Attachment

Utilities and Transportation Commission Comments on

NW Natural Gas Company's 2009 Natural Gas Integrated Resource Plan

As a natural gas utility operating in Washington, NW Natural Gas Company (NW Natural or Company) has a fundamental responsibility to manage the risks and opportunities associated with acquiring and delivering natural gas on behalf of its customers. This responsibility is particularly important in an era of uncertain natural gas prices. The planning requirements specified in WAC 480-90-238 are intended to help each utility develop a strategic approach to navigate marketplace opportunities and risks based on that utility's unique attributes. NW Natural's 2009 Integrated Resource Plan (the Plan) represents such a strategic approach. As such, it is consistent with the Utilities and Transportation Commission's (Commission) planning regulations. Below we discuss how the Plan addresses selected elements specified in WAC 480-90-238 for integrated resource plans (IRP).

Executive Summary and Multi-Year Action Plan

The inclusion of a summary of the IRP rules in the Executive Summary Appendix provides guidance to the expectation and purpose of the Plan. The graphing and illustrations communicate more clearly than in the previous IRP and convey more information in a useful manner. The Company does a very good job describing which resources it believes are necessary for serving Washington jurisdictional demand.

Demand Forecast of Retail Gas Requirements (Chapter 2)

NW Natural's 2009 Plan uses a stochastic modeling technique to forecast natural gas load to create a probabilistic distribution of natural gas demand as a function of price and weather. With this standard modeling method in place, NW Natural has the opportunity, in future IRPs, to utilize the modeling methods it has developed to expand its understanding of resource trade-offs and their associated risks.

NW Natural does a good job comparing the predictive quality of different customer count forecast input data for the Washington service territory. The use of Oregon data for Vancouver that correlates to Portland economic activity is more rigorous than Washington data for Vancouver that correlates to Seattle economic activity.

NW Natural has done a reasonably good job considering the input data for its demand forecast. Some data inputs have been tested and verified. Others, such as the ability to match up daily gas Sendout with a region of the distribution system have been flagged for further research. The Plan does a good job of identifying demand forecast items that need further research and analysis. The weather planning standard is one such item.

- As part of developing its IRP, the Commission expects the Company to continue to identify items that need additional refinement. One of the most important of these is the statistically derived "85% winter probability" weather planning standard.

The analysis of forecast error in the Forecast Equation Performance section of Chapter 2 is very good. Analysis such as this applied to other aspects of forecast performance would be informative.

The range of demand forecast sensitivities is impressive. Background events that make up the sensitivities are well described. It would be helpful if the actual change in demand (as a percent of total demand) for each of the sensitivities were included in Table 2-1 or at least somewhere easily identifiable in the Plan. It is appropriate and necessary for the Company to explicitly identify the sensitivities it expects to be the next most likely to occur after the expected base case. Making that identification clearer and following up with a discussion about how those sensitivities can influence portfolio cost and risk is also necessary.

The Company varies the price forecast by standard deviations from the base case price forecast to derive price sensitivity cases. The Company's analysis would be more instructive if it explained why a standard deviation was used as the range of variation in the sensitivities (e.g., Is variation expected to be symmetrical around the mean? Does the Company expect the 66 percent of probability encompassed by a one-standard-deviation range to capture the likely range of variation?).

- The next IRP should elaborate on how those windows of variation are chosen.

Deciding whether or not to plan for the coldest event since the winter of 1949-50 is part of the Company's responsibility in fulfilling the IRP requirement. The Plan does not make clear, however, to what extent the Company has developed an operational contingency plan for weather events colder than its planning standard. Are the materials and message the Company says it will distribute when it wants to call on voluntary curtailment actually written? Has it established a formal system with the media in its service territory in order to get such a message out promptly and accurately? Has the Company made concrete plans to help prevent accidental death from the use of alternative means of heating homes during an emergency curtailment?

- If the next IRP uses the "85% winter probability" weather planning standard, the Plan should include explicit operational contingency plans for extreme weather events that exceed the planning standard.

Supply Side Resources (Chapter 3)

The Plan provides a complete description of current and future resources. The Commission considers it reasonably cautious not to include a LNG terminal in the basis case analysis.

- The Commission expects that if, in its next IRP the Company's preferred portfolio includes natural gas supplied by LNG shipments to this continent as an available resource, the Company will explicitly state that trade-off in its planning choice and on what basis it made that decision including a modeling of world LNG prices to determine a priced-based prediction of LNG supply to this continent.

The Company states that it could not increase the specificity of Sunstone or the Ruby Pipeline in its IRP modeling because the cost and capacity of the pipelines is in flux. The Company does not explain why the Palomar Pipeline's cost and capacity is better known than Sunstone or Ruby pipeline's costs and capacity. With the increased production of natural gas in the Rockies, the completion of a pipeline to the western coastal states seems very probable.

- At a minimum, in the next IRP the Company should include, with cost data, a discussion of the relative accuracy of the cost and capacity of pipelines such as the proposed Palomar pipeline and the proposed pipelines from the Rockies and other sources of natural gas.

Demand-Side Resources (Chapter 4)

The discussion of the technical potential study and the proposed conservation measures for Washington in the Plan meets the requirements of WAC 480-90-238. The IRP rule also requires the Plan to have, "programs needed to obtain the conservation improvements." The Commission notes that NW Natural has only recently begun to develop a set of conservation measures for deployment. Implementation of conservation can only occur after a technical potential study is complete and group of cost-effective measures are selected for implementation. While NW Natural's work on an implementation strategy is not described in the Plan, the Plan references the implementation work that has been done by the Energy Efficiency Advisory Group

(EEAG). The Commission is aware of that work and while that work is not described in the Plan it is occurring in a reasonably timely fashion. The Plan does not give the Commission any indication that the conservation program in the Plan cannot be implemented in time for this coming heating season.

- From the Plan's own conclusions, the Commission expects NW Natural to implement its chosen cost-effective conservation measures in full by the beginning of this fall's heating season.
- In its next IRP, NW Natural should develop and include a discussion of implementation strategies for its conservation goal.

NW Natural's proposed list of energy efficiency measures includes aggressive expectations for some measures.

- Implementation plans in future IRPs should be well informed by and consider carefully the empirical information gathered during the implementation of energy efficiency measures between plans.

The Company includes a lengthy discussion of rate design issues that affect the conservation choices of ratepayers and rate mechanisms that are designed to recover all or some portion of margin lost due to decline in existing customer use. The IRP rules do not prohibit inclusion in the IRP an analysis of rate mechanisms that are designed to recover all or some portion of margin that may be lost due to a decline in existing customer use. Inclusion in an IRP of analysis of the effects of rate design on implementation of conservation may be useful. However, in this regard, NW Natural's IRP is abstract; it does not contain any *analysis* of underlying data to demonstrate whether or not loss of margin is likely and at a magnitude that could affect program implementation. An abstract discussion fails to perform the substantive work required when a topic is addressed in an IRP.

The IRP is not the relevant document for demonstrating whether the public interest is served by a particular rate design. The IRP is, however, an important document for evaluating the prudence of purchased gas and infrastructure investment. For example, an IRP that demonstrates the Company plans to acquire all achievable and cost-effective conservation can be an important consideration in evaluating the prudency of purchased gas. The Commission's interest in whether an IRP includes a plan for achieving all the cost-effective conservation is an important element in determining recovery of purchased gas.

Company's Resource Choices (Chapter 5)

The Company's Plan models a base case scenario and four alternative scenarios including an alternative scenario without the Palomar pipeline. The Plan also tests the base case with eight sensitivities. The Plan has reached a standard level of model sophistication which NW Natural can use as a platform in future IRPs to gain more extensive knowledge of its resource choices. With the broad base of results the model now produces, NW Natural should include in its next IRP a closer examination and discussion of the effect of individual resource choices. For example, the next IRP should consider the effect on the preferred portfolio's NPV if the Palomar Pipeline construction costs are higher than those included in the model and how that compares to the no Palomar pipeline alternative scenario.

- NW Natural's next plan should expand the testing of the risk of cost variations for types of major resources and expand its discussion of the results of the alternative scenarios and sensitivities.

The purpose of the IRP is not to justify a particular resource choice. It is to compare resource options, some that are generic and some that are specific, and choose the lowest reasonable cost portfolio that meets the Company's obligation to serve demand reliably. Given the uncertainty of its ultimate cost, the specific inclusion of the Palomar pipeline in the base case scenario is problematic. This troubling aspect of the base case is mitigated in part by the inclusion of a scenario that does not include the Palomar Pipeline.

- In its next IRP, NW Natural should not include specific resources in its base case that the Company has not yet acquired. To do otherwise is akin to assuming the outcome of the important IRP analysis.

The Plan's comparison of the "85% winter probability" to the previous weather planning standard is very good. It shows the ratio of the incremental dollar cost to the incremental increase in reliability. With the "warmer" planning standard also comes the responsibility to prepare for and maintain a vigil for weather extremes that could exceed the planning standard. As mentioned earlier,

- If the next IRP uses the "85% winter probability" weather planning standard, the Plan should include explicit operational contingency plans for extreme weather events that exceed the planning standard.

Again in this Plan, NW Natural describes the diminished correlation of relative price patterns with the inclusion of greater amounts of historical price data. The Plan provides a reasonably good explanation of why the price correlation factors the Company chooses are useful in the model, but it fails to describe what fundamental data is used to derive the factors. In the next IRP, NW Natural should provide explanations of how it derives the price correlations it uses.

- The Plan should explain why the correlation factor for price indexes change, if they do, and how the general range for the price factors used in its IRP are derived.

Conclusion

The Commission acknowledges that NW Natural's 2009 Natural Gas Integrated Resource Plan complies with WAC 480-90-238. The 2009 Plan takes advantage of the Company's modeling capacity to present useful alternative scenarios and sensitivities. The energy efficiency programs and measures in the Plan have also progressed to a level that can support deployment of conservation and the eventual development of a robust energy efficiency program. However, the Plan is not an abstract exercise and the Company needs to move quickly on the conservation implementation work, using empirical data from program operations to refine the cost effectiveness calculations and measure selection. In particular, further improvement is necessary on the demand-side management portion of the next IRP as described in the above discussion of Chapter 4.