

**PUBLIC UTILITY COMMISSION OF OREGON  
STAFF FINAL REPORT  
SPECIAL PUBLIC MEETING DATE: December 6, 2022**

REGULAR  X  CONSENT \_\_\_\_\_ EFFECTIVE DATE  December 7, 2022

**DATE:** October 7, 2022

**TO:** Public Utility Commission

**FROM:** JP Batmale

**THROUGH:** Bryan Conway and Kim Herb

**SUBJECT:** CASCADE NATURAL GAS:  
(Docket No. LC 76)  
Acknowledgement of the 2020 Integrated Resource Plan Update.

**STAFF RECOMMENDATION:**

Acknowledge two of the distribution system projects included in Cascade Natural Gas (Cascade, CNG, or Company) Update to the 2020 Integrated Resource Plan (IRP).

**DISCUSSION:**

Issue

Whether the Commission should acknowledge the proposed distribution system projects seeking acknowledgement in the 2020 IRP update.

Applicable Rule or Law

Per OAR 860-027-0400(8), each energy utility must submit an annual update on its most recently acknowledged IRP.<sup>1</sup> The update is due on or before the acknowledgment order anniversary date. The energy utility must summarize the annual update at a Commission public meeting. The energy utility may request acknowledgment of changes, identified in its update, to the IRP action plan.

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<sup>1</sup> See UM 1056, Order No. 07-002, January 8, 2007, Guideline 3.f and 3.g, pg. 9 and 10.

The annual update is an informational filing that:

- a) Describes what actions the energy utility has taken to implement the action plan to select best portfolio of resources contained in its acknowledged IRP.
- b) Provides an assessment of what has changed since the acknowledgment order that affects the action plan to select the best portfolio of resources, including changes in such factors as load, expiration of resource contracts, supply-side and demand-side resource acquisitions, resource costs, and transmission availability.
- c) Justifies any deviations from the action plan contained in its acknowledged IRP.

Per OAR 860-027-0400(7) and (10)(c), the Commission may provide direction to a utility regarding any additional actions or analysis that the utility should undertake prior to its next IRP.

### Analysis

#### *Background*

The Commission acknowledged the Cascade 2020 IRP on April 27, 2021, in Order No. 21-127. During IRP review process Staff raised concerns about the Company's level of documentation to justify the eighteen proposed distribution system projects. Staff's IRP acknowledgement memo, filed in March 2021, recommended the removal of all proposed distribution system projects due to insufficient information.<sup>2</sup> The Company agreed and on April 15, 2021, Cascade submitted a revised IRP Action Plan without the projects in question.<sup>3</sup> The Company did note though the future necessity for these projects and stated it would resubmit them later.<sup>4</sup> Staff agreed, noting that Cascade should have the opportunity to refile for acknowledgement of any selected project in a subsequent IRP filing.<sup>5</sup> To this end, the acknowledgement order directed Cascade to host at least one workshop to present distribution system upgrade information prior to refiling for acknowledgement.<sup>6</sup> In November 2021, Cascade held this workshop.

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<sup>2</sup> See LC 76, Staff's Final Acknowledgement Memo, filed March 26, 2021, for the Special Public Meeting on April 27, 2021, page 22.

<sup>3</sup> Docket No. LC 76, *Cascade Natural Gas Corporation's Response to Staff PM Report and Amended IRP Chapters*, April 15, 2021.

<sup>4</sup> *Id.* at 11-5.

<sup>5</sup> See LC 76, Staff's Final Acknowledgement Memo, page 22.

<sup>6</sup> *Ibid*, page 23.

On April 27, 2022, the Company filed its 2020 IRP Update (IRP Update or Update). This filing detailed Cascade's progress on several IRP Action Plan items. The IRP Update also sought the acknowledgement of six distribution system projects. Several of these projects had been removed from the previous IRP's Action Plan; all had been discussed in the November 2022 distribution project workshop. These six proposed distribution projects represented an approximately \$16 million investment.

Between the IRP's acknowledgement in April 2021, and the filing of the IRP Update a year later, a significant energy policy event occurred for Oregon's natural gas monopolies. The Oregon Department of Environmental Quality (DEQ) adopted rules for the Climate Protection Program (CPP). These new rules introduced a cap on greenhouse gas (GHG) emissions for gas local distribution companies and other covered entities. The rules are designed to achieve emission reductions of 50 percent by 2035 and 90 percent by 2050 from the covered entities. The rules took effect almost immediately, in January 2022, with enforcement occurring every three years.

The CPP rules are consequential to integrated resource planning. The acknowledged investments and activities found in preferred portfolios and IRP Action Plans must demonstrate both how they achieve long-run GHG emission reductions **and** avoid near-term penalties during each three-year compliance period. As such, this IRP Update functions as the first Oregon gas IRP filed and commented upon since the adoption of the CPP.

In July Staff filed comments on the IRP Update.<sup>7</sup> Staff raised concerns about each of the six distribution system projects. This was again due to a lack of a general information around the need and urgency. Staff also sought to understand how these projects complemented—or did not complement—the Company's nascent CPP compliance efforts.

The Oregon Citizen Utility Board (CUB) also filed comments in July. CUB raised concerns regarding the distribution system projects. First, CUB noted the mismatch between the level of expenditures and lack of details with the short review cycle in the IRP Update. CUB found this especially troubling given the recent and large shift required in resource planning due to the adoption of the CPP. Second, the IRP Update lacked consideration of non-pipe alternatives to the proposed distribution system projects. Finally, CUB's comments pointed to Cascade's not having explored, developed, and implemented non-pipe solutions instead of distribution system projects. This observation echoed CUB's previous comments made in the initial 2020 IRP. In

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<sup>7</sup> See LC 76 2020 Cascade IRP Update, Staff Comments, July 22, 2022.

those initial comments CUB called for the Company to begin piloting alternative approaches to distribution system upgrades, like targeted energy efficiency and demand response, to more fully consider non-pipe alternatives in future resource planning.

Cascade filed reply comments on August 17, 2022. In those comments, the Company expanded upon its explanations as to the need and urgency for five of the six proposed projects. Further, Cascade's reply comments shared more details on the Company's progress on implementing IRP Action Plan items. The Company's comments very briefly noted its agreement with CUB on the need to explore non-pipe alternatives to distribution system projects. However, Cascade gave no definitive answer as to how, and under what circumstances, it would conduct such an exploration.<sup>8</sup> And finally, Cascade's comments corrected some of Staff's characterizations around the near-term compliance risk from the CPP.

#### *Acknowledgment of Distribution System Projects*

As stated previously, Cascade's 2020 IRP Update sought the acknowledgement of six distribution system projects. Based on Cascade's August reply comments, the list has been revised down to five projects. Below are the projects still seeking acknowledgement:

- Bend 6"
- Bend Gate
- Prineville Gate
- Ontario Reinforcement
- Bend Shevlin Park Reinforcement

In reply comments Cascade stated it would no longer seek acknowledgement of the proposed Baker City Reinforcement and Gate Station project. Instead, the Company would submit the project for acknowledgement in a future IRP.<sup>9</sup>

Taking a step back, the remaining projects come before the Commission at an inflection point in state energy policy. The CPP adds a critical dimension to integrated resource planning. Assessing how a gas company's IRP action plan represents the least-cost,

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<sup>8</sup> See LC 76 2020 Cascade IRP Update, Cascade Reply Comments, Aug. 17, 2022, page 1-22.

<sup>9</sup> See LC 76 2020 Cascade IRP Update, Cascade Reply Comments, Aug. 17, 2022, page 1-7.

least-risk plan now requires analysis encompassing a wider range of costs, risks, and benefits that are associated with a company's near- and long- term GHG emissions and CPP compliance in general.

In the sub-sections below Staff details:

- a) The additional criteria Staff will use when considering acknowledgment recommendations of distribution system projects under the CPP;
- b) If and/or how these criteria should be applied to Cascade's five proposed projects; and
- c) The resulting acknowledgement recommendations.

*Added CPP Criteria for Acknowledgement for Distribution Projects*

The CPP effectively places fixed, annual caps on allowable GHG emissions for regulated gas companies. Growth in natural gas demand requires compensatory investments or actions to stay in line with the CPP's steadily declining trajectory of annual emissions.

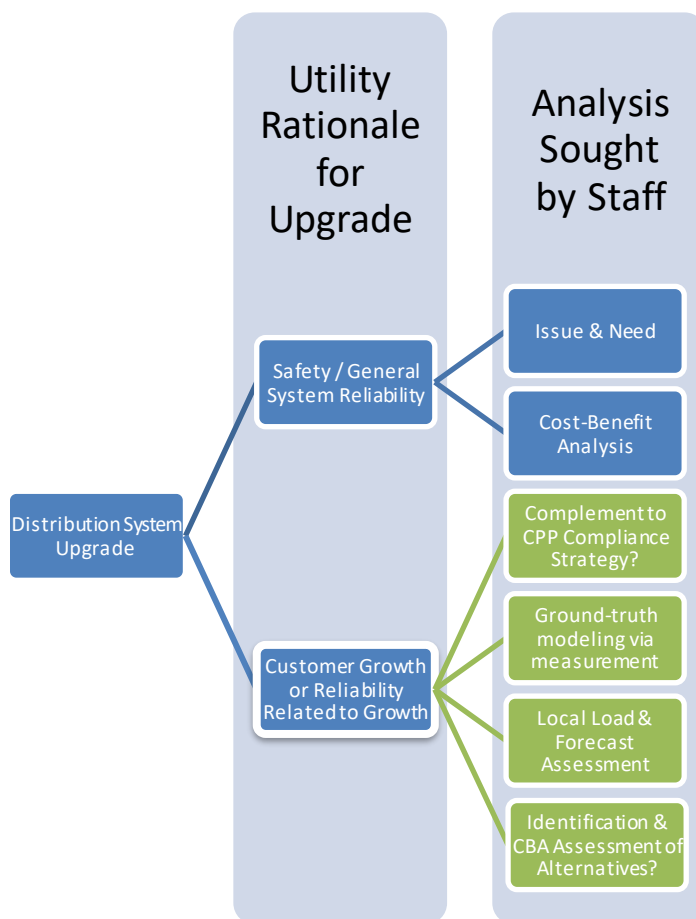
Determining the acknowledgedability – and potentially even the prudence – of distribution upgrades now requires an understanding of the absolute need for any proposed upgrade and of how that upgrade fits within the company's system-wide CPP compliance plan, both in the near- and long- term.

To this end, Staff's July comments put forth a high-level framework for how Staff plans to assess gas LDC's proposed distribution system upgrades going forward with new criteria found in green in Figure 1.<sup>10</sup>

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<sup>10</sup> See LC 76, Staff Comments, July 22, 2022, page 11.

Figure 1: Staff's Proposed Approach to Distribution System Project Analysis Post-CPP Adoption



The green boxes represent new criteria Staff plan to use when assessing distribution system projects driven by future customer growth. Attachment A to this memo details specific information Staff plans to request on any growth-driven distribution system project in the future. As Staff learns more and engages with IRPs and stakeholders, we envision this framework evolving. Staff is also open to future discussions about the alternative forums for the proposing and assessing gas distribution system projects, much like the electric utilities distribution system planning docket (i.e., UM 2005).

***Applying the New Criteria to Acknowledgement of Cascade's Distribution Project***

As stated previously, Cascade filed its IRP Update four months after the CPP was adopted in December 2021. However, the Company's filing also occurred prior to Staff publicly articulating any new criteria or framework for assessing distribution system

projects. The question then emerges for this IRP Update: what is a reasonable approach to assessing distribution system project acknowledgement in this IRP Update?

Safety and reliability of the distribution system remain top priorities within Staff's acknowledgement framework. In this sense, two projects—the Bend 6" Project and the Bend City Gate—appear to have immediate safety or reliability concerns that supersede new considerations of impacts to CPP compliance and long-term ratepayer risk.

The other three remaining projects appear to be largely growth-driven for the design day peak. While the Prineville and Bend-Shelvin projects each had one event during a design day peak in the past three years, both were accommodated by Cascade's cold weather action plan. In short, the forecasted, near-term growth for these three projects appears manageable over the next two years without acknowledgement. In Staff's estimation reintroducing these three projects seven months from now in the April 2023 IRP, with additional analysis related to Staff's CPP framework, does not appear to put unmanageable strain on the Cascade distribution system. For these projects, applying the new CPP framework is reasonable as these three distribution system projects.

#### *Acknowledgement Recommendations for Proposed Distribution Projects*

##### Bend 6"

This multi-phased project has been before the Commission in a previous docket. The Commission acknowledged this project in Order No. 21-127. Staff previously noted the need for this large project and has stated that Cascade no longer needs to have each individual phase of this project acknowledged. Staff reiterates that here. Unless the project undergoes changes in scope, timing, and/or budget, the Company should not feel compelled to bring the project back in subsequent IRPs for acknowledgement.

**Recommendation:** Acknowledge Bend 6" Phase 3 and all planned, subsequent phases.

##### Bend Gate

This project consists of replacing the existing piping and facilities. While Cascade initially stated that the upgrade was necessary to be, "sized for future growth."<sup>11</sup> After comments by Staff and CUB questioning the need for the distribution system projects, the Company's August reply comments stated that the Bend Gate is, "constrained since it cannot get the

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<sup>11</sup> See LC 76 2020 IRP Update, Cascade Filing, April 27, 2022, page 10.

required flow and outlet pressure out of the gate due to undersized components...[and] is in immediate need of replacement.”<sup>12</sup>

In this instance, Staff agrees with Cascade’s reply comments’ assertion regarding the current need to improve the Bend Gate. Drops in the high-pressure portion of the Cascade distribution system in Bend have systemic impacts across the whole system. Further, the efficacy of the Bend 6” improvement project relies on the Bend Gate to supply gas at sufficient pressure on design day extremes of cold temperatures and high demand. Without the Bend Gate upgrade, the benefits of the Bend 6” project are subsequently imperiled.

**Recommendation:** Acknowledge the Bend Gate project.

#### Prineville Gate

In CNG’s reply comments the Company stated that this gate station is constrained as evidenced by impaired flow and outlet pressures due to undersized components. Cascade states the project will address the constraint issues at peak and allow for higher flows out of the gate station and help to meet forecasted growth during cold weather conditions.

However, the written materials and the Company’s information request responses do not materially demonstrate an immediate need. Most notably, the single design day event in February 2022 appears to have been due to interstate pipeline (GTN) maintenance issues and miscommunications more than cold weather and high demand.<sup>13</sup> For Staff, this rules out the Prineville Gate distribution project as necessary in the near-term for reliability and safety issues. Instead, Staff finds the lack of near-term need for safety or reliability reasons and Cascade’s statement that, “needs to be upgraded to meet IRP growth needs,”<sup>14</sup> points to the main driver for this project as forecasted growth. Accordingly, the project should demonstrate in a future IRP how it meets Staff’s new criteria for assessing distribution system projects under the CPP. This includes: a better understanding of modeling parameters and marginal peak growth modeling; how CNG can/does engage with the 32 industrial customers located in Prineville as interruptible load; and, the modeling of non-pipe solutions to reduce peak demand.

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<sup>12</sup> See LC 76 2020 IRP Update, Cascade Reply Comments, August 17, 2022, page 1-13.

<sup>13</sup> See LC 76 2020 IRP Update, Information Request 89 Response, July 21, 2022. The most recent cold weather event in 2022 was due to gate heater maintenance conducted by the pipeline company rather than with any problems with the gate itself.

<sup>14</sup> See LC 76 2020 IRP Update, Cascade Filing, April 27, 2022, page 10.



**Recommendation:** Do not acknowledge the Prineville Gate Project in the 2020 IRP Update.

Baker City Reinforcement and New Gate

Cascade no longer seeks to have this project acknowledged and stated in its Reply Comments that it, "...will reassess this project in the 2023 Integrated Resource Plan."<sup>15</sup> The Company also stated that, "Cascade believes the Baker City project may be far enough in the future that it could benefit from a targeted load management program and will be reassessed in the 2023 Integrated Resource Plan."<sup>16</sup>

While Staff appreciates this, it would also note the discrepancy in how information was presented between Cascade's initial filing and in Information Request (IR) responses. Cascade stated that the Baker City Reinforcement would provide the additional capacity needed to meet growth and boost design day pressures on the east side of the city.<sup>17</sup> The Company shared the screenshot below to substantiate and bolster their assertion:<sup>18</sup>

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<sup>15</sup> See LC 76 2020 IRP Update, Cascade Reply Comments, Aug. 17, 2022, page 1-14.

<sup>16</sup> Ibid, page 1-7.

<sup>17</sup> See LC 76 2020 IRP Update, Cascade Filing, April 27, 2022, page 11.

<sup>18</sup> Ibid, page 12.

Figure 2: Baker City Model Before Proposed Reinforcement (Figure 1 in IRP Update)



The legend in Figure 2 groups all lines with pressures below 20 pounds per square inch gauge (psig) as red, implying an immediate need for replacement. It is worth noting, however, that Cascade has consistently stated that the lowest minimal design day pressure is 10 psig.<sup>19</sup> And in Reply Comments, Cascade noted that, “The reinforcements are to address deficits on Cascade’s distribution systems.”<sup>20</sup>

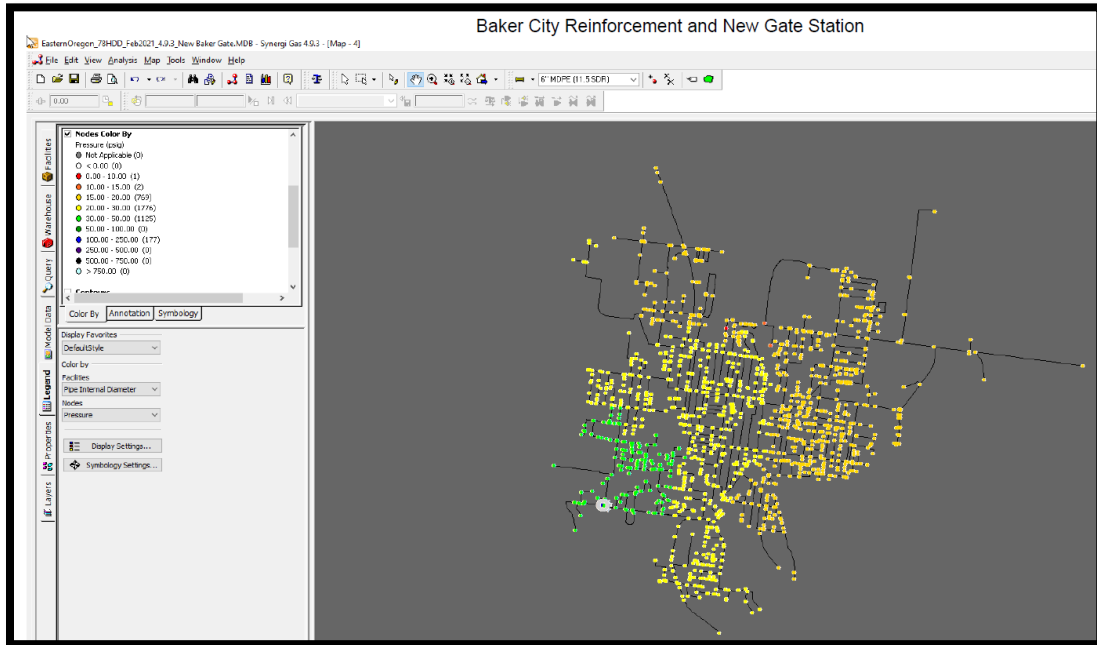
Cascade shared a revised screenshot in response to an IR using a more granular legend for the psig. The screenshot below shows how the **current** Baker City system looks under the Company’s **current** cold weather, design day parameters, **prior to** the proposed \$1.75 million reinforcement and gate project:<sup>21</sup>

<sup>19</sup> See LC 76 2020 IRP, Response Comments, Dec. 18, 2020, page 9.

<sup>20</sup> See LC 76 20a20 IRP Update, Cascade Reply Comments, Aug. 17, 2022, page 1-12.

<sup>21</sup> See LC 76 2020 IRP Update, IR Response #90 Appendix, July 21, 2022.

Figure 3: Current Baker City System under CNG's Current Cold Weather, Design Day Parameters



There appears to be only one node fully below 10 psig during the design day event. Further, there are two nodes between 10 to 15 psig, with an additionally 760 between 15 to 20 psig. As such less than 1% of the Baker City nodes fall below 15 psig under the design day criteria. While future demand may drive the need for upgrades, especially if non-pipe alternatives are not explored and/or piloted, the near-term the need for the project does not appear imminent. Further, Cascade's planning engineers' filing only mentioned one other alternative investment: adding an additional 1,200 ft. of six inch pipe to the proposed projects. This would make the Baker City project even more expensive than the \$1.75 million cost initially proposed in the IRP Update.

Later in the IRP Update process Cascade stated that a potentially, less expensive non-pipe alternative may be workable. Staff appreciates the Company's flexibility in this regard but shares the data above to highlight a concern regarding how distribution system projects were presented in this IRP Update. While this \$1.75 million distribution system upgrade could potentially be necessary in the future, it was not needed in this IRP Update. It also caused Staff to posit that more rigorous set of analysis should be gathered before proposing a project in an IRP. To this end, we have included Attachment A as suggested set of questions to be addressed when considering proposing a growth-driven distribution system project. Staff plans to introduce these

questions in all gas company IRPs, as it should help clarify the need for projects and the expectations of data submissions going forward.

In the end Cascade pulled the project from acknowledgement consideration and has pledged to work with Energy Trust and stakeholders to design a targeted demand side management (DSM) pilot for Baker City. We appreciate this and recommend the pilot include other cities, like Ontario, with similar growth-driven distribution system needs. We also look forward to using the questions found in Attachment A to better substantiate the need for all types of distribution system investments, especially growth-driven projects.

**Recommendation:** N/A as Cascade removed the project from acknowledgement consideration in its Reply Comments.

#### Ontario Reinforcement

This project consists of a new regulator station and four-inch trunkline to boost pressure and flows to the city. Cascade's initial filing presented no evidence the project was needed for reliability or safety concerns. In Cascade's reply comments the Company states, "The reinforcements are to address deficits on Cascade's distribution systems."<sup>22</sup> Additionally, Cascade stated that, "The Ontario distribution system is constrained on east side of Ontario during peak demand events. The constraint can be seen by the low pressures experienced in the design day model provided in DR 99 and in actual pressure chart data provided in DR 79 and 80."<sup>23</sup> However, Staff could not find evidence of deficits Cascade describes.

Much like the Baker City project, Cascade provided a screenshot of a constrained distribution system at design day maximums. An updated screenshot with more granular psig data, per a Staff data request, showed Ontario distribution system, including the east side, had sufficient pressure under the most stressful peak period.

Figure 4 is from the IRP Update. In this system model any node equal to or below 20 psig on the cold weather, design day maximum appears in red. The second screenshot is with a more granular representation of the psig under the cold weather, design day constraint.

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<sup>22</sup> See LC 76 2020 IRP Update, Cascade Reply Comments, Aug. 17, 2022, page 1-11.

<sup>23</sup> *Ibid*, page 1-13

Figure 4: IRP Update Figure 8 - Ontario Before Proposed Reinforcement

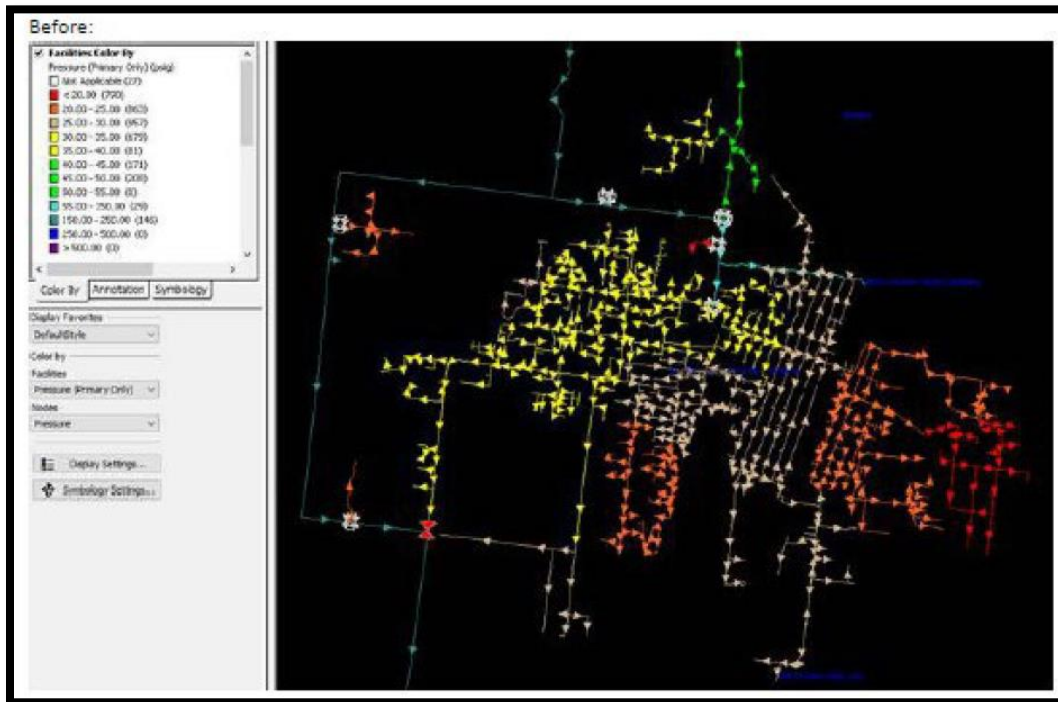
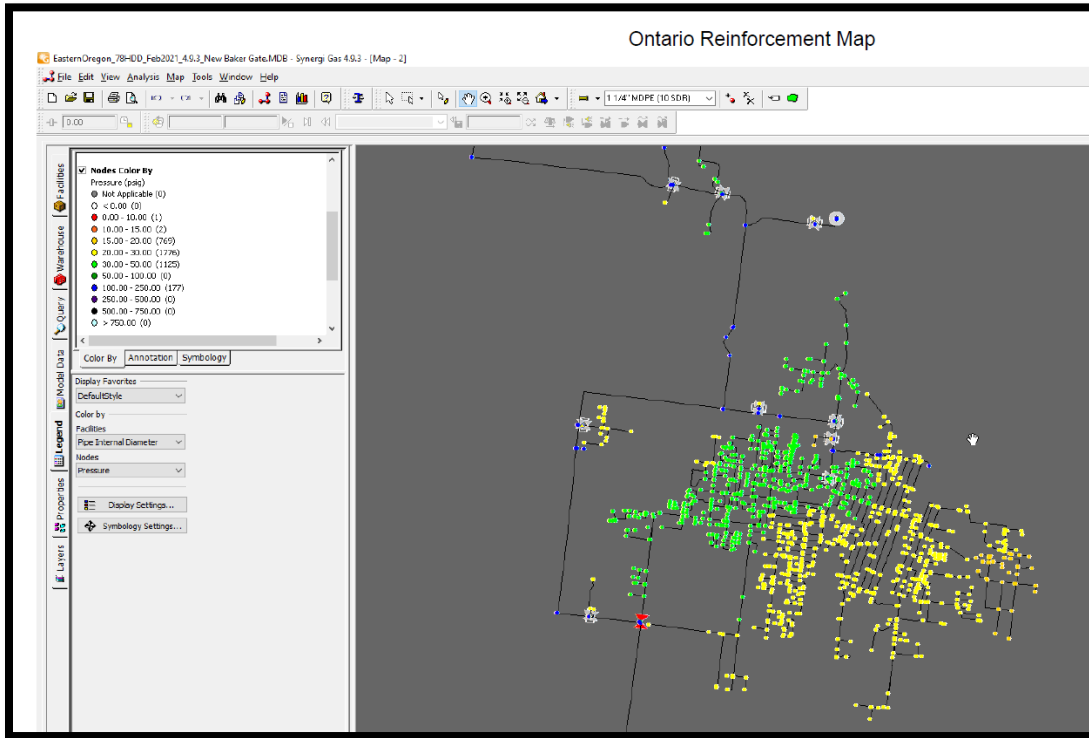


Figure 5: Increased Granularity of Ontario psig Under Cold weather, Design Day Constraint



Note that only two nodes of the Ontario system appears to experience less than 15 psig under design day criteria currently. Further, Cascade notes that this is not a fast growing area.<sup>24</sup>

In reply comments, Cascade does state that, “the timing of this reinforcement will be assessed over time and updated in Cascade’s five-year budget. Currently, Cascade is projecting that this reinforcement will need to occur in the next several years.”<sup>25</sup>

As such, this reinforces Staff’s belief that this proposed \$1.23 million project falls under the category of growth-driven and does not need to be acknowledged now. The project should demonstrate in a future IRP how it meets Staff CPP criteria for distribution system projects.

<sup>24</sup> See LC 76 2020 IRP Update, Information Request Responses 82 and 106, July 6, 2022.

<sup>25</sup> See LC 76 2020 IRP Update, Cascade Reply Comments, Aug. 17, 2022, page 1-13.

Staff would also note that this area may be an excellent area to work with Energy Trust on a targeted DSM project. Finally, Staff reiterates the need to avoid mischaracterizing project need in IRPs to retain the full confidence amongst stakeholders.

**Recommendation:** Do not acknowledge Ontario Reinforcement.

**Recommendation:** Include Ontario along with Baker City in any targeted DSM pilot.

#### Bend Shelvin Park Reinforcement

This project is a high-pressure main extension and new regulator station on the westside of Bend that includes extending 1.8 miles of six-inch steel high pressure pipe. Much like the Baker and Ontario projects, Staff did not find the evidence of a reliability or safety concern outweighing the need to consider what appears to be a growth driven project, in the context of the CPP. While the west side of Bend did experience a single instance of a very low pressure drop in 2022,<sup>26</sup> the contingency use of a manual bypass is not an unusual procedure in a cold weather action plan. While employing a bypass during a cold weather event is not optimal, nor is it sufficient justification for such a large investment, which appears mostly designed to capture new home growth.

To this end, the data provided in Cascade's response points to a slowing of new residential customer hookups in Bend.<sup>27</sup> This comports with the macro-economic data of a slowing economy due to COVID and now inflationary pressures.

In summary, the safety and reliability justification for this project to be acknowledged in this IRP are not sufficient. There has been only one event, and growth in customer hookups appears to be slowing. Regardless, this project enables large growth on Cascade's system. The data points to the project supporting an additional 1,000 new homes, which, based on the regional Residential Building Stock Assessment (RBSA) would increase annual system throughput by as much as 1,000,000 therms annually. For context, this is nearly 50 percent of the annual renewable natural gas (RNG) production from the Deschutes County Landfill project, slated to come online in 2024.<sup>28</sup> Staff is not opposed to Cascade resubmitting the Bend Shelvin Reinforcement project in a future IRP. However, the filing should demonstrate how this investment fits within the Company's CPP compliance strategy. To this end, a deeper exploration of any non-pipe alternatives that could forestall or avoid this investment would be helpful in determining

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<sup>26</sup> See LC 76 2020 IRP Update, Information Request Responses 86, July 6, 2022.

<sup>27</sup> See LC 76 2020 IRP Update, Information Request Responses 95, July 6, 2022. Per the data provided in this IR total new residential hookups trended down from a high of 257 in 2019 to a low of 78 in 2022.

<sup>28</sup> See LC 76 2020 IRP Update, Cascade Reply Comments, Aug. 17, 2022, page 1-17.

how it supports Cascade's CPP compliance strategy and, by extension, Bend's Community Climate Action Plan.

**Recommendation:** Do not acknowledge the Bend Shevlin Park Reinforcement.

#### Additional Recommendations

**Recommendation:** Encourage the use of Attachment A in future IRPs.

#### Corrections

##### *Energy Efficiency*

Staff's initial round of comments did not accurately represent the Company's energy efficiency (EE) needs to achieve near-term CPP compliance. This led to a mischaracterization of Cascade's compliance position and the Company's overall compliance strategy.

Staff used Cascade's UM 2178 filing to determine the Company's near-term, CPP compliance strategy, as it was not discussed in the IRP update. Cascade's CPP compliance strategy in UM 2178 included a sizeable and growing amount of EE, well beyond Energy Trust's current goals.

Staff failed to double-check the source of these numbers prior to filing comments. In fact, Cascade's annual EE numbers are cumulative totals that build upon the previous year's goals. In other IRPs and UM 2178 filings, the cumulative annual impact of EE is reflected in an adjusted load forecast. Staff mistook the stacking of previous annual EE savings with ever increasing annual goals. Staff apologizes for this avoidable misinterpretation.

In summary, Cascade's current, forecasted level of EE acquisition in 2023 appears to be in keeping with the CPP compliance strategy detailed in UM 2178. To avoid a similar misinterpretation in the future, Cascade has agreed to show net forecasted, cumulative annual EE savings from the annual load forecast.

##### *Correction to CPP Mechanics*

Staff made a mistake in interpreting the rules regarding the CPP's percentage limitations of Community Climate Investments (CCIs). The number of usable CCI's are



based on a percentage of the gas company's total compliance obligations,<sup>29</sup> not a percentage of a company's annually issued emissions allowances. This error created an approximately 28,000 CCI credit difference over the first three-year compliance period. As such, it flips Cascade from being forecasted out of compliance with the CPP to just within compliance.

This error was immediately noted by Cascade and Staff confirmed with DEQ that Staff's interpretation was in error. This was confirmed with Cascade prior to Cascade's reply comments in August. This allowed Cascade the space to demonstrate compliance in the first three-year period. Staff finds the updated analysis of the Cascade CPP compliance position in the Company's reply comments more accurate than Staff's and apologizes for the error.

Staff looks forward to working with the Company and stakeholders to develop a more thorough understanding of Cascade's CPP compliance strategy in their 2023 IRP filing. The Company's IRP technical advisory group (TAG) meetings have been well researched and well attended and should enable a good dialogue on how the next IRP action plan enables CPP compliance.

### Conclusion

Staff appreciates the ongoing dialogue with Cascade's staff around the distribution system projects seeking acknowledgement in this IRP Update. We also appreciate the learnings around the application of the CPP within the framework of IRP analysis. Below is a summary of Staff's acknowledgement recommendations related to this IRP Update:

1. Acknowledge Bend 6" Phase 3 project, and all future phases with caveats around deviations from project scope, cost, or timing.
2. Acknowledge Bend Gate Project.
3. Do not acknowledge the following three proposed distribution system projects in this IRP Update:
  - a. Prineville Gate Project
  - b. Ontario Reinforcement and Gate Project

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<sup>29</sup> See OAR 340271-0020(11) and OAR 340-271-9000

- c. Bend Shelvin Park Reinforcement
- 4. Encourage the use of Attachment A when presenting data on distribution system projects in future IRPs.
- 5. Include Ontario along with Baker City in any targeted DSM pilot.

**PROPOSED COMMISSION MOTION:**

Acknowledge the Bend 6" and Bend Gate distribution system projects in 2020 IRP update and adopt Staff's other four recommendations for this IRP Update.

Attachment A. Staff Recommendation for Distribution System Project Information in Future Gas IRPs

Staff seeks the analysis and information on proposed distribution system upgrades to determine rationale and thus inform acknowledgment under the CPP. Specifically, Staff seeks:

- An understanding of the model parameters used to identify and justify an upgrade.
- Information to assess model performance against observed conditions at the proposed upgrade location, including scenarios and probability of those scenarios, e.g., Number of Heating Degree Day in targeted years at the investment location
- Minimum standards for operation around the proposed upgrades
- Alternative activities or investments analyzed or already enacted, particularly focused on minimizing growth of overall throughput of the network
- If a distribution system project was selected over an alternative investment, the rationale supporting the selection

Staff has developed a set of questions, akin to standard data requests, divided into four categories, with the goal of helping to guide the information submitted about distribution system projects and clarify expectations. To the extent that any gas company's IRP omits this analysis and information, Staff may ask for it in Information Requests.

**Distribution System Upgrade, Model Basics**

Goal: To help Staff and stakeholders understand fundamental modeling assumptions used by the Company to assess distribution system upgrades and the logic used to model a system, identify upgrades, and assess alternatives to upgrades.

1. For any proposed distribution system project provide the following in Excel format with formulas intact:
  - a. Model parameters
  - b. Customer-temperature correlation and confidence, particularly focusing on those customers for whom correlation is not high (e.g. non-temperature dependent use types)
  - c. HDD scenarios considered and the influence of more extreme use cases
  - d. Minimum delivery pressures
  - e. Correlation and confidence of location-specific temperature cases

### **Distribution System Upgrade, Ground Truthing**

Goal: To help Staff and stakeholders understand how well a model reflects actual conditions observed at the location of a proposed distribution upgrade. This helps to establish confidence in the need for a project.

2. Describe **how** the Company assessed model accuracy for pressure recordings and weather data against actual observations.
3. Provide data demonstrating how modeled conditions appeared in observations. This should include:
  - a. A description of when they happened
  - b. Locally measured temperatures and other relevant weather parameters
  - c. How often they happened
  - d. How long they were observed for
  - e. Clarification about whether during the observations any contingency actions were deployed, including but not limited to curtailing interruptible customers, effecting cold weather actions (i.e. bypassing regulator stations), local injection of gas, or the use of any energy efficiency or demand side management approaches
4. Provide data supporting where in the system the largest line losses occurred to determine the best mitigation for the reduced delivery pressure cases.

### **Distribution System Upgrade, Minimum Standards**

Goal: To help Staff and stakeholders gain insights into the engineering and operational standards under which a utility seeks to operate its distribution system. These standards provide a better understanding of the extent to which the current system falls outside of those standards and how the proposed upgrades address those issues.

5. Provide the following information for each category of a utility's system
  - a. High pressure distribution system
    - i. Maximum allowable operating pressure (MAOP)
      1. Limiting component(s)
    - ii. Specified minimum yield strength (SMYS)
    - iii. Normal operating pressure
    - iv. Minimum operating pressure
    - v. Standard pipe sizes, materials, and grades
    - vi. Minimum cover depth
    - vii. Main pipeline leaks by grade
    - viii. How many leaks are carried over from prior calendar year by grade

- b. Intermediate pressure distribution system
    - i. Maximum allowable operating pressure
      - 1. Limiting components
    - ii. Normal operating pressure
    - iii. Minimum operating pressure
    - iv. Standard pipe sizes, materials, and grades
    - v. Minimum cover depth
    - vi. Main pipeline leaks by grade
    - vii. How many leaks are carried over from prior calendar year by grade
  - c. Industrial services
    - i. Maximum allowable operating pressure
    - ii. Normal operating pressure
    - iii. Minimum operating pressure
    - iv. Standard pipe sizes, materials, and grades
    - v. Minimum cover by grade
    - vi. Service line leaks by grade
    - vii. How many leaks are carried over from prior calendar year by grade
  - d. Residential and commercial services
    - i. Maximum allowable operating pressure
    - ii. Normal operating pressure
    - iii. Minimum operating pressure
    - iv. Standard pipe sizes, materials, and grades
    - v. Minimum cover depth by grade
    - vi. Service line leaks by grade
    - vii. How many leaks are carried over from prior calendar year by grade
6. For each project identified outline
- a. Existing maximum allowable operating pressure
  - b. Proposed maximum allowable operating pressure
  - c. Normal operating pressure
  - d. Design day (hour) minimum pressure and related HDD
  - e. All data supporting the validation of the local network model, including pressure recording charts
  - f. The model under the variety of cases with various thematics, including delivery pressures and line losses
  - g. Cathodic protection records demonstrating the effectiveness of the program for this corridor

- h. Leak history for transmission, distribution mains and service lines by grade
- i. If cover or other safety or reliability concern is relevant to the project's completion, please identify the data supporting that concern. For instance, in the case of insufficient cover, provide evidence of how pervasive the cover limitations are, e.g., pothole history or other supporting material. If any metal coupons of the pipeline have been tested, please provide such information.

### **Distribution System Upgrade, Cost Effective Alternatives**

Distribution system upgrades that can increase emissions put financial pressure on ratepayers and the Company to reduce emissions elsewhere on the system. Thus, resource planning in Oregon must now explore the extent to which upgrade alternatives that forestall or even avoid expanding distribution system capacity were explored. The questions below seek to establish the alternatives explored, how they were identified, and, if applicable, why distribution system upgrades were selected over the explored alternatives.

1. Describe the alternatives to distribution system investments that were explored as part of the Company's research.
2. Identify the frequency with which the Company has performed contingency actions to ensure proper system delivery, such as bypassing regulator stations, injecting CNG or other measures. For each time such actions were taken, provide all supporting records about the actions taken.
3. List the number of interruptible customers and their hourly maximum demand, as well as any curtailments conducted during peak events. Additionally, describe how much each interruptible customer is estimated to use at peak and how the model used for distribution system upgrades incorporates the interaction with interruptible customers when assessing the size and timing of a distribution system upgrade, especially a gate upgrade.
4. Identify the extent to which the Company analyzed the potential for large loads in the area of the upgrades to either shift or be shed during peak events to avoid upgrades.
5. Identify the extent to which the Company analyzed the use of energy efficiency and/or demand response (e.g., thermostat pre-heating or reducing peak demand)

programs to forestall or avoid the proposed upgrades. If such analysis was conducted, please summarize the impact on the size and timing of any of the proposed upgrades and why such energy efficiency and/or demand response was not pursued.