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August 28, 2014

Steven V. King, Executive Director and Secretary  
Washington Utilities & Transportation Commission  
1300 S. Evergreen Park Drive, S.W.  
P.O. Box 47250  
Olympia, Washington 98504-7250

RE: **UG-131473, NW Natural's 2014 IRP Work Plan, Supplement No. 2**

Northwest Natural Gas, dba NW Natural ("NW Natural" or the "Company"), herein files Supplement No. 2 to its 2014 Integrated Resource Plan Work Plan that was submitted August 12, 2013, in compliance with Washington Administrative Code 480-90-238.

If you have any questions regarding this plan, please contact me at 1-503-226-4211, extension 3590.

Sincerely,

*/s/ Jennifer Gross*

Jennifer Gross

enclosures

Supplement No. 2  
Work Plan for NW Natural's 2014  
**Washington Integrated Resource Plan**  
UG-131473

Issued August 28, 2014

**Technical Working Group Meetings**

Below is the schedule meetings and filing dates for the Company's 2014 IRP. This schedule is revised from the first supplement to the Company's work plan that was filed September 12, 2013:

**TWG No. 1 – August 22, 2013**

NW Natural reviewed a recap from most recent 2013 NW Natural Washington IRP and 2013 Oregon IRP Update, projected major issues/updates for 2014 IRP, the Gas Supply Outlook and Price Forecast, and our preliminary forecast results

**TWG No. 2 – October 2, 2013**

NW Natural reviewed the revised load forecast, discussed scenarios, and discussed the criteria to be used to determine what Distribution System Planning projects should be included in the IRP.

**Scenario Workshop – November 13, 2013**

NW Natural held a half-day scenario workshop as opposed to a technical working group to try to identify those scenarios that were most meaningful to the technical working group.

**TWG No. 3 – December 10, 2013**

Cancelled due to weather.

**TWG No. 4 – January 23, 2014**

NW Natural reviewed a recap from most recent 2013 NW Natural Washington IRP and 2013 Oregon IRP Update, projected major issues/updates for 2014 IRP, the Gas Supply Outlook and Price Forecast, and our preliminary forecast results

**TWG No. 5 – April 3, 2014**

NW Natural reviewed comments from parties, discussed providing additional analysis on alternative pipeline, presented its carbon pricing analysis and reviewed its long term hedging practices.

**TWG No. 6 – July 11, 2014**

NW Natural plans to review the additional analysis it will perform on alternative pipelines.

**March 3, 2014**

Draft IRP filed with WUTC

**August 29 to September 5, 2014**

The Company will submit its final 2014 IRP to the WUTC.

**IRP Content**

Below is expected content of the final 2014 IRP. This is taken from the table of contents included in the Draft 2014 IRP filing on March 3, 2014.

**CHAPTER 1 – EXECUTIVE SUMMARY**

- I. Introduction and Background
- II. Principle Conclusions
- III. Demand Forecasts
- IV. Supply-Side Resources
- V. Resource Portfolio Analysis
- VI. Public Involvement
- VII. Multi-Year Action Plan

**CHAPTER 2 – GAS REQUIREMENTS FORECAST**

- I. Overview of Load Forecast Methodology
- II. Customer Forecast
- III. Load Forecast Model
- IV. Weather
- V. Gas Price Forecast
- VI. Emerging Markets
- VII. Results
- VIII. Forecast Accuracy and Peak Day Analysis
- IX. Key Findings

**CHAPTER 3 – SUPPLY-SIDE RESOURCES**

- I. Overview
- II. Current Resources
- III. LNG Process Improvement and Refurbishment Project
- IV. Supply-Side Resource Dispatching

- V. Gate Station Planning
- VI. Recent Action Steps
- VII. Future Resource Alternatives
- VIII. The Cutting Room Floor
- IX. Gas Supply Portfolio Acquisition Strategy
- X. Emergency Planning
- XI. Key Findings

#### **CHAPTER 4 – DEMAND-SIDE RESOURCES**

- I. Overview
- II. Methodology for Determining the Cost Effective DSM Potential
- III. Program Funding and Delivery
- IV. Load Management and Demand Response
- V. Conclusion

#### **CHAPTER 5 – ENERGY POLICIES AND ENVIRONMENTAL CONSIDERATIONS**

- I. Overview
- II. State, Regional, and Federal Energy Policies
- III. Carbon Pricing in the 2014 IRP
- IV. Scenarios
- V. Analysis
- VI. Results
- VII. Key Findings

#### **CHAPTER 6 – DISTRIBUTION SYSTEM PLANNING**

- I. Background
- II. Scope
- III. Nomenclature
- IV. Overview
- V. Existing Distribution System
- VI. Distribution System Planning Methodology
- VII. Significant Potential HP Transmission/Distribution System Planning Projects
- VIII. Other Distribution System Projects
- IX. Key Findings

#### **CHAPTER 7 – LINEAR PROGRAMMING AND THE COMPANY’S RESOURCE CHOICES**

- I. System Planning Overview
- II. Resource Planning Model Results
- III. Portfolio Risk Analysis

IV. Key Findings

**CHAPTER 8 – AVOIDED COST DETERMINATION**

- I. Overview
- II. Costs Included in Avoided Cost
- III. Methodology
- IV. Results
- V. Key Findings

**CHAPTER 9 – PUBLIC PARTICIPATION**

- I. Technical Working Group
- II. Public Participation

**APPENDIX 1 – REGULATORY COMPLIANCE**

- I. Compliance Overview
- II. Detailed Compliance Review

**APPENDIX 2 – GAS REQUIREMENTS FORECAST**

- 2.1 Customer Forecast – Base Case: Residential + Commercial Firm Sales
- 2.2 Customer Forecast – Base Case: Residential
- 2.3 Customer Forecast – Base Case: Commercial Firm Sales
- 2.4 Customer Forecast – High Growth: Residential + Commercial Firm Sales
- 2.5 Customer Forecast – High Growth: Residential
- 2.6 Customer Forecast – High Growth: Commercial Firm Sales
- 2.7 Customer Forecast – Low Growth: Residential + Commercial Firm Sales
- 2.8 Customer Forecast – Low Growth: Residential
- 2.9 Customer Forecast – Low Growth: Commercial Firm Sales
- 2.10 Annual Load Forecast – Base Case: Firm Sales
- 2.11 Annual Load Forecast – Base Case: Residential
- 2.12 Annual Load Forecast – Base Case: Commercial Firm Sales
- 2.13 Annual Load Forecast – Base Case: Industrial Firm Sales
- 2.14 Annual Load Forecast – Base Case: Firm Transportation
- 2.15 Annual Load Forecast – Base Case: Firm Sales + Firm Transportation
- 2.16 Annual Load Forecast – Base Case: Interruptible
- 2.17 Annual Load Forecast – Base Case: Emerging Markets (Low Case)
- 2.18 Design Day Load Forecast – Base Case: Firm Sales
- 2.19 Design Day Load Forecast – Base Case: Residential
- 2.20 Design Day Load Forecast – Base Case: Commercial Firm Sales
- 2.21 Design Day Load Forecast – Base Case: Industrial Firm Sales
- 2.22 Design Day Load Forecast – Base Case: Firm Transportation
- 2.23 Design Day Load Forecast – Base Case: Firm Sales + Firm Transportation
- 2.24 Design Day Load Forecast – Base Case: Emerging Markets Firm Sales (Low Case)

### **APPENDIX 3 – SUPPLY SIDE RESOURCES**

### **APPENDIX 4 – DEMAND-SIDE RESOURCES**

- I. Oregon Incremental Savings by Year
- II. Washington Incremental Savings by Year
- III. Oregon Cumulative Savings by Year
- IV. Washington Cumulative Savings by Year
- V. Detailed Measure Description
  - Residential
  - Commercial
  - Industrial

### **APPENDIX 5 – ENERGY POLICIES AND ENVIRONMENTAL CONSIDERATIONS**

### **APPENDIX 6 – DISTRIBUTION SYSTEM PLANNING**

- I. Washington Distribution System Projects

### **APPENDIX 7 – LINEAR PROGRAMMING AND THE COMPANY’S RESOURCE CHOICES**

- I. System Diagram
- II. Resource Options
- III. Portfolio 1 (CC 2018)
- IV. Portfolio 2 (WEX 2018)
- V. Portfolio 3 (Sumas Exp. 2018/25)
- VI. Low Load Growth
- VII. High Load Growth
- VIII. 2013 Washington IRP Design Weather

### **APPENDIX 8 – AVOIDED COSTS**

- I. Base Avoided Costs by Month and Load Center

### **APPENDIX 9 – PUBLIC PARTICIPATION**

- I. Technical Working Group Sign-In Sheets