade has secured capacity exceeding its need.”²² Staff finds this directive exists within current IRP guidelines.²³ Excess capacity means that the net present value revenue requirement (impact to ratepayers) can be reduced by portfolios with a better balance between demand and supply. Cascade did, for example, run PLEXOS without the Gas Transmission Northwest’s Xpress pipeline (GTNX) which will upgrade compressor stations in Athol, Idaho, Starbuck, Washington, and Kent, Oregon. Cascade’s modeling in this case found a higher revenue requirement without investing in GTNX.²⁴

While uncovering the impact to ratepayers of various levels of capacity is what this IRP should already be doing, AWEC wants to see more detail on how Cascade is optimizing pipeline capacity. AWEC recommends the Commission direct Cascade to file a report on how revenue from the Company’s pipeline rights is optimized and benefits customers. Staff supports this analysis. AWEC is looking for detailed reporting that could help inform the next IRP by recommending Cascade file this report 180 days after the final Commission order for this IRP. Given several stakeholders’ questions about Cascade’s investment in the GTNX pipeline, which

¹⁹ See Docket No. LC 81, OPUC, Staff Final Comments, December 7, 2023, p 16.

²⁰ See Docket No. LC 79, OPUC, Order No. 23-281, August 2, 2023, p 13.

²¹ See Docket No. LC 79, OPUC, Order No. 23-281, August 2, 2023, p 14.

²² See Docket No. LC 83, Climate Advocates, Opening Comments, October 5, 2023, p 14.

²³ See Docket No. UM 1056, OPUC, Order No. 07-002, January 8, 2007, Appendix A, p 1.

²⁴ See Docket No. LC 83, Cascade, 2023 IRP, June 2, 2023, p 4-24.

became substantially completed before the filing of this IRP, this report will help facilitate greater public understanding of how pipeline operations are modeled as resources in Cascade's IRPs. In Reply Comments, Cascade supported AWEC's proposal.²⁵

2.5 – Recommendations and Expectations

Recommendation 1: Staff recommends the Commission not acknowledge Cascade's long-term plan.

Expectation 1: Cascade should provide the marginal cost of RNG procurement for the avoided cost in UM 1893.

Expectation 2: Cascade should model all known demand-side measures endogenously and procure them after the IRP.

Expectation 3: Before the next IRP, Staff expects Cascade to work with the TAG to identify an approach for considering electrification as a proactive resource strategy.

Expectation 4: Cascade should develop an end-use model for demand forecasting to compare with the Company's econometric models.

Expectation 5: Cascade should model electrification using optimized incentives to avoid overestimating the cost of acquiring electrification from customers.

Expectation 6: Cascade should work with the TAG to identify a PacifiCorp IRP scenario reflecting electrification that Cascade might use to generate a load forecast for its next IRP.

Expectation 7: Cascade should model non-renewal or retirement of pipeline capacity contracts and the costs and benefits of doing so.

Expectation 8: Cascade should file, within 180 days following the final order on Cascade's 2023 IRP, a report discussing and evaluating its pipeline optimization activities, including how those pipeline optimization revenues are being returned to ratepayers.

²⁵ See Docket No. LC 83, Cascade, Reply Comments, November 2, 2023, pp 5-8.

3: Action Plan

The only investments Staff recommends the Commission acknowledge are CCIs and energy efficiency. Cascade’s 2023 IRP included limited Action Plan details. Staff raised this concern in Opening comments and the Company’s clarifications in Reply Comments, meetings with Staff, the Company’s SB 98 filing in UM 2307, and the Commission workshop have provided more detail. Staff’s understanding is that Cascade updated and modified its Action Plan and now is only seeking acknowledgement of CCIs, the RNG, and energy efficiency.

Cascade has withdrawn all distribution investments from this Action Plan, and Staff finds that the procurement of RNG is too far along to be considered for acknowledgement in an IRP. Therefore, at this stage in this proceeding, the Commission has relatively few investments to consider for acknowledgement. However, this proceeding has advanced how distribution system planning can be improved. Several stakeholders discuss how non-energy benefits and costs should be considered. Staff agrees that the non-energy impacts of non-pipe solutions should be considered.

3.1 – CCI

Cascade agrees with Staff that CCIs appear to be the least-cost form of CPP compliance. CUB estimates the cost per Dth of CCIs to be \$6.52 which is lower than any other decarbonization strategy Cascade models in this IRP.²⁶ The Company plans to max out the amount of CCIs DEQ will allow Cascade to purchase to meet the first compliance period ending in 2024 (10 percent) and the second compliance period ending in 2027 (15 percent). Staff supports this plan and recommends the Commission acknowledge this action item.

Table 2: Planned CCI Purchases

	Compliance Period 1	Compliance Period 2
CCIs	236,132	325,020

Cascade’s plan to purchase CCIs is mindful of the uncertainty of their value relative to other investments.²⁷ The Oregon Court of Appeals ruling contributes to that uncertainty. As DEQ decides on how to proceed with the CPP, the timing, pricing, and cost-effectiveness of CCIs may change.

²⁶ See Docket No. LC 83, CUB, Opening Comments, October 5, 2023, p 2.

²⁷ See Docket No. LC 83, Cascade, Reply Comments, November 2, 2023, p 4.

3.2 - RNG

Cascade’s procurement of RNG is too substantially completed for the Commission to acknowledge in this IRP. However, Staff has found no evidence that these RNG investments are unreasonable. From the Company’s November 9, 2023 filing in UM 2307, Staff observes that Cascade is currently procuring [BEGIN CONFIDENTIAL] [REDACTED] [END CONFIDENTIAL] RNG than the Company described in LC 83 Reply Comments.²⁸

Table 3: RNG Procurement by Compliance Period in Therms

Docket	Compliance Period 1	Compliance Period 2
LC 83	11,950,471	62,670,245
UM 2307 [BEGIN CONFIDENTIAL]	[REDACTED]	[REDACTED]

[REDACTED] [END CONFIDENTIAL]. Higher costs and lower availability may be providing a real-world constraint.

3.3 – Prineville Gate Upgrade

At the Commission workshop, Cascade withdrew the Company’s request for acknowledgement of the upgrade project.²⁹ In Opening Comments, Staff found some modeling issues that raised questions about the need for the Prineville Gate Upgrade. Cascade has modeled the project’s need based on an unreasonably low assumed temperature, unreasonably altered the definition of a heating degree day from the industry standard, and the Company failed to sufficiently consider alternatives to this capital expenditure. In Reply Comments the Company answered Staff’s modeling questions by stating that the Company’s modeling assumptions of design day temperature and the calibration of an HDD are three years old, carried over from the last IRP.³⁰ At the Commission workshop, the Company confirmed that, at an operating expense of a few thousand dollars, TransCanada can meet the capacity need at the Prineville Gate.

Stakeholder positions on the Prineville Gate Upgrade were mixed in Opening Comments. Climate Advocates opposed the project.³¹ AWEC did not oppose acknowledging the Prineville

²⁸ See Docket No. LC 83, Cascade, Reply Comments, November 2, 2023, Tables 1 and 2, pp 3 and 4; LC 83 RNG Procurement CONF ES.xlsx.

²⁹ See the 49:18-minute mark at:

https://oregonpuc.granicus.com/player/clip/1248?view_id=2&redirect=true&h=817be691765f6cd70bc74d1942692732.

³⁰ See Docket No. LC 83, Cascade, Reply Comments, November 2, 2023, pp 7-8.

³¹ See Docket No. LC 83, Climate Advocates, Opening Comments, October 5, 2023, p 4.

Gate Upgrade.³² AWEC made that position contingent on the relatively low size of the cost estimate.

3.4 – Baker City and Ontario

Cascade has withdrawn the Company's proposed non-pipe solutions to medium-term capacity needs in Baker City and Ontario. In this IRP, Cascade planned to launch pilot projects with Energy Trust to acquire targeted energy efficiency that would forego the need for construction projects in these cities. Energy Trust reports that the required demand-side reductions are not feasible. Therefore, the Company withdrew these action items in Reply Comments.

Cascade should consider procuring demand-side capacity measures from its customers in Baker City and Ontario. In reviewing this IRP, Staff learned that Cascade has only been considering energy measures. The Company has not considered paying customers to reduce demand during design-day temperature events. Such capacity measures are more likely to provide the needed reductions during times of capacity constraint than energy efficiency measures.

In addition to finding too limited a scope of alternatives considered, Staff also finds insufficient detail from Cascade on the expected timing of capacity needs in Baker City and Ontario. Cascade appears to Staff to be looking far enough into the future for expected distribution system capacity needs, but this planning is either not detailed enough or the details are not being included in the text of Cascade's IRP. To make clear the details Staff is looking for in the next IRP, we reference guidance provided in Attachment C of Staff's Final Comments on Avista's 2023 IRP which were as follows.

1. Future distribution system planning should identify the rationale for projects as either Safety/General System Reliability, or Customer Growth/Reliability Related to Growth.
 - a. When proposing growth-driven projects in IRPs the utility should be prepared to present project data on: relationship to CPP compliance strategy, modeling and verified measurement, local load forecast, and assessment of alternatives through the [Non-Pipe Alternative] NPA framework.
2. Future distribution system planning should include an NPA framework in Oregon [including the following attributes]:
 - a. NPA analysis will be performed for supply-side resources (these include but are not limited to all resources upstream of [Cascade's] distribution system and city gates, and supply-side contracts) and for distribution system reinforcements and expansion projects that exceed a threshold of \$1 million for individual projects or groups of geographically related projects (a group of projects that are interdependent or interrelated).

³² See Docket No. LC 83, AWEC, Opening Comments, October 5, 2023, p 11.

- b. NPA analysis will include cost benefit analysis that reflects an avoided GHG compliance cost element consistent with a high cost estimate of future alternative fuels prices. Non-Energy Impacts must be included as part of the NPA analysis.
 - c. NPA analysis will include electrification, targeted energy efficiency, targeted demand response, and other alternative solutions.
 - d. NPA analysis should look forward five years to allow ample time for evaluation and implementation.
 - e. NPA analysis will include an explanation of solutions considered and evaluated including a description of the projected timeline and annual implementation rate for the solutions evaluated, the technical feasibility of the solutions, and the strategy to implement the solutions evaluated.
 - f. NPA analysis should include an explanation of the resulting investment selection (either NPA or a traditional investment) including the costs and ranking of the solutions, and the criteria used to rank or eliminate them.
 - i. If a NPA is not selected and the reason is insufficient implementation time, it should include steps the Company will take to perform NPA analysis to provide sufficient implementation time for future projects.
3. Future IRPs should include the results of distribution system planning, including project data and NPA analysis for any proposed traditional investments, and NPA analysis for any proposed NPA.
 4. Future IRPs should include a database containing information about feeders, in service dates of pipes, and lowest recent observed pressures.

Cascade should perform and transparently share the details of distribution system modeling recommended in Attachment C of Staff’s Final Comments on Avista’s 2023 IRP.

4.3 – Non-Energy Impacts

Several stakeholders have weighed in on the consideration of non-energy impacts of NPAs. In Opening Comments, Climate Advocates recommends “the Commission direct Cascade to include project-specific NPA analysis that accounts for non-energy benefits in future IRPs for all capacity expansion projects and groups of geographically-related projects over \$500,000.”³³ To Staff this implies modeling the cost-effectiveness of NPAs from a societal perspective, which Staff already expects Avista to do in future IRPs.³⁴ We expect the same from Cascade. The expectation for this scope of analysis comes from the inclusion of non-energy impacts in the recent Avista General Rate case stipulation in UG 461.³⁵ In contrast, AWEC recommends the

³³ See Docket No. LC 83, Climate Advocates, Opening Comments, October 5, 2023, p 15.

³⁴ See Docket No. LC 81, OPUC, Staff Final Comments, December 7, 2023, p 67.

³⁵ See Docket No. UG 461, OPUC, Order No. 23-384, October 26, 2023, Appendix B, p 15.

Commission avoid widespread policy changes that favor electrification in this docket. In making this recommendation, AWEC highlighted the complexity of evaluating the emissions impact of transferring energy use to electric utilities. AWEC pointed out that such modeling should not use the average emissions from electricity generation. Instead, electrification of gas customer demand should be compared at the margin. Electric utilities' decarbonization can be delayed by electrification. The marginal cost of taking on more electricity customers while decarbonizing electric grids might rival the cost of decarbonizing gas. And decarbonizing electricity may ultimately depend on decarbonized gas.³⁶

Staff expects Cascade to model the NPAs from a societal perspective. This aligns expectations for Cascade with established expectations for NW Natural and Avista. Climate Advocates and AWEC are both referring to a societal perspective. Climate Advocates recommends a consideration of the social benefits. AWEC recommends consideration of the social costs. Staff can see the potential for new insight from modeling resource selection from a societal perspective, yet we note that a societal perspective means that the analysis considers both the social benefits and the social costs. For that reason, the term "impacts" is used to describe the scope of the analysis. Otherwise, the analysis would be biased.

3.5 – Recommendations and Expectations

Recommendation 2: Staff Recommends the Commission acknowledge the purchase of 236,132 CCIs for the CPP's first compliance period.

Recommendation 3: Staff Recommends the Commission acknowledge the purchase of 325,020 CCIs for the CPP's second compliance period.

Recommendation 4: Staff Recommends the Commission not acknowledge the acquisition of 11,950,471 therms of RNG for the CPP's first compliance period.

Recommendation 5: Staff Recommends the Commission not acknowledge the acquisition of 62,670,245 therms of RNG for the CPP's second compliance period.

Recommendation 6: Staff Recommends the Commission acknowledge the acquisition of 772,570 therms of energy efficiency in 2024.

Recommendation 7: Staff Recommends the Commission acknowledge the acquisition of 816,866 therms of energy efficiency in 2025.

Recommendation 8: Staff Recommends the Commission acknowledge the acquisition of 831,951 therms of energy efficiency in 2026.

Recommendation 9: Staff Recommends the Commission acknowledge the acquisition of 831,951 therms of energy efficiency in 2027.

Expectation 9: Cascade should perform and transparently share the details of distribution system modeling recommended in Attachment C of Staff's Final Comments on Avista's 2023 IRP.

³⁶ See Docket No. LC 83, AWEC, Opening Comments, October 5, 2023, pp 5-8.

1. ***Future distribution system planning should identify the rationale for projects as either Safety/General System Reliability, or Customer Growth/Reliability Related to Growth.***
 - a. ***When proposing growth-driven projects in IRPs the utility should be prepared to present project data on relationship to CPP compliance strategy, modeling and verified measurement, local load forecast, and assessment of alternatives through the [Non-Pipe Alternative] NPA framework.***
2. ***Future distribution system planning should include an NPA framework in Oregon [including the following attributes]:***
 - a. ***NPA analysis will be performed for supply-side resources (these include but are not limited to all resources upstream of [Cascade's] distribution system and city gates, and supply-side contracts) and for distribution system reinforcements and expansion projects that exceed a threshold of \$1 million for individual projects or groups of geographically related projects (a group of projects that are interdependent or interrelated).***
 - b. ***NPA analysis will include cost benefit analysis that reflects an avoided GHG compliance cost element consistent with a high cost estimate of future alternative fuels prices. Non-Energy Impacts must be included as part of the NPA analysis.***
 - c. ***NPA analysis will include electrification, targeted energy efficiency, targeted demand response, and other alternative solutions.***
 - d. ***NPA analysis should look forward five years to allow ample time for evaluation and implementation.***
 - e. ***NPA analysis will include an explanation of solutions considered and evaluated including a description of the projected timeline and annual implementation rate for the solutions evaluated, the technical feasibility of the solutions, and the strategy to implement the solutions evaluated.***
 - f. ***NPA analysis should include an explanation of the resulting investment selection (either NPA or a traditional investment) including the costs and ranking of the solutions, and the criteria used to rank or eliminate them.***
 - i. ***If a NPA is not selected and the reason is insufficient implementation time, it should include steps the Company will take to perform NPA analysis to provide sufficient implementation time for future projects.***
3. ***Future IRPs should include the results of distribution system planning, including project data and NPA analysis for any proposed traditional investments, and NPA analysis for any proposed NPA.***
4. ***Future IRPs should include a database containing information about feeders, in service dates of pipes, and lowest recent observed pressures.***

Expectation 10: In the next IRP, Cascade should attempt to include both the estimated societal benefits and the estimated costs of non-energy benefits when modeling non-pipe alternatives.

4: Line Extension Allowances

Cascade's line extension policy is outdated, does not reflect incremental GHG emission reduction compliance costs associated with providing new gas service, and should be updated.

Climate Advocates supports a re-evaluation of line extension allowances.³⁷ In Opening Comments, Staff noted that the line extension policy Cascade follows does not take into consideration the incremental CPP compliance cost of providing new gas service. This would mean that current capital expenditures on line extension allowances likely exceed prudent levels. The Company should have already known this and taken action to adjust the line extension policy. Since Cascade plans to procure RNG in UM 2307, this remains true in the wake of the Oregon Court of Appeals' ruling on the CPP.

4.1 – Expectation

Expectation 11: Cascade should update the Company's Oregon line extension policies.

5: Conclusion

The policy environment that Cascade is planning for remains in flux. Since Cascade's last IRP was acknowledged, DEQ developed the CPP as a decarbonization policy. Two days ago, the Oregon Court of Appeals found the CPP's rules invalid.

These sudden changes notwithstanding, resource planning has always been performed under conditions of uncertainty. The reasons Staff has based our recommendations to the Commission on are not entirely dependent on the existence of the CPP. Staff recommends the Commission not acknowledge Cascade's long-term plan primarily due to the Company's failure to comply with a requirement for the load forecast that the Commission ordered before DEQ established CPP rules. Staff's recommendation that the Commission acknowledge CCI purchases, like the acknowledgement of all resources, is understood to be contingent on what the Company will reasonably know at the time of procurement. And Staff's recommendation that the Commission not acknowledge RNG procurement is based on the advanced stage of these projects' development, a standard practice that would apply to any resource.

While the resource need in this IRP is uncertain, public review of Cascade's 2023 IRP was valuable. LC 83 has facilitated focused dialogue between the Company, Staff, and stakeholders that should improve the quality of the next IRP. Staff thanks stakeholders for their participation in this docket and the Company for a productive review of Cascade's 2023 IRP.

5.1 – Procedural Schedule

These Final Comments will be followed by other parties' comments which are scheduled to be filed by February 14, 2024. The Commission will hear public comment and deliberate at a Special Public Meeting on March 14, 2024.

5.2 – Summary of Staff Recommendations and Expectations

In these Final Comments, Staff makes nine recommendations for Commission action:

Recommendation 10: Staff recommends the Commission not acknowledge Cascade's long-term plan.

Recommendation 11: Staff Recommends the Commission acknowledge the purchase of 236,132 CCIs for the CPP's first compliance period.

Recommendation 12: Staff Recommends the Commission acknowledge the purchase of 325,020 CCIs for the CPP's second compliance period.

Recommendation 13: Staff Recommends the Commission not acknowledge the acquisition of 11,950,471 therms of RNG for the CPP's first compliance period.

Recommendation 14: Staff Recommends the Commission not acknowledge the acquisition of 62,670,245 therms of RNG for the CPP's second compliance period.

Recommendation 15: Staff Recommends the Commission acknowledge the acquisition of 772,570 therms of energy efficiency in 2024.

Recommendation 16: Staff Recommends the Commission acknowledge the acquisition of 816,866 therms of energy efficiency in 2025.

Recommendation 17: Staff Recommends the Commission acknowledge the acquisition of 831,951 therms of energy efficiency in 2026.

Recommendation 18: Staff Recommends the Commission acknowledge the acquisition of 831,951 therms of energy efficiency in 2027.

Staff documents eleven expectations for Cascade following Commission action on this IRP.

Expectation 12: Cascade should provide the marginal cost of RNG procurement for the avoided cost in UM 1893.

Expectation 13: Cascade should model all known demand-side measures endogenously and procure them after the IRP.

Expectation 14: Before the next IRP, Staff expects Cascade to work with the TAG to identify an approach for considering electrification as a proactive resource strategy.

Expectation 15: Cascade should develop an end-use model for demand forecasting to compare with the Company's econometric models.

Expectation 16: Cascade should model electrification using optimized incentives to avoid overestimating the cost of acquiring electrification from customers.

Expectation 17: Cascade should work with the TAG to identify a PacifiCorp IRP scenario reflecting electrification that Cascade might use to generate a load forecast for its next IRP.

Expectation 18: Cascade should model non-renewal or retirement of pipeline capacity contracts and the costs and benefits of doing so.

Expectation 19: Cascade should file, within 180 days following the final order on Cascade's 2023 IRP, a report discussing and evaluating its pipeline optimization activities, including how those pipeline optimization revenues are being returned to ratepayers.

Expectation 20: Cascade should perform and transparently share the details of distribution system modeling recommended in Attachment C of Staff's Final Comments on Avista's 2023 IRP.

- 1. Future distribution system planning should identify the rationale for projects as either Safety/General System Reliability, or Customer Growth/Reliability Related to Growth.***
 - a. When proposing growth-driven projects in IRPs the utility should be prepared to present project data on: relationship to CPP compliance strategy, modeling***

and verified measurement, local load forecast, and assessment of alternatives through the [Non-Pipe Alternative] NPA framework.

2. *Future distribution system planning should include an NPA framework in Oregon [including the following attributes]:*
 - a. *NPA analysis will be performed for supply-side resources (these include but are not limited to all resources upstream of [Cascade's] distribution system and city gates, and supply-side contracts) and for distribution system reinforcements and expansion projects that exceed a threshold of \$1 million for individual projects or groups of geographically related projects (a group of projects that are interdependent or interrelated).*
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4. *Future IRPs should include a database containing information about feeders, in service dates of pipes, and lowest recent observed pressures.*

Expectation 21: In the next IRP, Cascade should attempt to include both the estimated societal benefits and the estimated costs of non-energy benefits when modeling non-pipe alternatives.

Expectation 22: Cascade should update the Company's Oregon line extension policies.

Dated at Salem, Oregon, this 22nd of December, 2023.

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CERTIFICATE OF SERVICE

LC 83

I certify that I have, this day, served the foregoing document upon all parties of record in this proceeding by delivering a copy in person or by mailing a copy properly addressed with first class postage prepaid, or by electronic mail pursuant to OAR 860-001-0180 to the following parties or attorneys of parties.

Dated this 22th day of December, 2023 at Salem, Oregon

Kay Barnes

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Public Utility Commission
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