ITEM NO. 1

PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT
PUBLIC MEETING DATE: April 10, 2012

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

DATE: March 30, 2012

TO: Public Utility Commission

FROM: Moshrek Sobhy

THROUGH: Bryan Conway, Maury Galbraith, and Lori Koho

SUBJECT: NORTHWEST NATURAL GAS COMPANY (NW NATURAL): (Docket No. LC 51) Limited Acknowledgement of NW Natural's Modified 2011 Integrated Resource Plan.

STAFF RECOMMENDATION:

Staff recommends the Commission acknowledge NW Natural's Modified 2011 Integrated Resource Plan (Modified 2011 IRP) limited to the revised action items, exceptions, and recommendations for future IRPs, as reflected in Attachment 1.

DISCUSSION:

On January 12, 2011, NW Natural (Company) filed its 2011 Integrated Resource Plan (IRP). On April 11, 2011, the Administrative Law Judge (ALJ) granted NW Natural's motion to suspend the procedural schedule to allow the Company time to complete modifications to its IRP in light of certain changed circumstances. The ALJ noted in his ruling:

> In support of its Motion, the Company notes that, separate from the proceedings in this case, a number of parties, including the Staff of the Public Utility Commission of Oregon (Staff), became aware that a filing by Palomar Gas Transmission LLC (Palomar) with the Federal Energy Regulatory Commission (FERC), may require NW Natural to update the assumptions it modeled in its 2011 IRP. The Company contends that it needs to reassess available future capacity and gas supplies, including supplies it is currently seeking Commission approval to acquire.[1]

[1] See the ALJ's memorandum of April 11, 2011, in Docket No. LC 51.

On September 1, 2011, NW Natural filed its Modified 2011 IRP (Modified IRP) with the Commission. Staff filed its comments, summary comments, and initial recommendations on November 14, November 28, and December 8, 2011, respectively. The Citizens' Utility Board of Oregon (CUB) filed comments on November 14, November 28, and December 23, 2011. NW Natural filed its responses to Staff and CUB comments on November 28, and December 22, 2011.

On January 10, 2012, the ALJ granted NW Natural's motion to extend the procedural schedule to allow the Company, Commission Staff, and other interested parties time to determine whether a resolution of the issues raised during the comment period of this docket could be reached. On February 10, 2012, following discussions between NW Natural, CUB, and Northwest Industrial Gas Users (NWIGU), Staff filed its final recommendations. Staff's final recommendations represent a proposed resolution of the issues raised in this IRP docket that is supported by the parties listed above.[2]

Staff believes that the proposed resolution is in the interest of the parties and the public because it brings this IRP docket to a close, but contemplates further investigation of some of the issues raised in this docket in NW Natural's next IRP. Staff's final recommendations propose:

- To revise specific action plan items that reflect the Company's reliance on existing resources to meet demand during the next three years.
- To limit the acknowledgment specifically to the revised action plan items.
- To not acknowledge future resources including, but not limited to, the Palomar/Blue Bridge pipeline until the Company satisfies the Commission IRP guidelines in the next IRP.
- To resolve the remainder of the technical issues regarding the Company's IRP analysis in the next IRP.

Staff, the Company, CUB, and NWIGU believe that a new IRP process provides all stakeholders an opportunity to participate in the discussions of the input and the information to be considered in the IRP analysis through a public process, i.e., technical group meetings. Additionally, it provides an opportunity to evaluate the output or the results of each phase of the IRP development. All of these steps take place prior to filing of the IRP.[3]

[2] NW Pipeline GP intervened in this docket but did not file comments or otherwise participate in the docket.

[3] These steps are required by the IRP guidelines (explicitly and implicitly) and were followed during the development of the original filing. However, due to the scope of changes in the modified filing, Staff cannot conclude that stakeholders had a meaningful opportunity for input regarding the analysis underlying NW Natural's final IRP filing.

Staff and CUB raised several issues regarding the Company's Modified IRP. Some of these issues are addressed by Staff's final recommendations proposing certain revisions to the Company's action plan, which are necessary in order to warrant a limited acknowledgment. The Company, CUB and Staff determined that other issues raised by Staff and CUB should be addressed in the next IRP to allow all parties sufficient time and opportunity for informative discussions. Following is a summary of the major issues raised in this docket:

Subject	**Issue**	**Explanation**
1. Palomar/Blue Bridge[4] (Staff)	Sensitivities, Demand Scenarios and Modeling: The Company has not performed a Monte Carlo simulation of the three candidate portfolios[5] represented in the 2011 Modified IRP for variations in weather patterns and natural gas prices.	• The probabilistic (stochastic) analysis[6] is required to demonstrate that the selected portfolio balances cost and risk,[7] and represents the best combination of cost and risk for the utility and its customers.[8]
	Benefit-Cost Analysis: The Company did not perform this analysis to support its finding that this project will benefit the ratepayers on a least-cost basis and from a rate mitigation perspective.	• How the costs for the Palomar/Blue Bridge projects were estimated? • How such estimates are utilized in preparing the IRP and the final resource selection portfolios? • How the benefits to the ratepayers have been measured?
2. Action Plan (Staff)	The Company requests Commission-acknowledgment to support development of and acquire resources in directly related to the Palomar/Blue Bridge project.	• No satisfactory analysis had been performed on a least-cost basis and from a risk mitigation perspective. • Non compliance with substantive requirements of the IRP Guidelines.

[4] Run 10: 1391-2011 IRP Mod PAL BB 50; Run 11: 1392-2011 IRP Mod PAL 100; Run 14: 1414-2011.
[5] The three scenarios represented in NW Natural's 2011 Modified IRP, Chapter 5: 1411-2011 IRP Mod Base Case; 1392-2011 IRP Mod PAL 100; and 1391-2011 IRP Mod PAL BB 50.
[6] IRP Guidelines adopted in Order No. 07-002 (as amended by Order No. 07-047).
[7] Guideline 1 Substantive Requirements, Subpart c, Fourth bullet: "The utility should explain in its plan how its resource choices appropriately balance cost and risk."
[8] Guideline 4 Plan Components, Subpart l: "At a minimum, the plan must include a selection of a portfolio that represents the best combination of cost and risk for the utility and its customers."

3. The potential effect of Straight Fixed Variable (SFV) rate structure on energy efficiency (CUB)	The Company did not discuss/consider the potential effect of the SFV rate structure when developing/modifying the IRP.	• SFV may discourage ratepayers to participate in energy efficiency due to the extension of the payback period.
4. Export Liquified Natural Gas (LNG)	The Company did not discuss the potential effect of LNG export on gas prices.	• The IRP analysis should examine and consider this scenario.

Staff's issues: Staff raised a number of concerns with respect to the scope of NW Natural's modifications to its IRP and the lack of analysis underlying them. In light of these concerns, Staff concludes that the Company's filing does not satisfy the substantive and plan component requirements of the Commission's IRP Guidelines.[9] As indicated in the ALJ's ruling to suspend the original procedural schedule, Staff expected the Company to update the assumptions it modeled in its initial IRP with respect to the Palomar/Blue Bridge.

The suspension of the original procedural schedule was granted after the Company provided a copy of the letter from Palomar Gas Transmission LLC (PGT), an affiliate of the Company withdrawing the project's certification application with the Federal Energy Regulatory Commission (FERC). PGT stated in its withdrawal letter that the termination of the Bradwood Landing LNG project created uncertainties for Palomar that required resolution in order to determine a best path forward for the Project. Furthermore, potential customers (shippers) indicated to PGT that a new pipeline may not be needed as soon as was previously predicted due to global recession and other factors.[10]

From NW Natural's perspective, "the primary benefit accruing from construction of Palomar/Blue Bridge would be to manage the risks associated with the delivery of natural gas into the region."[11] While it is possible that the pipeline may benefit NW Natural, NW Natural's Modified IRP does not include sufficient analysis of the project to support a finding that the project is beneficial to ratepayers in accordance to the IRP Guidelines.

The Company's modified filing relied upon the same information of the canceled project without demonstrating that these assumptions remain valid. Staff's position is that a benefit-cost analysis will determine if the pipeline is a reasonable solution of the service reliability objective on a least-cost basis from the ratepayers' perspective. However, the Company limited the scope of its update simply on a new in-service date for the project. Staff believes that an adequate analysis of the project should start by reassessing the

[9] See the Commission-adopted IRP Guidelines in Order Nos. 07-002 and 07-047.
[10] See PGT's withdrawal letter to FERC dated March 23, 2011, and filed with the Commission in LC 51.
[11] See the Company's modified IRP, Chapter 3, page 3.15, lines 1 and 2.

assumed cost of the project and the necessary capacity subscription on the pipeline in light of the new uncertainties raised about the project. Additionally, a comprehensive IRP analysis should compare the risks and benefits of the different resource portfolios, future resources, and key decisions.

Since two major items in the Company's action plan items in the modified filing are related to the Palomar/Blue Bridge project, Staff initially recommended the Commission not acknowledge the IRP for the reasons explained above. In addition, Staff expressed the need for a more comprehensive update about the Company's modeling, e.g., customer growth, gas price forecasts, avoided cost calculation, design-weather, Mist storage recall, and DSM savings.

<u>CUB's issues</u>: CUB raised concerns about the effect of the Straight Fixed Variable (SFV) rate structure on energy efficiency and demand side management (DSM). The IRP Guidelines require the Company to consider this demand-side resource in its resource planning. The issue with respect to SFV is that the payback period of energy efficiency measures under SFV may be longer when compared to the payback period under the existing rate structure. This may discourage consumers from participating (investing) in the energy efficiency program. In turn, the DSM savings may be significantly reduced, and therefore, the IRP analysis should take this into account. CUB pointed out that the Company proposed the SFV in its pending general rate case and accordingly this subject should have been discussed and considered in the IRP analysis.

In addition, CUB pointed to the lack of analysis of the potential effect of exporting Liquified Natural Gas (LNG) on gas supplies, price forecast, and transportation cost. CUB requested that the Company include an adequate analysis of these two issues in the modified filing in order to consider acknowledgment.

<u>NW Natural's response</u>: In its responses on November 28, 2011, the Company asserted that its Modified 2011 IRP meets the IRP Guidelines and should be acknowledged as filed without further changes or additional analyses. Specifically, the Company argued that the modification adequately addressed the necessary update to the Palomar/Blue Bridge project. The Company did not agree that the Monte Carlo simulation analysis (which performs the probabilistic analysis of the portfolios in the Sendout® modeling software) is necessary in the Modified IRP. The Company did not update the project cost estimates, the assumptions with respect to the necessary capacity subscriptions on the pipeline, the validity of the assumed rates, and the basis to evaluate the risks and benefits in light of these material changes to the project.[12] Further, the uncertainties

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[12] The Company continued to rely on the assumptions of the precedent agreement approved by the Commission in Docket No. UI 276, which guaranteed a rate cap for NW Natural. This agreement was based on the original project, which is no longer applicable pursuant to PGT's withdrawal letter to FERC.

about the need for the project raise questions whether the original assumptions remain valid to evaluate the project.

Additionally, the Company disagreed with CUB regarding the need to revise the IRP and include additional analysis of the SFV and LNG export issues. However, in its comments of December 8, 2011, the Company proposed to revise two of its action items that are related to the Palomar/Blue Bridge project to clarify that it is not seeking an acknowledgment by the Commission of this project.

Staff's Final Recommendations (Parties' resolution): Following the ALJ's ruling to extend the procedure on January 10, 2012, NW Natural, CUB, NWIGU, and Staff engaged in discussions to explore whether a resolution of the disputed issues can be reached. The result of these discussions is reflected in Staff's final recommendations attached hereto as Attachment 1. Staff's final recommendations achieve the following:

- Acknowledgement of the Plan limited to specific existing resources, which are currently available to the Company in order to meet its customers demand in the next three years.
- Exclusion of the Palomar/Blue Bridge pipeline project from this limited acknowledgment.
- A process for the Company to address specific technical issues raised by Staff and CUB in the next IRP.

The revised action plan items are:

2.3 *Continue to perform further analysis on the costs, benefits and risks associated with the development of a Cross-Cascades pipeline.*

Commission acknowledgement of the Company's 2011 Modified IRP is not to be interpreted as an acknowledgement that the Palomar/Blue Bridge Pipeline (Modified Palomar) as a least cost resource for meeting the future demand of NW Natural customers.

4.2 *Over the next three planning years, NW Natural will acquire resources in a manner that is consistent with the analysis conducted in the 2011 Modified IRP. Under the Base Case scenario, the Company will target to acquire Demand Side Management as depicted below, and Recall from Mist amounts that will not exceed those listed below:*

Calendar Year	Incremental DSM Savings in Oregon, Therms/Year
2012	4,200,048
2013	4,564,178
2014	5,468,808

Gas Year[13]	Recall from Mist Storage, Therms/Day
2012-2013	320,457
2013-2014	320,457
2014-2015	387,342

The additional issues to be included in the next IRP are discussed in more detail in Staff's final recommendations (see Attachment 1).

Based on the above information, Staff believes the proposed resolution of the issues as explained in more detail in its final recommendations (Attachment 1) is reasonable. Therefore, Staff recommends the Commission adopt Staff's final recommendations.

PROPOSED COMMISSION MOTION:

The Company's Modified 2011 IRP be acknowledged limited to the revised action plan items and subject to satisfying the Parties' recommendations in the next IRP as detailed in Staff's final recommendations (Attachment 1).

[13] The Gas Year captures the heating season, which is usually from November through March.

BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON

LC 51

In the Matter of NORTHWEST NATURAL GAS COMPANY, d/b/a NW NATURAL 2011 INTEGRATED RESOURCE PLAN	STAFF'S FINAL RECOMMENDATIONS

In accordance to the modified procedural schedule granted by the Administrative Law Judge on January 10, 2012, Staff submits its final recommendations in this docket. Staff's final recommendations reflect a proposal to resolve the outstanding issues between NW Natural, the Citizens' Utility Board (CUB) and Staff regarding NW Natural's 2011 Integrated Resource Plan (IRP or Plan). Staff concluded that the Plan as filed by the Company on September 1, 2011 did not meet the substantive requirements of the IRP guidelines.[1] Staff also determined that the scope of the revisions and analyses that should be conducted to address the parties concerns about the IRP would essentially result in a complete revision of the IRP, which would be equivalent to restarting the IRP process.[2] This process usually takes about six to eight weeks to complete and might extend longer if the Plan included contested issues. Staff determined that the pursued outcome from a complete revision of the current IRP would be better served through a new IRP.

Following the ALJ's decision granting the Company's motion to modify the procedural schedule, NW Natural, CUB and Staff engaged in discussions to conclude this proceeding while substantially and adequately addressing all the issues raised regarding the Plan. The result of these discussions is an agreement between the parties for an acknowledgment of specific and limited components of the IRP based on the proposed revisions to the Action Plan and the Company's agreement to satisfy Staff's and CUB's recommendations in the next IRP.

A. REVISED ACTION PLAN ITEMS:

In order to address the concerns raised by Staff and CUB in their respective comments, Staff proposes that the Commission limit the acknowledgment of this Plan to specific revised items and subject to adopting Staff's final recommendations in addition to other requirements deemed appropriate by the Commission:

[1] See Staff draft recommendations filed on December 8, 2011.
[2] The IRP process includes soliciting input from interested parties and the public through the Technical Work Advisory Group, developing a draft plan, seeking parties' comments on the draft plan, filing a proposed plan with the Commission, parties filing comments on the Plan and providing recommendations to the Commission prior to issuing a decision on the Plan.

1) Action Item 2.3 is revised from:

~~*Support development of the Palomar East Pipeline, primarily for risk management purposes in diversifying the Company's supply path options*~~.

To:

Continue to perform further analysis on the costs, benefits and risks associated with the development of a Cross-Cascades pipeline.

Commission acknowledgement of the Company's 2011 Modified IRP is not to be interpreted as an acknowledgement that the Palomar/Blue Bridge Pipeline (Modified Palomar) is a least cost resource for meeting the future demand of NW Natural customers. While the Company's 2011 Modified IRP is not sufficient to justify the Palomar/Blue Bridge Pipeline as a future resource upon which NW Natural should rely, the Company may reassess and request acknowledgement of this or other similar pipelines in future IRPs.

2) Action Item 4.2 is revised from:

~~*Acquire resources consistent with the Preferred Portfolio.*~~

To:

Over the next three planning years, NW Natural will acquire resources in a manner that is consistent with the analysis conducted in the 2011 Modified IRP. Under the Base Case scenario, the Company will target to acquire Demand Side Management as depicted below, and Recall from Mist amounts that will not exceed those listed below:

Calendar Year	Incremental DSM Savings in Oregon, Therms/Year
2012	4,200,048
2013	4,564,178
2014	5,468,808

Gas Year[3]	Recall from Mist Storage, Therms/Day
2012-2013	320,457
2013-2014	320,457
2014-2015	387,342

B) RECOMMENDATIONS FOR FUTURE IRPs

NW Natural agreed to the following actions in future IRPs:

1) Stochastic Analysis - While NW Natural did perform Monte Carlo simulations for its Base Case and Preferred Portfolio in its 2011 IRP filed with the Commission on January 31, 2011, the Company did not do the same stochastic analysis on its modified Base-Case Portfolio or the modified Preferred Portfolio that was included in its 2011 Modified IRP that was filed September 1, 2011. Staff advises the Company to perform stochastic analysis on the candidate portfolios evaluated by the Company in selecting the preferred portfolio for which it seeks Commission acknowledgment.[4] This analysis is essential to test and evaluate the selected portfolio's performance from a probabilistic perspective in order to consider it for acknowledgment.

2) Palomar/Blue Bridge Pipeline - In the event the Company decides to include either Palomar/Blue Bridge Pipeline or another proposal for a cross-Cascade pipeline in future IRPs, NW Natural agrees to provide: i) the assumed cost for the necessary capacity subscription on the pipeline; ii) an explanation of how the assumed cost for capacity was derived; and iii) high and low cost sensitivities for the new future resource, representing the range of costs that could be borne by its customers under a range of reasonable assumptions.

NW Natural will prepare or participate in a separate "regional analysis" of a cross-Cascade pipeline, including the regional demand and benefits associated with this future resource. NW Natural will present and include the regional analysis in its IRP should it decide to use such analysis in supporting its preferred portfolio selection.

3) Risk and Benefit Analysis - Provide a matrix comparing the risks and benefits (not strictly limited to PVRR) to NW Natural and its ratepayers of all resource portfolios. The Company will identify and explain the key assumptions, limitations, and other tools, e.g. cost, rates, availability, capacity, and deliverability it uses in setting the SENDOUT® runs. The analysis will specify and rank the benefit/risk tradeoffs from the ratepayers' perspective. For the Preferred Portfolio, the Company will explain how cost and risks are balanced.

[3] The Gas Year captures the heating season, which is usually from November through March.

[4] Candidate portfolios are those portfolios that are reasonable for consideration on a least-cost and risk-mitigation basis in the evaluation and selection of the preferred portfolio.

4) Mist Recall - NW Natural will update its assumptions with regard to recall from Mist Storage and demonstrate through modeling that the resource is appropriately sized and operated in ratepayer interest from a least-cost and risk mitigation perspective.

5) Supporting Analysis - NW Natural will update, provide supporting analysis, and demonstrate the reasonableness of its assumptions that feed its customer growth, load growth and gas price forecasts, its avoided cost calculation, and DSM savings targets. NW Natural will run stochastic analyses under a variety of weather patterns and gas prices with necessary updates for each resource portfolio it analyzes.

6) Parties' Participation - NW Natural will seek agreement with parties on the design-year weather pattern (or patterns) that will be used in its analysis. If parties cannot reach consensus on the design-year weather pattern, NW Natural will evaluate all proposals, and explain why it believes the method used was appropriate.

7) Rate Design Modeling - If the Company is considering changes in rate design that will significantly affect demand, the Company will analyze the impact of the rate design changes on demand and the implications for DSM.[5]

8) The Company will closely monitor the economic indicators and development in market conditions to adequately address, in a reasonable timely fashion, the implications of significant changes in indicators such as employment, business investments, financial and other relevant indicators, on its resource acquisition planning and decisions. The persistently slower-than-predicted and less-than-expected economic recovery had a decelerating impact on the businesses, industries and the overall growth and demand. Whether in the near term or in the more distant future, these conditions will likely change, and depending on the direction of the change and its magnitude, growth and demand could change significantly. The Company's resource acquisition strategy should be reasonably flexible to adequately respond to foreseen changes in growth and demand.

This concludes Staff's draft recommendations on NW Natural's Modified 2011 Integrated Resource Plan.

Dated at Salem, Oregon, this 10th day of February, 2012.

Moshrek Sobhy
Sr. Utility and Energy Analyst
Natural Gas Rates & Planning

[5] This would ultimately have an impact on the demand-side resource and in turn on the Company's resource acquisition decision and planning.

ORDER NO. xx-xxx

ENTERED xx/xx/xxxx

BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

LC 51

In the Matter of	)	
	)	
NORTHWEST NATURAL GAS	)	
COMPANY, dba NW NATURAL	)	DRAFT ORDER
	)	
2011 Integrated Resource Plan.	)	

DISPOSITION: PLAN ACKNOWLEDGED WITH MODIFICATIONS

Introduction

Northwest Natural Gas Company, dba NW Natural (NW Natural or the Company, seeks acknowledgment of its 2011 Integrated Resource Plan (IRP or the Plan). This IRP filing is in accordance with the requirement that Oregon regulated energy utilities engage in integrated resource planning (*See* Order Nos. 89-507, 07-002, and 07-047). NW Natural filed the original IRP on January 12, 2011, and then replaced the original filing with a modified IRP on September 1, 2011. NW Natural followed the procedural requirements according to the IRP guidelines. Staff's filed its initial recommendations and proposed order on December 8, 2011. Staff initially did not support acknowledgment of the Company's Plan as filed citing that the plan did not meet the substantive requirements of the Commission's IRP guidelines. In its comments filed November 14, 2011 and November 28, 2011, and December 23, 2011, the Citizens' Utility Board (CUB) requested that the Company perform additional analysis to consider the impact of exporting Liquified Natural Gas (LNG) and the Straight Fixed Variable (SFV) rate structure in the IRP modeling. CUB did not support acknowledgment unless the Company agreed to perform the analysis recommended by Staff and CUB in order to meet with the IRP acknowledgement standards.

In its December 22, 2011, comments the Company rejected Staff's and CUB's positions that the Plan did not satisfy the IRP substantive requirements. The Company argued that its Plan be acknowledged without additional analysis or modeling as requested by Staff and CUB. However, the Company proposed specific revisions to its action plan that were intended to address a part of Staff's concerns.

On January 9, 2012, NW Natural's filed a motion to modify the procedural schedule to allow the parties an opportunity to explore means to resolve the parties' differences. The Administrative Law Judge (ALJ) granted the Company's motion on January 10, 2012.

On February 10, 2012, Staff filed its final recommendations and final proposed order supporting a limited acknowledgment of the Company's Plan. The final recommendations reflected the outcome of the discussions between NW Natural, Staff, and CUB that the parties agreed to in order to resolve their differences and conclude this proceeding. Specifically, the parties agreed to support a limited acknowledgment that apply to specific incremental resources in the Company's Base Case Portfolio and explicitly clarify that the Company's scope of analysis does not support a finding by the Commission that the East Palomar/Blue Bridge pipeline (E. Palomar) is a least-cost resource. The parties agreed that the Company may reassess E. Palomar or another proposal for a cross-Cascades pipeline and propose it in a future IRP under the IRP guidelines and the agreed to conditions included in Staff's final recommendations. The parties agreed to other specific conditions that the Company will follow in future IRPs.[1] This acknowledgment does not include other components of the Plan. Staff's proposed revisions and final recommendations are incorporated herein as Attachment A.

Upon review of the Company's Plan, the parties' respective comments, and Staff's final recommendations, we find that Staff's final recommendations should be adopted in its entirety and be made part of the Company's Plan. We find that a limited acknowledgment based on the specific revised Action Plan items as provided in Staff's final recommendations is reasonable and in the public interest.

Requirements for Integrated Resource Planning

The Public Utility Commission of Oregon (Commission) requires regulated energy utilities to prepare integrated resource plans within two years of acknowledgment of the last plan. Utilities must involve the Commission and the public in their planning process and prior to resource decision-making. Substantively, the Commission requires that energy utilities: (1) evaluate resources on a consistent and comparable basis; (2) consider risk and uncertainty; (3) make the primary goal of the process selecting a portfolio of resources with the best combination of expected costs and associated risks and uncertainties for the utility and its customers; and (4) create a plan that is consistent with the long-run public interest as expressed in Oregon and federal energy policies. *See* Order No. 07-047.

The Commission "acknowledges" resource plans that satisfy the procedural and substantive requirements and that seem reasonable at the time of issuing an acknowledgment order.

Overview of NW Natural's 2011 IRP

NW Natural's 2011 IRP describes the components of the planning process. The Plan includes forecasts of future customer demand and identification of resource needs over the 20-year planning period; assessments of demand-side and supply-side resource options and distribution system enhancements; construction of a set of portfolio resources to test various operating characteristics and resource types; and identification of actions to be accomplished

[1] See Staff's final recommendations of February 10, 2012.

over the next several years to carry out NW Natural's resource strategy. A summary of the Plan is provided below:

Demand Forecast: NW Natural's demand forecasts are based on projected economic and population trends for its service territory, anticipated gas prices, and usage patterns of its core market customers over 20 years. These factors were used to develop the demand forecasts using a variety of econometric and computer-based modeling tools. The process the Company used to develop the demand forecast consisted of the following steps:

1. Customer forecast: 20 year estimate of customer counts by region and category.
2. Customer usage behavior: data collection and analysis of recent usage trends by region and category.
3. Load model: non-linear, statistical model fit with the independent variables heating degree day (HDD) and delivered natural gas rate ($ per unit).
4. Natural gas price forecast: monthly price forecast by basin with resulting delivered rate estimate.
5. Weather pattern and peak day development: Design weather pattern colder than 85% of winters in the past 20 years.
6. Demand forecast: the load model is implemented in SENDOUT® to integrate demand with supply side and demand side resource planning options.
7. Demand scenarios: development of other potential but less likely demand outcomes.
8. Forecast accuracy analysis: measure forecast performance by "backcasting" – using the load forecast model factors to predict historic use and compare the results to actual use.

NW Natural states that it relies on internal business information along with information from outside sources such as the Oregon Office of Economic Analysis (OEA) and the Northwest Power and Conservation Council to project customer numbers across the 20-year planning horizon. The growth forecast methodology involves blending near and long term economic outlooks that consider factors such as unemployment rate, housing starts, and economic leading indicators. In addition to the base case growth forecast, the Company forecasted a high-growth case, low-growth case, and an extremely low-growth case using a variety of economic and technological assumptions.

The natural gas price forecast impacts the load forecast, the least cost planning model, and avoided cost calculations.[2] The price forecast is also an input into the resource planning model (Sendout®) and therefore, it influences the model's selection of future resources. Similar to the customer growth forecast, NW Natural developed base case, low case and high case for the price forecast based on a variety of outlooks of the natural gas market and future carbon dioxide regulation.

Starting with historical customer usage data in each of the company's classes (residential, commercial, and industrial), the Company then combines this data with the customer growth forecast to develop a load forecast under the design-year weather. Customer usage is divided in two components: (i) the base load, non-weather sensitive usage; (ii) the heat load, weather-sensitive usage. The heat load includes the peak load, which occurs during extreme cold events and usually last for a short period. Another category considered in the load forecast is "Swing Demand". This term reflects s a load that the Company plans for and is required to meet.[3]

In addition to the "Base Case" demand scenario, the Company developed several demand scenarios using three main components: Customer growth forecast, customer usage, and price forecast based on the design-year weather. The additional scenarios reflect possible future demand forecasts by blending the low and high forecasts in the three major categories. The following table summarizes the construction of the Company's demand scenarios:

Case	Customer Forecast	Customer Usage Forecast	Gas Price Forecast	Weather
Base Case	Base Case	Base Case	Base Case	Design
Gas Breakthrough	High	High	High	Design
Gas Dereg.	High	Base Case	Low	Design
Electric Breakthrough	Low II	Base Case	High	Design
Low Customer Growth	Low	Base Case	Base Case	Design
High Customer Growth	High	Base Case	Base Case	Design
Low Gas Price	Base Case	Base Case	Low	Design
High Gas Price	Base Case	Base Case	High	Design

NW Natural chose the Base Case demand forecast as the most likely for its planning activities. For the Base Case, NW Natural projects the average core market demand will grow at an annual average rate of 0.61 percent over the 20-year planning horizon (net of estimated energy efficiency and energy conservation savings). Peak-day core market demand for the Base Case is projected to grow at an annual rate of

[2] The Company's price forecast is derived from a proprietary forecast developed by a third party organization IHS CERA, Inc.

[3] From a gas supply stand-point, Swing Demand is acquired an as-needed-basis, i.e. the Company has the flexibility to purchase all of its' swing load, portion of it or none of it depending on if and when the demand arises.

0.74 percent over the 20-year period. The base case projects an average customer growth of 1.84 percent annually.

Demand-Side Resources: NW Natural worked with the Energy Trust of Oregon (Energy Trust) to forecast the 20-year demand side management (DSM) potential for NW Natural's service territory. The ETO administers the Company's DSM programs except for the low-income energy efficiency program, which is administrated directly by the NW Natural. The DSM savings forecast was evaluated in Sendout® as a resource in a consistent and comparable manner with supply-side resources. The Company determined the technical potential (technical) savings based on the cost-effectiveness of the measures. Then, the potential savings were screened based on the Benefit to Cost ratio to determine the achievable savings. The achievable savings forecast is 98 million therms.

For the Base Case, the Company updated its avoided costs calculation to determine the effect of the substantial change in the gas price forecast since the last IRP on the cost effectiveness of DSM measures. Using the average price at four delivery points, and by comparing two price forecasts (2008 vs. 2010), the avoided costs decreased by 10% on Net Present Value basis over the 20-year planning period. The effect on the measures' cost effectiveness is a decrease of 2.5 million therms in DSM savings or 2.6 percent reduction in the original DSM savings forecast.

The Company presented a deployment scenario of the achievable savings based on the ETO's experience with prior DSM deployment and expectations of the developing market. The residential and commercial DSM program is funded by the Public Purpose Charge. The industrial DSM program is funded by a separate surcharge applicable only to the industrial customers. Demand response can be administered through various means including real time pricing, time-of-use rates, critical-peak pricing, demand buyback, interruptible rates and direct load control.

Supply-Side Resources: Supply-side options available to gas utilities include the gas supply, the interstate pipeline capacity, and storage, in addition to the distribution pipeline system that delivers gas to the end user. NW Natural's gas supply originates from several supply points e.g. British Columbia (BC), Alberta, and the Rocky Mountain Area in addition to a smaller percentage produced at Mist well field, which is owned by and located within NW Natural's service territory. The Company has a diversified gas supply portfolio that consists of different types of contracts, e.g. fixed price (physical and financial hedging), spot market purchases, and the Encana Gas Reserves. About 75 percent of the Company's gas supply is purchased using hedging instruments both financial and physical. The remaining 25 percent is purchased from the spot market.

NW Natural contracts with Northwest Pipeline Corporation (NWPL) for interstate pipeline transportation into the Company's service areas in Oregon and Washington. The Company has also negotiated transportation contracts in conjunction with commitments for firm Alberta and BC supplies to be delivered via Gas Transmission Northwest (GTN), TransCanada's BC System, TransCanada's Alberta System, Westcoast Energy Inc., and the Southern Crossing Pipeline. NW Natural's storage resources include the Mist underground storage facility, and the Newport and Portland, Oregon Liquefied Natural Gas (LNG) facilities, in addition to leased underground storage at Jackson Prairie and LNG storage at Plymouth, Washington. NW Natural has four recallable agreements with third parties that allow the Company to use their gas deliveries to the Company's service territory for a limited number of days during the heating season (November through March).

In addition to the current resources, the Company selected a mix of supply-side and demand-side incremental resources to construct several resource portfolios. The following table summarizes the incremental resources considered by the Company under various scenarios over the near term and the long term based on the expected growth and demand forecast:

DEMAND SIDE MANAGEMENT	SUPPLY	PIPELINE	STORAGE
Future Additional Resources			
ETO program deployment	US Rockies (Opal)	Incremental CD on TransCanada NOVA/BC/GTN system (TCPL & GTN)[4]	NWN Mist Recall
	Alberta Canada (AECO)	Incremental CD on Williams' Grants Pass Lateral	NWN Satellite Storage projects in the Willamette Valley
	British Columbia Canada (Sumas)	CD on Palomar Gas Transmission's Palomar/Blue Bridge Pipeline	
	Recall Agreements	Williams' NWPL Opal to Stanfield (generic from Rockies)	
	US Rockies/Alberta Canada at Malin (OR) via Ruby Pipeline	GTN backhaul Malin to Madras	
	Oregon LNG - imported LNG	March Point CD	
	Jordon Cove – imported LNG	NWN Newport LNG Compressor Project	
		Mid & South Willamette Valley Feeder	

<u>Integration Strategies:</u> NW Natural's IRP initial analysis concludes that the Company's existing resource portfolio is not sufficient to serve forecasted firm loads under design day peak conditions beginning in 2009-2010.[5] The Plan indicates unserved demand in all areas (except Newport/Lincoln City) totaling about 28 thousand dekatherms per day (MDth/day) in the initial year. NW Natural used a Sendout® optimization model to evaluate supply-side and demand-side resource options for meeting identified load deficits. The Company's modified IRP included 17 deterministic cases based on a variety of forecasts for customer growth, customer usage, gas price, and

[4] CD refers to Contract Demand for firm interstate pipeline capacity.
[5] The Company's design-year weather consists of 85% colder than a normal winter plus a peak (extreme) weather event.

DSM with and without Palomar/Blue Bridge. The Company then selected three candidate portfolios, a base case without Palomar, a Palomar case with 100 MDT reserved capacity (Palomar-100) and another Palomar case with 50 MDT reserved capacity (Palomar-50). The Company then concludes that the Preferred Portfolio of resources is the Palomar-100 case. The Company justifies its selection based on assumed but non-quantified reliability and risk management benefits.

The following table displays a comparison of the Company's selected three candidate portfolios on a NPVR basis and the incremental resources that will meet the forecasted demand:

Run #	Name	Cost $(000) NPV	Palomar/Blue Bridge	Mist Recall	Newport LNG Compressor Project	Satellite Storage	Grants Pass Lateral Expansion
1	1411-2011 IRP Mod Base Case	6,772,580	N/A	X	X	X	-
11	1392-2011 IRP Mod PAL 100	6,792,363	Palomar 100 MDTH	X	X	-	X
10	1391-2011 IRP Mod PAL BB 50	6,813,487	Palomar 50 MDTH Blue Bridge 50 MDTH	X	X	-	X

<u>The Company's proposed Multi-Year Action Plan:</u> Most items in the Company's Action Plan describe activities that are required to comply with the IRP guidelines. Only Item No. 4.2 of the Action Plan describes an action by the Company that is specific to the Company's selected Portfolio and is subject to consideration for acknowledgment: *"Acquire Resources consistent with the Preferred Portfolio."* The Palomar/Blue Bridge is a significant component in the Preferred Portfolio. Subsequently, the Company's Action Plan calls for acknowledgment of the acquisition of this resource.

Parties' Comments

NW Natural conducted four meetings of Technical Advisory Committee (TWG) during the original IRP phase and one additional meeting during the modified phase. The Company and members of the TWG provided input and suggestions during these meetings. Staff and CUB provided their respective comments on November 14, 2011 and then on November 28, 2011. The Company filed its reply comments on November 28, 2011. Staff distributed its draft recommendation and a draft proposed order on the Plan to the Company and interested parties on December 8, 2011. The Company and CUB responded to Staff's draft recommendations and proposed order on December 23, 2011.

<u>Staff Comments:</u> In its initial comments, Staff requested additional information to support acknowledgment of the Company's Action Plan. First, Staff requested that the Company perform Monte-Carlo simulations on the candidate portfolios to justify acknowledgement of the the acquisition of Palomar/Blue Bridge, as a component of the Preferred Portfolio. Second, Staff advised the Company that there was not adequate analysis of the Palomar/Blue Bridge pipeline as a resource. Staff comments specifically

denoted the lack of Benefit-Cost analysis, as well as an adequate analysis of the risk and uncertainties associated with the Preferred Portfolio. Further, Staff requested that the Company provide updated cost estimates with sensitivities on the assumptions made.[6]

In addition, Staff included comments regarding the Company's non-compliance with the Commission's IRP Guidelines. The details of these issues are included in Staff's comments of November 14, 2011 and November 28, 2011. In summary, these comments were regarding the Company's "Base Case" demand scenario, e.g. customer growth projections, price forecasts, customer usage, unserved demand and design-year weather.

CUB Comments: In its November 14, 2011 comments, CUB requested that the Company include in its IRP modeling the potential impact of the Straight Fixed-Variable (SFV) rate design on customers' incentive or disincentive to participate in energy efficiency and conservation programs (Efficiency Programs). CUB also requested that the Company model the effect of exporting LNG.

NW Natural Reply Comments: In its November 28, 2011 comments, the Company responded that Staff's request to run the Monte Carlo simulations on the Modified portfolios is unnecessary and would cause a significant departure from the procedural schedule of this proceeding. With respect to Staff's other comments on the Plan, the Company replied that Staff's comments lacked a context that enabled the Company to determine what concern, if any, Staff has that can be addressed at this stage. The Company also stated that many of Staff's comments and concerns seem to be a result of misperception of what the Company is requesting in this proceeding.

In its December 23, 2011 comments to Staff's draft recommendations and proposed order, the Company offered specific revisions and clarifications to the Action Plan that were intended to address some of Staff's concerns. Nonetheless, the Company maintained that its Plan satisfied the IRP guidelines and should, therefore, be acknowledged. The Company replied to CUB's comments that the SFV rate design should not be part of the IRP modeling especially when the Company had not yet determined that it will make such a request in the general rate case filing.[7] The Company's position is that the appropriate place to address the SFV is in a general rate proceeding. The Company also disagreed to perform additional analysis that considers the potential impact of LNG export on the IRP modeling.

Staff's final recommendations: Following the ALJ's approval of the modified procedural schedule, the Parties exchanged proposals to resolve their differences and reached an agreement on specific measures that address Staff's and CUB's concerns with respect to the Company's Plan. Consequently, Staff filed its final comments on February 10, 2012, incorporating the agreed upon measures. Staff recommends to limit the acknowledgment to the specifically revised items in the Action Plan and subject to the Company's agreement to file its next IRP following the recommendations that address

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[6] These requests were made during the June 2011 TWG meeting, in meetings following the February 2011 joint Public Meeting in Portland, and finally in Staff comments.
[7] CUB pointed in its comments that the Company made this intent during a pre-rate case filing workshop.

the concerns raised by CUB and Staff in this Plan. Specifically, the parties propose the following revisions to the Action Plan:

1) Action Item 2.3 is revised to:

Continue to perform further analysis on the costs, benefits and risks associated with the development of a Cross-Cascades pipeline.

Commission acknowledgement of the Company's 2011 Modified IRP is not to be interpreted as an acknowledgement that the Palomar/Blue Bridge Pipeline (Modified Palomar) is a least cost resource for meeting the future demand of NW Natural customers. While the Company's 2011 Modified IRP is not sufficient to justify the Palomar/Blue Bridge Pipeline as a future resource upon which NW Natural should rely, the Company may reassess and request acknowledgement of this or other similar pipelines in future IRPs.

2) Action Item 4.2 is revised to:

Over the next three planning years, NW Natural will acquire resources in a manner that is consistent with the analysis conducted in the 2011 Modified IRP. Under the Base Case scenario, the Company will target to acquire Demand Side Management as depicted below, and Recall from Mist amounts that will not exceed those listed below:

Calendar Year	Incremental DSM Savings in Oregon, Therms/Year
2012	4,200,048
2013	4,564,178
2014	5,468,808

Gas Year[8]	Recall from Mist Storage, Therms/Day
2012-2013	320,457
2013-2014	320,457
2014-2015	387,342

[8] The Gas Year captures the heating season, which is usually from November through March.

Commission Disposition

NW Natural is a public utility subject to the jurisdiction of this Commission. After reviewing NW Natural's IRP and consideration of Staff's comments, we agree with Staff's proposed revisions and recommendations. We find that absent these revisions and recommendations, the scope of analysis performed was not sufficient and adequate to deem the Plan reasonable. The Company did not perform an adequate analysis that supports acknowledgment of its Preferred Portfolio. As stated by the Company: "The Monte Carlo module provides risk planning analysis around hundreds of weather and price simulations. This allows portfolios to be evaluated from a probabilistic standpoint."[9] The Company acknowledges that such analysis was not made in the modified IRP modeling.[10] Additionally, the original Action Plan did not identify the resource activities to be undertaken during the next two to four years consistent with Guideline 4(n) of the IRP Guidelines.

The principles of integrated resource planning are set forth in Order Nos. 89-507, 07-002, and 07-047. By revising the action plan, the Company has excluded resources that were not adequately evaluated, and replaced them with specific resources that are consistent with least-cost and risk mitigation perspective, and reasonably reliable to meet forecasted demand over the next two to four years period.

We find that Staff's concerns regarding the Company's insufficient analysis and incomplete modeling of the Preferred Portfolio, which included the E. Palomar pipeline are warranted. Likewise, we agree with CUB's position that the Company should include in the IRP modeling, the impact of significant rate design changes on demand and DSM. We limit our acknowledgment to the revised Action Plan items as proposed by the parties. We adopt the recommendations in Staff's Final Recommendations attached hereto as Attachment A.

These recommendations when appropriately implemented in the future IRPs should result incompliance with the IRP guidelines, as follows:

<u>Guideline 1</u>: Substantive requirement

(a) All resources must be evaluated on a consistent and comparable basis:

- *Consistent assumptions and methods should be used for evaluation of all resources.*

(b) Risk and uncertainty must be considered.

- *Utilities should identify in their plans any additional sources of risk and uncertainty.*

<u>Guideline 4</u>: Plan Components

[9] See page 5.1, Chapter 5 of the Company's September 2011 Plan.
[10] The Company performed stochastic analysis in the original filing.

(e) Identification and estimated costs of all supply-side and demand-side resource options, taking into account anticipated advances in technology;

(f) Analysis of measures the utility intends to take to provide reliable service, including cost-risk tradeoffs;

(i) Evaluation of the performance of the candidate portfolios over the range of identified risks and uncertainties;

(j) Results of testing and rank ordering of the portfolios by cost and risk metric, and interpretation of those results;

(n) An action plan with resource activities the utility intends to undertake over the next two to four years to acquire the identified resources, regardless of whether the activity was acknowledged in a previous IRP, with the key attributes of each resource specified as in portfolio testing.

We finally note our statement found on page 12 of Order No. 07-002: *"This guideline incorporates what we minimally expect from an IRP. We urge the utilities to provide more, rather than less, information."*[11] We find Staff's proposed recommendations and revisions consistent with the goals of these guidelines.

Effect of the IRP on Future Rate-making Actions

In Order No. 89-507, the Commission established its role in reviewing and acknowledging a utility's least-cost plan:

> Acknowledgment of a plan means only that the plan seems reasonable to the Commission at the time the acknowledgment is given. As is noted elsewhere in this order, favorable rate-making treatment is not guaranteed by acknowledgment of a plan.

See Order No. 89-507 at 6 and 11. The Commission affirmed these principles in Order Nos. 07-002 and 07-047. [12]

ORDER

[11] The reference is made to Guideline 4 (Plan Components)

[12] *See* Order NO. 07-002: "Acknowledgment" generally means a Commission decision on acknowledgment, even if the Commission did not acknowledge the plan in full (*i.e.*, deem it reasonable, based on information available at the time).

It IS ORDERED that the 2011 Integrated Resource Plan filed by Northwest Natural Gas Company, dba NW Natural, on September 1, 2011, as revised by this Order and subject to the recommendations we adopted above be acknowledged.