BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

Docket No. LC 76

In the Matter of CASCADE NATURAL GAS CORPORATION, 2020 Integrated Resource Plan.	Staff's Final Comments

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Introduction

The following are Oregon PUC Staff's ("Staff") Final Comments concerning Cascade Natural Gas Corporation's ("Cascade" or "Company") 2020 Integrated Resource Plan (IRP). The Citizens' Utility Board of Oregon ("CUB") and the Alliance of Western Energy Consumers ("AWEC") also submitted Opening Comments. In these Final Comments, Staff responds to the Company's Reply Comments and provides recommendations for the Company's Final Comments and preliminary recommendations for the 2020 IRP Update and the 2022 IRP.

For the majority of concerns Staff discussed in its Opening Comments, the Company responded by either agreeing with Staff or expressing openness to Staff's recommendations. While Staff appreciates the Company's responsiveness in both its comments and throughout the IRP process, the primary area in which the Company failed to provide adequate support was with the distribution system Action Items. Staff has remaining concerns with the lack of detail regarding these projects. Regardless, Staff notes the Company's perspective regarding engagement and fostering discussion. The IRP process includes an ongoing dialogue, and Staff looks forward to future discussions with the Company. The comments below highlight remaining areas of concern, differentiating between the actions best left to the next IRP cycle and areas the Company should address in its Final Comments and IRP Update.

Cascade's Opening Remarks

As part of the Company's Reply Comments, Cascade provided opening remarks revealing a range of challenges it experienced in the 2020 IRP cycle. These challenges primarily revolved around changes in staffing at the Commission. The Company indicated that this led to a greater number of data requests from Staff than in previous IRPs, in addition to requiring Cascade to "represent major elements of the IRP more than twice," and that it was "dismayed that Staff has selectively mentioned relatively few positive highlights or notes the extraordinary effort required by Cascade in order to develop this IRP…"

Staff understands the Company's perspective and appreciates the accommodations the Company has made to assist Staff throughout the IRP process. Regardless of any critiques or recommendations, Staff believes the Company has brought its best to the discussion and analysis. Staff acknowledged these improvements throughout its Opening Comments.[1] However, it is important to note that Staff approached the 2020 IRP with the same level of rigor and analytical engagement that it would in any other IRP proceedings. Staff has an obligation to conduct due diligence in any Commission proceeding, with discovery being a material element in that process. In fact, the Company's analysis is so improved, Staff required additional resources to review the

[1] LC 76, Staff Opening Comments, pages 1, 4-5, 14, 23, 26, and 27.

IRP. Staff sought clarification, discovery, and raised concerns where appropriate and necessary, like in other IRPs. It is a testament to the continued improvement of Cascade's IRP that Staff dedicated a higher level of resources in its review.

Nevertheless, the IRP process is dynamic. Assumptions, data, and final analysis can change between pre-filing working groups and the final IRP. Utilities may respond to stakeholder feedback such that the final draft of an IRP incorporates elements not specifically raised in previous working group meetings. As a result, Staff will always seek to ensure there is a broad understanding of the facts as submitted in writing. In the case of this IRP, Staff also recognizes its responsibility to communicate more in order to avoid miscommunications and the perception, rightly or wrongly, of duplicative work. To this end, Staff appreciates the Company's willingness to host additional workshops. Staff looks forward to enhanced engagement with the Cascade IRP team and to consider options for improved communication in future IRP cycles.

Staff Recommendation for the 2022 IRP:

- Host a workshop with Staff prior to the 2022 cycle to consider options for improved communication among the Company and stakeholders.

Load Forecast

Cascade's Response to Staff:

In Opening Comments, Staff requested that the Company experiment with using retail price as an explanatory variable in its demand forecast in order to include the relationship that, else equal, higher prices decrease demand. The Company responded that it is open to exploring including a price variable in future forecasts. Staff has made this recommendation in this and previous IRPs. The Oregon Department of Environmental Quality (DEQ) is now exploring cap and reduce policies as part of Executive Order 20-04, which will most likely increase prices and impact demand. Staff will thus recommend the inclusion of price as an explanatory variable in the next IRP's load forecast.

Staff requested that the Company provide its demand forecast workpapers with its initial filing for its next IRP. Staff made the same request in the last two IRPs. The Company stated that it will work with Staff regarding the timing of providing load forecasting workpapers in the next IRP. To assist the Company in this regard, Staff will request that the Company provide its demand forecast workpapers with its initial filing of the next IRP.

In Opening Comments, Staff requested that the Company show why four years of historical data in the demand forecast is sufficient. The Company provided reasons based in theory about why its new model is an improvement despite using fewer years

of historical data. Although Staff recognized that the Company overall has made improvements in its forecasts and methodology in this IRP,[2] Staff still maintains that using a forecasting model with longer historical series of weather data provides a more robust measure of the relationship between gas usage and weather.

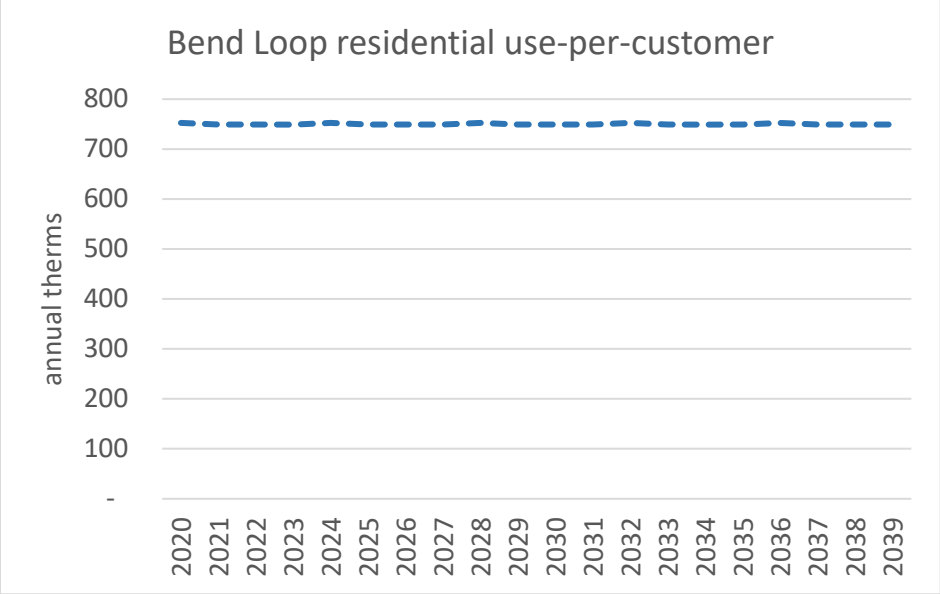
The Company's forecast used 2018 data as the most recent data input. Staff believes it would be a worthwhile exercise to compare outputs from the weather-adjusted new methodology and the old forecasts to actuals post 2018. This would provide insight to help answer the question: Is just four years of historical weather data enough?

Cascade's Response to CUB:

In its Opening Comments, CUB questioned whether the Company had a multicollinearity problem in its load forecasting models. Cascade responded that it tested for multicollinearity, which led it to avoid the potential causes of multicollinearity identified by CUB. In future IRPs, Staff recommends that the Company publish the variables included in the model, as Avista does.[3]

CUB also requested that the Company conduct sensitivities to gas use-per-customer (UPC) dependent on the adoption of high efficiency furnaces. Staff supports CUB's recommendation. For example, *Figure 1* below shows that in the Company's expected case forecast, Bend Loop residential UPC is nearly constant over time.[4]

Figure 1: Bend Loop Residential Use-per-Customer



[2] LC 74, Staff Opening Comments, page 4.
[3] *See* Avista LC 72 2018 IRP Appendix page 34-40.
[4] Graph data from Cascade LC 76 2020 IRP Appendix B page 13.

The Company forecasted that residential customers in Bend, Oregon will continue to use about 750 therms per year during the entire forecast horizon of 2020 to 2039. Staff agrees with CUB that the Company should conduct a sensitivity or scenario where UPC falls over time due to the adoption of high efficiency furnaces.

Staff Recommendation for Final Comments:

- Compare outputs from both the weather-adjusted new methodology and the old forecasts to post-2018 actuals.

Staff Recommendations for the 2022 IRP:

- Provide its demand forecast workpapers with its initial filing of the next IRP.
- Include price as an explanatory variable in its demand forecast.
- Publish variables included in the model as part of an appendix.
- Conduct a sensitivity or scenario where UPC falls over time due to the adoption of high efficiency furnaces.

Gas Prices

In Opening Comments, Staff questioned whether the stochastic gas price forecasts were too high to be useful for planning purposes. The Company responded that its stochastic price forecast is appropriate for modeling extreme prices for "black swan events" such as the Enbridge pipeline explosion of 2018.[5] It is Staff's understanding that these high stochastic gas price forecasts were influenced by that explosion. Staff researched the appropriateness of this use by submitting an Information Request (IR), and in response to Staff IR 72, the Company provided its input data for its stochastic pricing model.

Although prices in Sumas for November and December 2018 were indeed high immediately after Enbridge's British Columbia (BC) Pipeline rupture, in all of the historical data, Staff could not identify prices as high as the Company's stochastic price forecasts. Further, in the historical data, high prices are much more infrequent than the Company's stochastic price forecasts. Comparing the historic data to the Company's stochastic model outputs seems to indicate that the Sumas gas price forecasts have multiple Enbridge BC Pipeline-rupture type events. Staff believes that a more

[5]Black swan events are "rare events that are beyond the realm of normal expectations in history." From Wikipedia.org, accessed January 10, 2021.

reasonable approach to modeling extreme events would be to include a single price shock in the planning horizon, to represent unexpected risk.

In Opening Comments, Staff was also worried about the Company's blended gas price forecast because it uses an extrapolation of NYMEX futures prices as a long-term price forecasts and also because it introduces an Age Dampening Mechanism (ADM) that assigns an excessive weight to the NYMEX futures-based forecast. Staff requested that the Company file an updated natural gas price forecast addressing these concerns.

The Company provided these forecasts as an Addendum to its Reply Comments and took into consideration Staff's concerns. The updated gas price forecasts phase out the use of a NYMEX futures-based price path as an input in the later years of the forecast and makes appropriate changes to the ADM. This allows the third-party long-term forecasts to determine the price forecast in later years. Staff thanks the Company for responding to Staff's concerns and is open to discussing these topics with Cascade upon request but does not consider further discussion necessary at this time.

Staff Recommendation for the 2022 IRP:

- Revise the stochastic modeling so that the Sumas gas price forecasts do not have multiple Enbridge rupture-type events.

Avoided Cost

In Opening Comments, Staff stated it will provide additional analysis on specific avoided cost components in closing comments. In Reply Comments, the Company criticized Staff for not acknowledging positive highlights of the Company's work in this IRP. In regard to avoided costs, Staff acknowledges that the Company has put in significant effort in developing new elements as recommended by Staff, and specifically in engaging with Staff and stakeholders to provide transparent and accurate values for energy efficiency avoided costs over the last two years. In this section, Staff provides observations and opportunities for further refinement. This section covers overall avoided costs, carbon compliance cost, and the Company's new variables in support of UM 1893: Distribution capacity costs and risk premium. Staff also summarizes the relevant work by the Company in UM 1893[6] in response to Staff recommendations in LC 69.

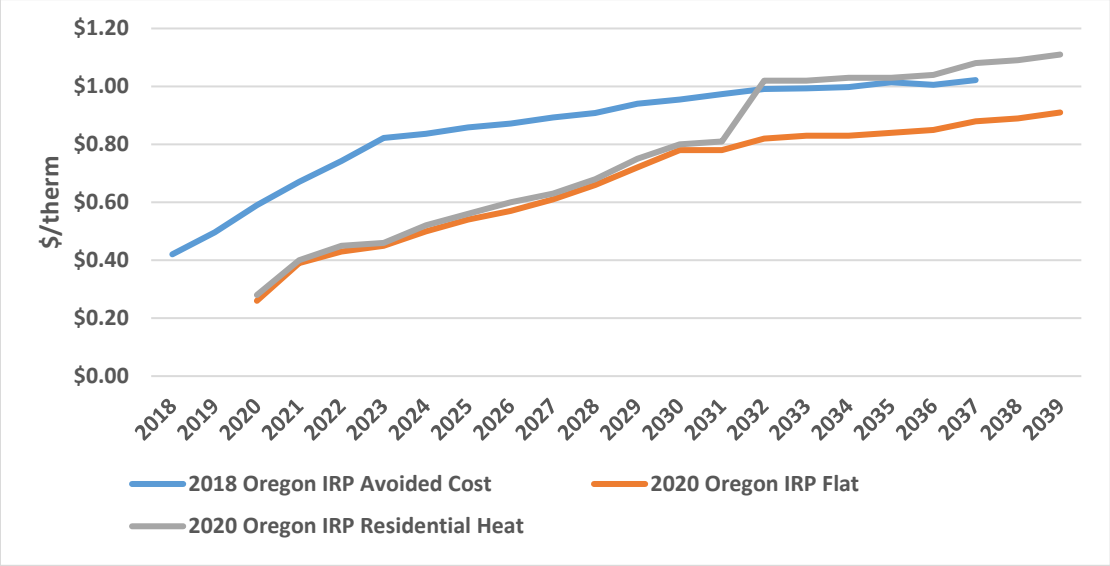
[6] UM 1893 is the docket that approves avoided cost numbers for use by Energy Trust in calculating energy efficiency cost-effectiveness.

Overall Avoided Cost

Cascade calculated an estimate of total avoided costs over time under expected conditions as modeled in the IRP. When it comes to the acquisition of energy efficiency resources, Energy Trust uses its own models to apply avoided costs to energy efficiency resources. Staff compared the overall avoided costs provided by the Company in the 2020 IRP with avoided costs calculated for the 2018 IRP.[7,8] In the 2020 IRP, the Company calculated separate avoided costs by natural gas end use. By looking at specific end uses, the Company can identify which categories of energy efficiency resources provide more value.

Figure 2 compares the 2018 IRP avoided cost for Oregon and two example end uses from the 2020 IRP. Several of the avoided costs of the other end uses are very similar to each other and would visually overlap on the graph. Residential heating and commercial heating had nearly identical costs, so only "Residential Heat" is shown as an example. The "Flat" end use line represents the other end uses that have less of an impact on peaks. In earlier years, avoided costs in the 2020 IRP are half the values of the 2018 IRP. In later years, flatter end uses remain 20 percent below 2018 IRP values, and starting in 2032, residential heating reaches values similar to those found in the 2018 IRP. Notably, 2032 is the year the Company identified a shortfall in transport capacity. While this cost is shared by all end uses, there is a greater avoided cost associated with heating because of its contribution to peak usage.

Figure 2: Avoided Cost Comparisons



[7] LC 76 -- Cascade 2020 IRP, Figure 5-1.
[8] LC 69 -- Cascade 2018 IRP, Table 5-1.

The Company explained that the reduction in avoided costs as compared to the 2018 IRP was largely driven by lower gas prices. In the time following this forecast, the Company has provided an updated natural gas price forecast, which will be used in 2021 for the next round of avoided cost calculations in UM 1893.[9] This updated gas price forecast is slightly higher than the forecast used by the Company for the initial avoided cost calculation. If the new forecast is used, it would result in a slightly higher avoided cost, particularly for energy efficiency measures that have longer lives.

It is important to note that the avoided costs as presented in the 2018 IRP were not the final numbers used for avoided costs in UM 1893, which has its own process to determine which values to use. Additionally, while the Company calculated avoided costs by end use for the IRP, Energy Trust makes its own calculations independently to estimate values across energy efficiency end uses. In a preliminary analysis provided to Staff by Energy Trust comparing results from data approved for UM 1893 use in 2020 to the data provided in the Company's 2020 IRP, the impact is a reduction of three to eight percent depending on the end use.

Carbon Compliance

In the 2018 IRP, Staff recommended that the Company review its carbon compliance forecast, and Staff reviewed the Company's submissions for carbon compliance costs in the 2020 IRP. The Company applied the mid-price projections from California's 2019 Integrated Energy Policy Report and assumed that the carbon compliance cost in Oregon will scale up to that point over several years.[10]

Prior to Executive Order 20-04, other natural gas utilities modeled some level of uncertainty in the carbon compliance cost in their IRPs as no relevant legislation or Executive Orders had been passed yet. Since EO 20-04, the Commission committed to updating IRP guidelines for modeling greenhouse gas costs and risks. As these guidelines are still in development, Staff does not have a recommendation for future calculations of carbon compliance at this time, nor for how the social cost of carbon will be incorporated into avoided costs. Given the Company's prior engagement in relevant dockets, Staff expects the Company will comply with these guidelines in the next IRP. As guidelines develop, Staff may request that the Company respond to guidance in a future IRP Update and in other relevant filings once guidelines are established.

Distribution Costs

In the 2018 IRP, Staff recommended that the Company calculate avoided distribution capacity costs as part of the UM 1893 docket for use in calculating energy efficiency

[9] LC 76, Addendum to Cascade's Response Comments.
[10] LC 76 - Cascade 2020 IRP, page 5-5.

avoided costs and in future IRPs. In working with Staff and stakeholders through UM 1893, the Company developed avoided distribution capacity values for the peak day and the peak hour. To calculate these numbers, the Company chose the delivery charge across customer classes currently in rates, minus costs associated with operations and maintenance. The Company states that its rationale is to represent the cost of the next marginal therm delivered at the peak that could be avoided through reduced demand.

This approach seemed reasonable to Staff and other stakeholders when proposed and presented at a UM 1893 workshop and at an IRP TAG meeting. However, in further examination of the assumptions used in this methodology, Staff is less certain that the delivery charge is the appropriate base for calculating avoided distribution capacity costs in this IRP and UM 1893.

The delivery charge incorporates a Long Run Incremental Cost Study, which models the cost of replicating the Company's system with all new materials and equipment.[11] This study is used to allocate costs across customer classes, and not directly for the purpose of estimating distribution system costs. The delivery charge itself represents the cost necessary to meet the Company's revenue requirement, for each customer class, after accounting for the revenue generated from the monthly customer charge, and thus it represents costs for overall delivery, including costs beyond those associated with the distribution system.

The connection between the value of avoiding distribution upgrades and the delivery charge is not as direct as Staff initially thought. The delivery charge is intended to represent the current cost of service and is not designed to represent long-term costs. Beyond the distribution system and O&M costs, it also includes the depreciation of infrastructure investments, which may result in under-valuing the cost of infrastructure upgrades.

Staff is considering other options for representing distribution capacity costs. Staff intends to continue to work with the Company and other stakeholders on this topic in UM 1893 throughout 2021 and anticipates the Company will continue to engage in this process, which may include comparing this method to costs associated with specific projects.

Risk Premium

In the 2018 IRP, Staff recommended that the Company calculate a risk premium to represent the value of reducing risks by avoiding a future resource purchase. Since then, the Company has calculated a risk reduction value based on a contract quote for

[11] Docket No. UG 388, Staff/1100, Compton/2.

20-year contract provided by its Asset Management Agreement partner.[12] Staff believes this is a reasonable approach as the situation is hypothetical. The value, which is currently negative, appears consistent with the outcomes of other utility calculations. Staff finds this methodology acceptable.

Overall, Staff appreciates the Company's responsiveness to Staff recommendations and its substantive investment in creating these avoided cost calculations. As much of the dialogue pertaining to these calculations occurs under UM 1893, Staff notes that the Company readily engages in the dialogue and review process through UM 1893 as responsive and active participants. Staff does not recommend any further changes to the avoided cost calculations for this IRP. However, Staff recommends that the Company continue to work with Staff and stakeholders in UM 1893 on distribution costs avoided through energy efficiency to refine the calculation used in its 2022 IRP.

Staff Recommendations for the 2022 IRP:

- Continue to work with Staff and stakeholders through UM 1893 on refining distribution costs avoided through energy efficiency for use in its 2022 IRP.

Energy Efficiency

Company's Response to Staff

In Opening Comments, Staff described how the Company followed through with the 2018 recommendations of improving coordination with Energy Trust and increasing the number of scenarios for energy efficiency acquisition. Staff compared the Company's 2020 IRP action plan for energy efficiency with Energy Trust's 2021 Budget and 2021-2022 Action Plan. The energy efficiency acquisition forecast was created in 2019. Despite the challenges of operating in a COVID-19 pandemic environment, the short-term projection of savings has not changed significantly as Energy Trust is projected to exceed 90 percent of 2020 savings goals in Cascade's service territory.

Table 1 - Energy Efficiency Gas Savings in Therms

	2020	2021	2022
Cascade†	547,244	563,251	520,166
Energy Trust**	517,069*	572,759	571,311

† Cascade IRP Figure 11-1.
* Forecast of savings for 2020 as of December 2020
** Budget assumptions for this row were provided by Energy Trust

[12] LC 76, page 5-5.

As the energy efficiency industry continues to adapt to the COVID-19 pandemic response, enhanced coordination between Energy Trust and the Company continues to be important for the acquisition of cost-effective savings.

Company's Response to CUB:
CUB provided the following recommendations for demand-side management resources:

I. Plan for targeted energy efficiency in the Bend service area.
II. Design winter demand response pilots and provide or subsidize smart thermostats in residential units.
III. Subsidize conversion of existing lower efficiency condensing furnaces to higher efficiency non-condensing ones.
IV. Subsidize smart thermostat installation or use already installed smart thermostats to remotely control home gas usage, especially during peak hours.[13]

Staff is open to exploring these opportunities as long as they are cost-effective or have the potential to be cost-effective in the future. Staff understands the purpose of these recommendations is to determine if some infrastructure investments, such as those proposed in Bend, could be avoided.

In Reply Comments, the Company indicated that it is already undertaking items #1, #3, and #4.[14] Energy Trust has confirmed with Staff that there is a meeting scheduled to discuss targeted energy efficiency in Bend and that the Company already funds incentives for high efficiency non-condensing furnaces and smart thermostats.

Currently, furnace incentives are focused on new construction and lagging markets as new furnaces are already very efficient. Furnace retrofits are not cost-effective, but an added demand response value could potentially change cost-effectiveness. Smart thermostats are cost-effective for use with gas furnaces and could be included in future demand response programs.

Staff appreciates the Company's work in creating peak day and peak hour load factors for use in energy efficiency avoided costs. Energy Trust plans to work on improving peak modeling in 2021,[15] and Staff believes these two efforts combined will help identify opportunities for demand response. While Staff acknowledges the Company's current and proposed future efforts to use DSM in avoiding infrastructure upgrades, Staff would like to see updates on the outcomes of these efforts, particularly in the Bend area.

Staff Recommendation for the 2020 IRP Update:

[13] LC 76, CUB Opening Comments, page 9.
[14] LC 76, Cascade Reply Comments, page 8.
[15] Energy Trust 2021 Budget and 2021-2022 Action Plan page 138.

- Report on efforts explored and undertaken to avoided infrastructure upgrades in Bend, Oregon through DSM value. The Company should base this cost on a contract quote for a 20-year contract provided by its Asset Management Agreement partner.[16]

Renewable Natural Gas

Compliance with Governor Brown's Executive Order 20-04 (EO 20-04)

Staff appreciates Cascade's efforts in exploring various greenhouse gas (GHG) emission reduction projects and opportunities in response to Oregon and Washington's energy policies. EO 20-04 was issued while Cascade's IRP was already underway and the Commission's EO 20-04 work plan did not include activities associated with Cascade's current IRP process.

In Opening Comments, Staff recommended the Company explore how it will consider complying with applicable emission targets associated with DEQ's Climate Protection Program (CPP – formerly called Cap and Reduce) in the next IRP Update. DEQ plans to release a draft of the CPP rules in the summer of 2021, with a target of finalizing them in December 2021. This draft represents an opportunity for Cascade and stakeholders to explore strategies for complying with applicable emissions targets. Staff notes and appreciates that Cascade indicates it will incorporate relevant aspects of EO 20-04 to model future RNG projects. Staff recommends that Cascade consider which elements from Section 1.1 of the Commission's EO 20-04 work plan could be addressed in the IRP Update and that it engage stakeholders on how it plans to address EO 20-04.

Regional RNG Policies and Programs

Staff requested additional information about Cascade's development of its voluntary renewable natural gas (RNG) program for the City of Bend. Staff appreciates the additional description of how Cascade's work in developing an offset program for Washington State will provide the model for the program that will be made available to customers in Bend, and potentially elsewhere in the state. In Cascade's response to IR 62, the company explained that its IRP initially described this program as an "offset program," but that per Section 14 of RCW 80.28, Washington State requires each natural gas utility to offer by tariff a voluntary RNG service that would "replace any portion of the natural gas otherwise provided" by the Company, and that a program designed to provide offsets would not meet the requirements of the law.[17] Cascade's

[16] LC 76, Cascade 2010 Integrated Resource Plan, page 5-5.
[17] http://lawfilesext.leg.wa.gov/biennium/2019-20/Pdf/Bills/Session%20Laws/House/1257-S3.SL.pdf?q=20200512085447.

Reply Comments continue to describe the development of an "offset" program, and it is Staff's understanding that the "offset" aspect of the Company's RNG efforts would likely only apply to customers outside of Washington (e.g. Bend and Oregon).

Staff does not request additional information about the development of this program at this time and very much appreciates, and is satisfied with, Cascade's suggestion to provide a program update in its IRP Update. Staff requests that the IRP Update include an explanation of how the Washington RNG program may interact with programs being developed for customers in Oregon and whether RNG programs developed in Oregon might be used to comply with legislation in other states.

Recommendation for 2022 IRP:

- Include an explanation of how the Washington RNG program may interact with programs being developed for customers in Oregon and whether RNG programs developed in Oregon might be used to comply with legislation in other states.

Project Value & Cost Effectiveness

Cash Flow & Carbon Intensity

Staff appreciates the detail included in the Company's RNG Cost Effectiveness Evaluation Model, which, as the Company explains, was developed utilizing much of NW Natural's model.[18] Having reviewed the Company's confidential models, Staff reemphasizes that Cascade can add detail to its Cost Effectiveness Evaluation Model, in particular the range of case scenarios considered and the evaluation of rate impacts. Two areas of potential improvement are 1) a more sophisticated valuation of carbon intensity that better represents the types of projects anticipated or projected and 2) detail on rate impacts.

Nonetheless, Staff sees great value in the work that has been undertaken by the Company thus far and sees this initial rate impact work, and the potential to update the Cost Effectiveness Evaluation Model, as likely providing continued value in the Natural Gas Fact-Finding efforts envisioned in the Commission's EO 20-04 work plan.

Staff Recommendations for the 2020 Update:

[18] Cascade's LC 76 December 18, 2020 Response Comments at 9.

- Provide potential RNG program revenue from Washington voluntary RNG Service program, and, as applicable, any and all other revenue related to RNG activities.

- As applicable, provide RNG revenues that could be derived from participation in California's LCFS market and/or Oregon's Clean Fuels Program.

- Include an RNG case scenario that reflects DEQ's Climate Protection Program design elements, insofar as program details are available.

Distribution Projects

In Opening Comments, Staff provided substantive analysis on the Company's lack of information to support its distribution system projects. Staff's key recommendation was that Cascade provide enough details in its Final Comments to support Commission acknowledgment. The Company's Reply Comments provided no such information. Rather, in response to Staff's recommendation, the Company stated, "Cascade agrees with this comment and has already made strides to improve the details for distribution system projects." Staff's intent in Opening Comments was to request that the Company "show its work" if it wants acknowledgment for the projects in the Action Plan. It is unclear how Cascade's reply is in any way responsive.

The Company has also been inconsistent about whether it is requesting acknowledgment for certain distribution projects at all. In its Reply Comments, the Company states, "To be clear, Cascade is <u>not</u> asking for those projects to be acknowledged [Cascade emphasis]." This refers to projects that are complete or will be substantially complete by the time the Commission issues its acknowledgment order. To clarify which projects the Company wanted acknowledgment for in the IRP, Staff actually had to submit discovery asking the Company to delineate the appropriate projects.

Below is an updated list of the Action Plan as obtained by Staff.[19] Projects that the Company indicated it no longer requesting acknowledgment for are crossed out.

FP-306990 - PENDLETON 4" IP REINFORCEMENT
FP-306991 - PENDLETON 4" HP REINFORCEMENT
FP-316854 - BEND GATE REBUILD (?)
FP-316863 - Prineville Gate Rebuild
FP-318466 - RF-Baker-GT-NW Baker Gate
FP-318468 - RF-Baker-GT-NW Baker Regulation
FP-318469 - RF-Baker-GT-NW Baker Gate Odorizer

[19] See Staff Attachment A, IR 74.

FP-318475 - RF-Baker-GT-NW Baker GT Line Heater
FP-318682 - RF-BEND-6"S-1100'-SHEVLIN PK
FP-318733 - RF-BEND-6"S-2MI-SHEVLIN PK
FP-318737 - RF-BEND-R-SHEVLIN PK RD 2" STD
FP-318741 - RF-BEND-6"PE-1200'-PONDEROSA ST
FP-318744 - RP-PRINEVILLE-GT-TRANSCANADA
~~FP-306992 - PENDLETON KORVOLA ROAD 4" PE REINF.~~
~~FP-316851 - South Hermiston to Feedville Rd HP~~
~~FP-317586 - RF-REDM-6"S-4,750' VETERANS WY~~
~~FP-318745 - RP-BEND-GT-TRANSCANADA~~
~~FP-318770 - RF-REDM-R-VETERANS WAY-2" STD~~

Despite this clarification, Staff has remaining concerns with the lack of detail regarding these projects. It is still unclear which projects will be complete or substantially complete by April 2021. Further, adequate support for requested Action Items is necessary, and without the ability to verify projects, Staff cannot recommend acknowledgment. In order to remedy this gap in information, Staff recommends a workshop with Cascade at least one month prior to the filing of the Staff Report on March 26, 2021, in addition to the requested detail from Staff's Opening Comments as part of the Company's Final Comments. As a point of reference, the Company should review Attachment 4 to NW Natural's Final Comments in LC 71. Cascade has provided some similar information in Appendix I, but not with the same level of detail. A solid account of need and supporting project details are required for acknowledgment.

Recommendation for Final Comments:

- Host a workshop with Staff at least one month prior to the filing of the Staff Report on March 26, 2021.
- Provide requested detail from Staff's Opening Comments as part of the Company's Final Comments.

Conclusion

As indicated, Staff believes the Company has made several improvements to its IRP in 2020, and appreciates the Company's engagement throughout the process. Staff commends the Company for continuing to improve upon previous methodologies, including in avoided costs, RNG, and load forecasting. With this being said, Staff cannot recommend acknowledgement of the distribution project Action Items without more details and sufficient demonstration of need by the Company. Staff also reiterates that it has an obligation to conduct due diligence in any Commission proceeding. Below are recommendations for Final Comments and beyond.

Staff Recommendations for Final Comments:

- Compare outputs from both the weather-adjusted new methodology and the old forecasts to post-2018 actuals.

- Host a workshop with Staff at least one month prior to the filing of the Staff Report on March 26, 2021.

- Provide requested detail from Staff's Opening Comments as part of the Company's Final Comments.

Staff Recommendations for the 2020 IRP Update:

- Report on efforts explored and undertaken to avoided infrastructure upgrades in Bend, Oregon through DSM value. The Company should base this cost on a contract quote for a 20-year contract provided by its Asset Management Agreement partner.[20]

- Provide potential RNG program revenue from Washington voluntary RNG Service program, and, as applicable, any and all other revenue related to RNG activities.

- As applicable, provide RNG revenues that could be derived from participation in California's LCFS market and/or Oregon's Clean Fuels Program.

- Include an RNG case scenario that reflects DEQ's Climate Protection Program design elements, insofar as program details are available.

Staff Recommendations for the 2022 IRP:

- Host a workshop with Staff prior to the 2022 cycle to consider options for improved communication among the Company and stakeholders.
- Provide its demand forecast workpapers with its initial filing of the next IRP.

- Include price as an explanatory variable in its demand forecast.

- Publish variables included in the model as part of an appendix.

- Conduct a sensitivity or scenario where UPC falls over time due to the adoption of high efficiency furnaces.

- Revise the stochastic modeling so that the Sumas gas price forecasts do not have multiple Enbridge rupture-type events.

[20] LC 76, Cascade 2010 Integrated Resource Plan, page 5-5.

- Continue to work with Staff and stakeholders through UM 1893 on refining distribution costs avoided through energy efficiency for use in its 2022 IRP.

- Include an explanation of how the Washington RNG program may interact with programs being developed for customers in Oregon and whether RNG programs developed in Oregon might be used to comply with legislation in other states.

This concludes Staff's Final Comments

Dated at Salem, Oregon, this 21st of January, 2021.

Nadine Hanhan

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CASCADE NATURAL GAS CORPORATION
Oregon Public Utility Commission
LC 76
IRP

Request No. 72

Date prepared: 12/7/2020

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72. See Cascade's response to Staff IR 52. Please provide the historical pricing data for Sumas, Aeco, and Rock that was used to produce the forecasts in figures 9-27 and 9-28 on page 9-35 of the IRP filing.

Response:

Please reference the attached file DR 72 - Monthly FOM.Xlsx for historical front of the month pricing data. As a point of clarification, the forecasts produced in Figures 9-27 and 9-28 on Page 9-35 of the IRP filing are primarily a function of Cascade's deterministic price forecast (referred to as the "Drift term" on page 9-12 of the IRP filing) plus a stochastic element based on the standard deviation of the absolute value of forecasted month over month price differences (referred to as the "Shock term" on page 9-12 of the IRP filing.) Cascade did initially test using historical returns to calculate standard deviations for the Shock term, but as is evidenced by the provided historical prices, using historical returns to calculate standard deviations for the model would result in significantly higher price swings, to the point where the model would produce price simulations that were far too unrealistic, even for a black swan event. Qualitatively, it also makes sense to not use historical prices, as it is the Company's position that prices have been, and will continue to be, more stable than they have been in years past.

Regarding Cascade's statement in DR 52 "The source of the numerous spikes in the Sumas forecast is the relatively high historical volatility that is applied to the model" this was intended to be Cascade's attempt at a narrative explanation for how historically higher volatility at Sumas versus Aeco and Rockies is a possible cause of higher volatility at Sumas in Cascade's price forecast. Since Cascade's price forecast is an aggregation of four other projections, the Company presumes that its sources' models show higher volatility at Sumas because pricing at this basin has shown to be more unstable than prices at the other two basins, although admittedly the Company cannot known for certain as it does not have access to their models.

CASCADE NATURAL GAS CORPORATION
Oregon Public Utility Commission
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Request No. 74

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74. Please refer to page 9 of Cascade's Reply Comments. The Company states, "To be clear, Cascade is not asking for those projects to be acknowledged." Emphasis Cascade's. Please indicate:
    a. What projects the Company is asking for acknowledgment in the 2020 IRP;
    b. What projects the Company is not asking for acknowledgement in the 2020 IRP;
    c. For any projects under subpart a. above, please provide supporting documentation for said projects as requested in Staff's Opening Comments, pages 18-23.

Response:

a. Cascade is asking for acknowledgement on the following projects:
FP-306990 - PENDLETON 4" IP REINFORCEMENT
FP-306991 - PENDLETON 4" HP REINFORCEMENT
FP-316854 - BEND GATE REBUILD (?)
FP-316863 - Prineville Gate Rebuild
FP-318466 - RF-Baker-GT-NW Baker Gate
FP-318468 - RF-Baker-GT-NW Baker Regulation
FP-318469 - RF-Baker-GT-NW Baker Gate Odorizer
FP-318475 - RF-Baker-GT-NW Baker GT Line Heater
FP-318682 - RF-BEND-6"S-1100'-SHEVLIN PK
FP-318733 - RF-BEND-6"S-2MI-SHEVLIN PK
FP-318737 - RF-BEND-R-SHEVLIN PK RD 2" STD
FP-318741 - RF-BEND-6"PE-1200'-PONDEROSA ST
FP-318744 - RP-PRINEVILLE-GT-TRANSCANADA

b. Cascade is not asking for acknowledgement on the following projects:
FP-306992 - PENDLETON KORVOLA ROAD 4" PE REINF.
FP-316851 - South Hermiston to Feedville Rd HP
FP-317586 - RF-REDM-6"S-4,750'-VETERANS WY
FP-318745 - RP-BEND-GT-TRANSCANADA

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FP-318770 - RF-REDM-R-VETERANS WAY-2" STD

c. Supporting document for projects under subpart a are provided in DR 74 - LC 76 CNGC Appendix I - Distribution System Planning (R) revised.pdf