ITEM NO. 1

PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT
PUBLIC MEETING DATE: February 9, 2016

REGULAR X **CONSENT** ____ **EFFECTIVE DATE** **Upon Commission's Approval**

DATE: January 25, 2016

TO: Public Utility Commission

FROM: Erik Colville

THROUGH: Jason Eisdorfer and Aster Adams

SUBJECT: CASCADE NATURAL GAS: (Docket No. LC 59) Acknowledgement of the 2014 Integrated Resource Plan.

STAFF RECOMMENDATION:

Staff recommends the Commission not acknowledge Cascade Natural Gas Corporations' (Cascade) 2014 Integrated Resource Plan (IRP), along with certain other recommendations.

ISSUE:

Whether the Commission should acknowledge Cascade's 2014 IRP?

APPLICABLE LAW:

OAR 860-027-0400 requires energy utilities to file an IRP within two years of its previous IRP acknowledgement order. As used in this rule, "Integrated Resource Plan" or "IRP" means both the energy utility's written plan satisfying the requirements of Commission Order Nos. 07-002, 07-047 and 08-339, detailing its determination of future long-term resource needs and its analysis of the expected costs and associated risks of the alternatives to meet those needs, and the energy utility's Action Plan to select the best portfolio of resources to meet those needs.

ANALYSIS:

Procedural History

Cascade filed its 2014 IRP on July 20, 2015. On September 23, 2015, Staff and Citizen's Utility Board of Oregon (CUB) filed initial comments regarding Cascade's IRP. Cascade filed response comments on October 22, 2015. Final recommendations by Staff were filed on December 23, 2015, and reply comments were filed by CUB and Cascade on January 20, 2016.

Prior to filing the IRP, Cascade held four public stakeholder meetings, and two demand forecasting workshops. In addition, stakeholders were allowed and encouraged to provide comments to Cascade throughout the IRP development process.

General Description of the IRP

Cascade's 2014 IRP is a plan for meeting customer natural gas needs over the next 20 years. While the primary focus of the IRP is meeting customers' needs under peak weather conditions, the IRP process also provides a methodology for evaluating customer needs under normal or average conditions. Thus the IRP brings together customer demand forecasts with analyses of resource options, including supply-side resources and demand-side measures to provide a valuable planning tool for Cascade, its customers, regulatory agencies, and other stakeholders.

In its 2014 IRP, Cascade identifies that, on a system basis, it is resource sufficient until 2033. It further identifies that implementing short term resource solutions were necessary to avoid a central Oregon resource deficiency before 2017. Beginning in 2018, Cascade plans to replace those short-term resource solutions. However, Cascade's 2014 IRP includes no Action Items related to replacing those short-term resource solutions. Staff is aware however of such an action item from Cascade's Second Supplemental Update to its 2011 IRP filed in Docket No. LC 54.

Compliance with Commission IRP Guidelines

As presented in detail below, Staff's and CUB's comments reflect that Cascade has not adequately addressed areas of concern in its 2014 IRP. As a result, Staff and CUB both conclude that Cascade's 2014 IRP generally fails to adhere to the IRP Guidelines[1] and relevant Orders put forth by the Commission related to integrated resource planning.

[1] Order No. 07-002

Cascade recognizes this failure as follows: Cascade agrees the IRP as filed was flawed and recognizes that Cascade's future IRPs will be held to a higher standard.[2]

Action Item Discussion

Cascade's 2014 IRP includes no IRP Guideline compliant Action Plan. Pages 166-167 of Cascade's IRP are intended to present the 2014 Action Plan. In its initial comments, Staff notes that, excepting Action Items 1 and 9, all other items listed are business-as-usual. Per IRP Guideline 3n, the action plan should present specific, numbered, named, actions the utility will take over the next 2-4 year period to acquire the identified resources. The action items should not include actions that are business-as-usual utility activities. Also, the action items should be specific and measurable.

In addition, the 2014 IRP identifies a resource sufficiency in Central Oregon, but the Action Plan does not include an Action Item to address the resource deficiency after 2017.

Staff recommends that, in Cascade's IRP Update, due one year from the acknowledgement order for this IRP, Cascade present an Action Plan with Action Items meeting IRP Guideline 3n, and revise Action Items 1 and 9 to be specific and measurable.

In addition, Staff recommends that, in Cascade's IRP Update, Cascade include the missing central Oregon shortfall resolution action item in the Action Plan.

Other Issues

Staff identified several issues related to the IRP that it would like to see examined in greater detail in future IRPs. These areas for improvement are discussed below. Staff notes that Cascade has stated a willingness to work with stakeholders to improve the next IRP process.

Demand Side Management (DSM)

Staff's initial comments identify three concerns related to the DSM analysis. The first concern, related to presentation of the data, was largely addressed through responses to Information Requests (IRs). However, because Cascade did not address them, two of the concerns identified in Staff's initial comments remain.

[2] January 20, 2016, Cascade Final Response, page 3.

First, Cascade's Action Plan item related to energy efficiency acquisition states "Cascade will continue to monitor the effectiveness of the Oregon Public Purpose Fund to ensure the funds are adequate to capture significant portions of achievable therm savings in Oregon." Staff is convinced that this characterization is not aligned with the IRP Guidelines. The Commission, through Order No. 89-507, adopted "least-cost planning" as the preferred approach to utility resource planning. Utility resource plans are expected to identify resources that provide the best mix of cost and risk. All resources, including energy efficiency, must be evaluated on a consistent and comparable basis and as a result, all cost effective energy efficiency should be identified and acquired within the long term planning process. It's not clear that Cascade plans to acquire all cost effective energy efficiency as presented within this IRP. Without all IR responses and based only upon the initial information provided in the IRP, Staff's review of the DSM analysis cannot be completed.

Second, throughout the IRP, Cascade mentions the capacity value of energy efficiency, yet it's still unclear to Staff how Cascade attributes capacity value to conservation. Page 26 of Cascade's IRP notes that it's important "to review the impacts of proposed conservation resource on anticipated distribution constraints." No further discussion or plans regarding conservation are provided.

Parties' Positions
CUB's January 20, 2016, reply comments support Staff's DSM recommendations.

Cascade's Position
Cascade's January 20, 2016, reply comments express agreement with Staff's DSM recommendations.

Staff Position and Recommendation

Staff recommends, for future IRP filings, that Cascade:

1. **Clearly show the plan to acquire all cost effective energy efficiency.**
2. **Provide complete conservation resource potential results and inputs specific to Cascade only, not including results of other Energy Trust territories or for measures that do not apply to Cascade territory.**
3. **Provide updated data and explanations for the policies and methodologies used to inform the DSM analysis.**
4. **Incorporate commercial market transformation savings similar to residential methods and include an explanation for how those assumptions are derived and applied within the IRP.**
5. **Clearly document assumptions behind capacity contribution of energy efficiency and how the capacity value is incorporated into resource planning.**
6. **Provide an explanation regarding how annual energy savings are translated into peak day demand and capacity resources.**

Portfolio Analysis

GENERAL

As noted in Staff's initial comments, Section 7 Resource Integration presents the scenario (deterministic), simulation (stochastic), and sensitivity analyses performed for various portfolios of resources. The presentation blends the three analysis steps without delineating that the three analyses steps are progressive. Future Cascade IRPs will benefit from including portfolio analyses and presenting the analysis results in a manner that clearly delineates the three analysis steps, and how those steps progressively lead to identification of the preferred portfolio of resources.

In addition, as noted in Staff's initial comments, the primary purpose of conducting stochastic/Monte Carlo analyses is to be able to trade-off risk and expected or deterministic outcomes when selecting the "best risk-cost" portfolio. There is no indication in Cascade's IRP that Cascade conducted that sort of trade-off analysis. Future Cascade IRPs will benefit from Cascade performing and clearly presenting this trade-off analysis.

PEAK LOAD-RESOURCE BALANCE

As noted in Staff's initial comments, on a system basis, Cascade is resource sufficient until 2033. Cascade - Oregon is resource deficient in 2015, but Cascade plans to use short-term city gate/capacity releases to fill the Oregon resource deficiency through 2017. Then, beginning in 2018, Cascade plans to replace the short-term resource solutions with incremental Gas Transmission Northwest pipeline (GTN) southbound capacity, and beginning in 2021 plans to add incremental GTN northbound capacity, satellite liquefied natural gas capacity, and incremental off-system gas storage.[3]

Staff's initial comments also noted that the Second Supplemental Update in Docket No. LC 54 included Action Item 2:

> Investigating and analyzing storage and transport alternatives to resolve the central Oregon shortfall, targeting completion late 2016-early 2017.

Cascade's IRP Update should resolve the apparent conflict, noted in Staff's initial comments, between the Oregon resource deficiency depicted in Figures 7-B-2 and 7-C-2 and described in the LC 54 Second Supplemental Update, and the Appendix Section F load-resource balance figures.

As a related concern, to summarize the above load-resource balance information Staff had to consult the Executive Summary, Section 7, and Appendix Section F. Future Cascade IRPs will benefit from providing a clear, complete, and concise presentation of the portfolio analysis results in a single section of the IRP.

Finally, as noted in Staff's initial comments, while Cascade discusses on page 26 of its IRP the potential role of DSM in avoiding or delaying other investments, there is no analysis to show how much of the peak day load could be reduced or delayed by an accelerated DSM program or by a recallable service agreement program. Cascade's IRP Update should present an analysis to show how much the peak day load could be reduced or delayed by accelerated DSM and recallable service agreement programs.

PREFERRED RESOURCE PORTFOLIO

Staff's initial comments note that the range of 20-year portfolio analysis costs for the 12 deterministic scenario analyses is $5.2 to $5.3 billion, approximately a two percent range. As Cascade presents on page 154, the last full paragraph, the narrow range in

[3] Figure 1-A depicts that, on a system basis, Cascade is resource sufficient until 2033. Figure 7-B-2 depicts that Oregon is resource deficient in 2015. Figure 7-C-2 depicts that Cascade plans to use city gate/capacity releases to fill the Oregon resource deficiency through 2017.

analysis results indicates there is no resource portfolio with a clear "best combination of expected costs and associated risks and uncertainties for the utility and its customers."[4] Thus, Cascade should not foreclose any mix of resources until a resource decision must be made and further analysis is conducted to ensure that the portfolio with the best combination of expected costs and associated risks is selected.

Parties' Positions
CUB's January 20, 2016, reply comments support Staff's Portfolio Analysis recommendations.

Cascade's Position

Cascade's January 20, 2016, reply comments express agreement with Staff's Portfolio Analysis recommendations.

[4] Order No. 07-002 Guideline 1(c).

Staff Position and Recommendation

Staff recommends that:

1. **Future Cascade IRPs include portfolio analyses and present the analysis results clearly delineating the three analysis steps, and how those steps progressively lead to identification of the preferred portfolio of resources.**

2. **Future Cascade IRPs include portfolio analyses and present the analysis results clearly delineating the three analysis steps, and how those steps progressively lead to identification of the preferred portfolio of resources.**

3. **Future Cascade IRPs perform and clearly present this trade-off analysis.**

4. **In Cascade's IRP Update, Cascade resolve the apparent conflict, noted in Staff's initial comments, between the Oregon resource deficiency depicted in Figures 7-B-2 and 7-C-2 and described in the LC 54 Second Supplemental Update, and the Appendix Section F load-resource balance figures.**

5. **Future Cascade IRPs provide a clear, complete, and concise presentation of the portfolio analysis results in a single section of the IRP.**

6. **In Cascade's IRP Update, Cascade present an analysis to show how much the peak day load could be reduced or delayed by accelerated DSM and recallable service agreement programs.**

Demand Forecast

As noted in Staff's initial comments, after reviewing Cascade's demand forecast, Staff has a general recommendation regarding sales forecast methodology. Going forward, Cascade should work with Staff and other interested parties to develop a comprehensive database comprising of both economic and weather variables such as price, income, employment, different Heating Degree Days (HDD) cutoffs, seasonality, etc., and formulate alternative regression models to identify the drivers of the forecasted values and plausibility of the parameter estimates relative to the economic theory on demand for natural gas.

Parties' Positions
CUB's January 20, 2016, reply comments support Staff's Demand Forecast recommendations.

Cascade's Position
Cascade's January 20, 2016, reply comments express agreement with Staff's Demand Forecast recommendations.

Staff Position and Recommendation

Staff recommends that Cascade work with Staff and other interested parties to develop a comprehensive database comprising of both economic and weather variables such as price, income, employment, different Heating Degree Days (HDD) cutoffs, seasonality, etc., and formulate alternative regression models to identify the drivers of the forecasted values and plausibility of the parameter estimates relative to the economic theory on demand for natural gas.

Natural Gas Purchasing and Hedging

As noted in Staff's initial comments, Section 5 of Cascade's IRP includes a brief discussion of Cascade's Portfolio Purchasing Strategy (beginning on page 49). This discussion does not provide sufficient detail to allow Staff to do a thorough review of the purchasing, hedging, and risk management plans/policies/strategies. As a result, Staff issued IRs
1-7 requesting the various plans, documents, strategies and programs that guide gas purchasing and hedging. Cascade did not respond to four of the IRs.

Future Cascade IRPs will need to include detailed descriptions of, and basis for, the gas purchasing plan and hedging strategy, as well as the gas purchasing risk management plan/policy/strategy. As allowed in the Guideline, the description may be provided following IRP acknowledgement. In that event, the IRP should contain a summary level description and note that the detailed description will be submitted following acknowledgement. In either case, the detailed description should be in sufficient detail to allow Staff to do a complete review of the purchasing, hedging, and risk management plans/policies/strategies.

HEDGING STRATEGY

As noted in Staff's initial comments, Staff's review of Cascade's hedging strategy focuses on whether Cascade's IRP addresses Guideline 1c of the IRP Guidelines adopted in Order No. 07-002. Staff concludes that Cascade's approach to the use of physical and financial hedging, as discussed in its IRP, is not unreasonable.

However, in the next IRP, Cascade should comprehensively describe the rationale by which it chooses the hedging percentage levels, including upper limits of hedged gas

based on the market environments (e.g., price levels, volatility, etc.), Cascade's risk tolerance (e.g., tolerance bands of potential losses), etc. In the meantime, Cascade should continue to apprise Staff and other parties during the recurring quarterly meetings of changes in the hedged gas percentage levels.

Parties' Positions
CUB's January 20, 2016, reply comments support Staff's Natural Gas Purchasing and Hedging recommendations.

Cascade's Position
Cascade's January 20, 2016, reply comments express agreement with Staff's Natural Gas Purchasing and Hedging recommendations.

Staff Position and Recommendation

Staff recommends that future Cascade IRPs include detailed descriptions of, and basis for, the gas purchasing plan and hedging strategy, as well as the gas purchasing risk management plan/policy/strategy.

Staff also recommends that in the next IRP, Cascade comprehensively describe the rationale by which it chooses the hedging percentage levels, including upper limits of hedged gas based on the market environments (e.g., price levels, volatility, etc.), Cascade's risk tolerance (e.g., tolerance bands of potential losses), etc. In the meantime, Staff recommends that Cascade continue to apprise Staff and other parties during the recurring quarterly meetings of changes in the hedged gas percentage levels.

Distribution Planning

As noted in Staff's initial comments, Table 4-1 and Appendix Section C comingle enhancement projects with replacement, gate, odorizer, regulator, valve, exposure, and relocation projects. Given the focus of Section 4 on distribution system enhancements, it will benefit future Cascade IRPs to present separate listings of enhancement projects from the other projects.

Parties' Positions

CUB's January 20, 2016, reply comments support Staff's Distribution Planning recommendations.

Cascade's Position
Cascade's January 20, 2016, reply comments express agreement with Staff's Distribution Planning recommendations.

Staff Position and Recommendation

Staff recommends that future Cascade IRPs present separate listings of enhancement projects from the other projects.

Climate Change Regulation

Staff has two comments related to Cascade's IRP treatment and assessment of climate change and environmental regulatory risk, and assessment and projection of cost risk.

1. As presented on pages 37 and 38, Cascade has the option of purchasing and taking delivery of renewable natural gas. Staff suggests for future IRPs that Cascade inform the Commission in its IRP of the price of renewable natural gas as compared to traditional source of natural gas, and report to the Commission how much renewable natural gas it purchased between the IRP filing years.

2. Under EPA's Greenhouse Inventory Report under section 307(d) of the Clean Air Act, North American Industry Classification System 221210 natural gas distribution companies must report greenhouse gas emissions from their facilities and infrastructure. Cascade is a natural gas distribution entity subject to the Environmental Protection jurisdiction and reporting requirements. To better inform the Commission as to the potential regulatory risk carried by Cascade and its ratepayers, Cascade should report this information to the Commission in each of its future IRPs for each year preceding each IRP. This way Staff can compare the relative environmental risk by comparing greenhouse emissions from prior years to present, and Staff can better understand the full risk as Cascade customer base grows.

Parties' Positions
CUB's January 20, 2016, reply comments support Staff's Climate Change Regulation recommendations.

Cascade's Position
Cascade's January 20, 2016, reply comments express agreement with Staff's Climate Change Regulation recommendations.

Staff Position and Recommendation

Staff recommends for future IRPs that Cascade inform the Commission in its IRP of the price of renewable natural gas as compared to traditional source of natural gas, and report to the Commission how much renewable natural gas it purchased between the IRP filing years.

Staff also recommends that Cascade report its EPA's Greenhouse Inventory Report information to the Commission in each of its future IRPs for each year preceding each IRP.

Diligence in Pursuit of Regulatory Obligations

Staff is convinced that Cascade's staffing approach created deficiencies in its ability to perform its required regulatory IRP activities. Staff is convinced in this regard based upon Cascade's need for three IRP filing extensions, a procedural schedule modification, and its failure to meet the modified procedural schedule. Further Cascade's October 22, 2015, reply comments failed to address the concerns noted in Staff's initial comments. Staff finds therefore that Cascade's reply comments are not responsive and are inadequate. Staff is convinced had there been adequate IRP staffing, at least one of the filing extensions and the failure to comply with the modified procedural schedule could have been avoided. Cascade should evaluate its staffing approach and changes be made where needed, to ensure that its required regulatory IRP activities are performed on schedule and in compliance with Commission requirements.

Parties' Positions
CUB's January 20, 2016, reply comments support Staff's Diligence recommendations.

Cascade's Position
Cascade's January 20, 2016, reply comments express agreement with Staff's Diligence recommendations.

Staff Position and Recommendation

Staff recommends that Cascade evaluate its staffing approach and make changes where needed, to ensure that its required regulatory IRP activities are performed on schedule and in compliance with Commission requirements.

OTHER

The Executive Summary includes information not presented elsewhere in the IRP. For example, the Load Resource Balance discussion on page 6 was not found in the Section 7 discussion, and Figure 1-A contains two more years than does Figure 7-B-1. Future IRP's will benefit from using the Executive Summary to summarize the contents of the IRP, rather than to present additional information.

Parties' Positions
CUB's January 20, 2016, reply comments support Staff's Other recommendation.

Cascade's Position
Cascade's January 20, 2016, reply comments express agreement with Staff's Other recommendation.

Staff Position and Recommendation

Staff recommends that future IRPs use the Executive Summary to summarize the contents of the IRP, rather than to present additional information.

CONCLUSION:

As discussed in detail above, Cascade has not adequately addressed areas of concern in its 2014 IRP. As a result, Cascade's 2014 IRP generally fails to adhere to the IRP Guidelines and relevant Orders put forth by the Commission related to integrated resource planning.

Staff recommends that the Commission not acknowledge Cascade's 2014 IRP.

Staff also recommends, as highlighted above, several items be addressed in Cascade's IRP Update as well as improvements to future IRPs.

PROPOSED COMMISSION MOTION:

Cascade's 2014 IRP not be acknowledged, along with certain other recommendations contained in this Staff Report.