

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

LC 59

In the Matter of

CASCADE NATURAL GAS  
CORPORATION

2014 Integrated Resource Plan

Staff's Final Recommendations

**Introduction**

The primary goal of an Integrated Resource Plan (IRP) is the selection of a portfolio of resources with the best combination of expected cost and associated risks and uncertainties for the utility and its customers.<sup>1</sup>

**Summary from Comments**

On September 23, 2015, Staff of the Public Utility Commission of Oregon (Staff) filed comments related to the Cascade Natural Gas Corporation (Cascade) 2014 IRP (hereinafter referred to as "Staff's Comments"). Staff identified several specific areas of concern that warranted further examination and analysis. Before filing final recommendations, Staff was to further review Cascade's IRP, responses to recent information requests (IR), and parties' comments. The following is a list of the subjects and issues Staff raised in Staff's Comments and for which Staff needed more information:

- Demand side management
- Portfolio analysis
- Demand forecast
- Natural gas purchasing and hedging
- Distribution planning
- Climate change regulation
- Action plan

In addition, in its 2014 IRP, Cascade identified that, on a system basis, it is resource sufficient until 2033. It further identified that implementing short term resource solutions were necessary to avoid a central Oregon resource deficiency before 2017. Beginning

---

<sup>1</sup> Order 07-047, Appendix at 1-2, Adopted Integrated Resource Plan (IRP) Guidelines, Guideline 1.c.

in 2018, Cascade plans to replace those short-term resource solutions. However, Cascade's 2014 IRP included 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.<sup>2</sup>

## **Background**

Cascade's 2014 IRP was originally due in August 2014. Cascade asked for and received three extensions of the IRP filing date,<sup>3</sup> ultimately filing its 2014 IRP on July 20, 2015.

The first and second filing extensions were made so that Cascade would have additional time to improve its load forecast modeling by de-aggregating from the pipeline zonal level to the city-gate level.

The third filing extension was made due to a medical emergency that had caused a halt in Cascade's progress to finalize its draft 2014 IRP and supporting documentation. The medical emergency impacted the key Cascade employee assigned to the IRP.

On August 25, 2015, the Administrative Law Judge (ALJ) adopted the procedural schedule agreed to by all parties in the docket. Staff and the Citizens' Utility Board of Oregon (CUB) filed their comments related to Cascade's 2014 IRP on September 23, 2015. Cascade filed Reply Comments on October 22, 2015.

Cascade's October 22, 2015, Reply Comments noted that it needed to supply additional information to the parties regarding its IRP and Action Plan, and asked for a modification in the procedural schedule so that it could do so: "Cascade agrees the company should make clarifications to the IRP through our responses to the IRs, work with parties to identify if any additional supplemental updates are needed, and resubmit an Action Plan. Cascade respectfully requests that Staff, CUB and Cascade determine a delivery date for the above that is acceptable to all parties as being reasonably manageable for Cascade."

On November 13, 2015, the ALJ approved a modified procedural schedule agreed to by the parties that gave Cascade until December 1, 2015, to provide the IR responses and other necessary information, and extended the due date for Staff and intervenor comments to December 23, 2015.

December 1, 2015, passed with no additional IR responses from Cascade. On December 2, 2015, Cascade contacted Staff to advise that the key Cascade IRP employee had a medical emergency that morning, and that Cascade would continue to work on the responses.

---

<sup>2</sup> Action Item 2: Investigating and analyzing storage and transport alternatives to resolve the central Oregon shortfall, targeting completion late 2016-early 2017.

<sup>3</sup> Order Nos. 14-054, 14-303, and 15-152.

Staff counsel contacted Cascade on December 3, and 7, 2015, to inquire about the overdue IR responses and other requested information. On December 8, 2015, Cascade responded to Staff counsel's request stating, "I'd like to discuss the best way to move forward in light of the situation." Staff counsel informed Cascade that Staff planned to file its final comments on December 23, 2015, and asked Cascade to provide the IR responses and other information as soon as possible. Cascade has yet to file the IR responses or other information asked for in Staff's Comments.

## **Final Recommendations**

Following are the final recommendations of Staff related to the Cascade 2014 IRP. These final recommendations will be included in the Staff Report for the February 9, 2016, public meeting where the Commission may make its acknowledgement decision related to Cascade's 2014 IRP. The Staff final recommendations address near-term issues and action items, as well as recommendations for future IRPs and related processes. Staff's final recommendations are grouped by subject – addressing demand side management, portfolio analysis, demand forecast, natural gas purchasing and hedging, distribution planning, climate change regulation, action plan, and diligence in pursuit of regulatory obligations. The specific Staff recommendations are identified below in bold print.

As discussed in detail below, Staff's final recommendations reflect that Cascade has not adequately addressed areas of concern in its 2014 IRP. As a result, Staff finds that 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. Therefore Staff **will recommend** that the Commission not acknowledge Cascade's 2014 IRP. Staff will also recommend several items be addressed in Cascade's IRP Update, due one year from the acknowledgement order for this IRP, as well as recommend improvements to future IRPs.

### **Demand Side Management (DSM)**

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

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. Staff is not able to provide an assessment that the analysis is sufficient. 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.

Staff **will recommend** 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 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. Staff **will recommend** that 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.

In addition, as noted in Staff's 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 that Cascade's IRP has conducted that sort of trade-off analysis. Staff **will recommend** that future Cascade IRPs perform and clearly present this trade-off analysis.

## PEAK LOAD-RESOURCE BALANCE

As noted in Staff's 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.

Staff's 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.

Staff **will recommend** that, in Cascade's IRP Update, Cascade resolve the apparent conflict, noted in Staff's 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. Staff **will recommend** that future Cascade IRPs provide a clear, complete, and concise presentation of the portfolio analysis results in a single section of the IRP.

Finally, as noted in Staff's 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. Staff **will recommend** that 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.

## PREFERRED RESOURCE PORTFOLIO

Staff's Comments noted 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 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.”<sup>4</sup> Thus, Staff **will recommend** Cascade 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.

### **Demand Forecast**

As noted in Staff’s Comments, after reviewing Cascade’s demand forecast, Staff had a general recommendation regarding sales forecast methodology. Accordingly, Staff **will recommend** 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**

#### GENERAL

IRP Guideline 13b. states:

*b. Natural gas utilities should either describe in the IRP their bidding practices for gas supply and transportation, or provide a description of those practices following IRP acknowledgment.*

As noted in Staff’s Comments, Section 5 of Cascade’s IRP included a brief discussion of Cascade’s Portfolio Purchasing Strategy (beginning on page 49). This discussion did 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.

Staff **will recommend** 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. 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.

---

<sup>4</sup> Order No. 07-002 Guideline 1(c).

## HEDGING STRATEGY

As noted in Staff's Comments, Staff's review of Cascade's hedging strategy focused on whether Cascade's IRP addresses Guideline 1c of the IRP Guidelines adopted in Order No. 07-002 of Docket No. UM 1056. Staff concluded that Cascade's approach to the use of physical and financial hedging, as discussed in its IRP, is not unreasonable. However, Staff **will recommend** 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 **will recommend** 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 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, Staff **will recommend** that future Cascade IRPs present separate listings of enhancement projects from the other projects.

### Climate Change Regulation

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

1. As noted in Staff's Comments, Cascade has the option of purchasing and taking delivery of renewable natural gas. Staff **will recommend** 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. Staff's Comments noted that 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 customers, Staff **will recommend** that Cascade 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's customer base grows.

### Action Items

Pages 166-167 of Cascade's IRP are intended to present the 2014 Action Plan. In its Staff's Comments, Staff noted 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. Staff **will recommend** that, in Cascade's IRP Update, Cascade present an Action Plan with Action Items meeting Guideline 3n and revise Action Items 1 and 9 to be specific and measurable.

In addition, the 2014 Action Plan does not include Action Item 2 from the Second Supplemental Update in LC54 – "2. Investigating and analyzing storage and transport alternatives to resolve the central Oregon shortfall, targeting completion late 2016-early 2017." Staff **will recommend** that, in Cascade's IRP Update, Cascade include the missing action item in the Action Plan.

### **Diligence in Pursuit of Regulatory Obligations**

Staff's conclusion is that Cascade's staffing approach has created deficiencies in its ability to perform its required regulatory IRP activities. Staff's conclusion in this regard is 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 Comments. Staff finds therefore that Cascade's Reply Comments were not responsive and were 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. Staff **will recommend** that Cascade 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.

### **Other Comments**

Staff's Comments noted that the Executive Summary included information not presented elsewhere in the IRP. Staff **will recommend** that future IRPs use the Executive Summary to summarize the contents of the IRP, rather than to present additional information.

This concludes Staff's Final Recommendations

Dated at Salem, Oregon, this 23rd of December, 2015.



---

Erik Colville  
Senior Utility Analyst  
Energy Resources & Planning Division