

**PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT
PUBLIC MEETING DATE: February 21, 2017**

REGULAR CONSENT EFFECTIVE DATE _____ Upon Commission's Approval

DATE: February 13, 2017

TO: Public Utility Commission

FROM:  Lisa Gorsuch

THROUGH:  Jason Eisdorfer and  John Crider

SUBJECT: NORTHWEST NATURAL: (Docket No. LC 64) Acknowledgement of 2016 Integrated Resource Plan.

STAFF RECOMMENDATION:

Staff recommends that the Commission acknowledge, with exceptions and revisions, Northwest Natural Gas Company's (NWN or Company) 2016 Integrated Resource Plan (IRP or Plan).

DISCUSSION:

Issue

Whether the Commission should acknowledge NWN's 2016 IRP.

Applicable Law

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

General Description of the IRP

NWN's 2016 IRP is a plan for meeting customer natural gas needs over the next 20 years. While the primary focus of the IRP is meeting customers' needs under peak weather conditions, the IRP process also provides a methodology for evaluating customer needs under normal or average conditions. Thus, the IRP brings together customer demand forecasts with analyses of resource options, including supply-side resources and demand-side measures to provide a valuable planning tool for NWN, its customers, regulatory agencies, and other stakeholders.

Procedural History

The Company filed its 2016 IRP on August 26, 2016, which has been docketed as LC 64. On November 3, 2016, Staff and the Citizens' Utility Board (CUB) filed their initial comments. NW Natural filed reply comments on December 8, 2016. Staff filed its final comments on December 29, 2016. Finally, NWN and CUB filed their final comments on January 19, 2017.

Prior to the filing of the IRP, the Company held a series of informal technical working group meetings beginning in January 2016. The informal process included five technical meetings between January 2016 and June 2016.¹ Many participants attended these technical meetings, including Staff, staff from the Washington Utilities and Transportation Commission, CUB, Northwest Industrial Gas Users, Northwest Gas Association, Energy Trust of Oregon, and Northwest Pipeline Corporation.

Following the technical working group meetings, NWN filed a draft IRP on June 28, 2016. Informal comments regarding the draft plan were submitted by some of the technical working group participants in July 2016.

Compliance with Commission IRP Guidelines

Staff concludes that NWN has complied with the Commission's IRP guidelines and previous orders. However, in its Recommendations (submitted as part of its Final Comments), Staff identified additional analysis that should be completed as part of NWN's next IRP. In the same Comments Staff proposed revisions to the Company's 2016 Action Plan. Subsequently, Staff and NWN worked together to revise the 2016 Action Plan as discussed in detail in the next section.

Staff Recommendations

In its Recommendations, Staff identified additional analyses related to the IRP that it would like to see the Company perform in greater depth in future IRPs. Staff's

¹ Technical working group meetings were held on January 13, 2016, February 10, 2016, March 17, 2016, May 24, 2016, and June 22, 2016, respectively.

Recommendations are set forth below along with Staff's proposed revisions to NWN's 2016 Action Plan. Staff notes that the Company has demonstrated a willingness to work with stakeholders throughout this IRP process and in future IRPs.

1. Staff Recommendation No. 1

In its IRP, the Company's peak day load forecast combines the customer count forecast, the peak day weather standard, and the peak day use per customer forecast. NWN argued in support of its assumption in the IRP that the peak day in the planning horizon will not be a holiday and that it will be a day between Monday and Thursday.

Staff stated in its Final Comments that this assumption may overstate the Company's resource needs. According, in its Final Comments, Staff recommended that NWN use a weather scenario based upon the Company's actual highest heating requirement day in 30 years for its peak day analysis.

Staff's recommendation is economically significant because the Company's models provided in response to Staff Data Request (DR) No. 2 indicate that the day of the week can have a similar impact on use-per-customer as a one degree change in weather. On page 2 of its Reply Comments, NWN indicates that it generally concurs with Staff's recommendation to explore the use of load center-specific data for its customer forecasts.

NWN stated in its Final Comments that it continues to be concerned that Staff's forecast approach would lead to an unacceptably high risk of NWN being unable to serve its load on a future peak day. The Company also emphasized its commitment to reliably serve customers, but is also careful to not overstate its gas needs so that it is over-resourced. NWN stated that it would be open to discussing assumptions regarding the peak day load forecast as part of the 2018 IRP. However, due to the implications of changing the peak day load forecast, NWN requested that if Staff's recommendation is adopted that it not be required as part of the current IRP or subsequent uses of the load forecast before the next IRP.

Staff Conclusion: Staff remains of the opinion that the Company may be overstating its resource needs based on peak load assumptions and recommends use of an alternate weather scenario.

Staff Recommendation No. 1

Staff recommends that NWN use a weather scenario based upon the Company's actual highest heating requirement day in 30 years for its peak day analysis.

2. Staff Recommendation No. 2

In its Final Comments, Staff recommended that the Company continue to explore load center-specific data, such as the Oregon Office of Economic Analysis' long-term population forecast by county that NWN identified in its Reply Comments.

Summary of the Company's Final Comments on Staff Recommendation No. 2
Staff stated in its Final Comments that NWN "...generally concurs with Staff's recommendation to explore the use of load center specific data for its customer forecasts." NWN stated in its Final Comments that it again wanted to provide the context of the Company's general concurrence with Staff's recommendation: that the Company will undertake such an exploration "... in the course of developing its next IRP..." NWN anticipates filing its next IRP in 2018. NWN stated that it did explore forecasting components of customer change at the load center level in the course of developing its 2016 IRP. The Company indicated that this exploration resulted in econometric models generally having much more limited explanatory power compared to state-level models. As a result, the Company stated that it chose to use the state-level forecasts of customer components, and then allocate the state-level forecasts to individual load centers using load center-specific historical data.

Staff Conclusion: Staff and the Company agree that use of load center-specific data should be explored in the next IRP cycle.

Staff Recommendation No. 2

Staff recommends that the Company continue to explore load center-specific data, such as the Oregon Office of Economic Analysis' long-term population forecast by county that NWN identified in its Reply Comments.

3. Staff Recommendation No. 3

NWN's 2016 IRP includes the following Action Item related to its Supply-Side Resources in 4. Multiyear Action Plan, 4.1 Joint Multiyear Action Plan, *Resource Investments*:

2. Replace or repair, depending on relative cost-effectiveness, the large dehydrator at Mist's Miller Station. Replacement is currently estimated to cost between \$6 million and \$7 million based on estimates obtained from a third-party engineering consulting firm engaged by NWN.

In its Final Comments, Staff recommended acknowledgement of NWN's Action Item proposing to "*Replace or repair, depending on relative cost-effectiveness, the large*

dehydrator at Mist's Miller Station. Replacement is currently estimated to cost between \$6 million and \$7 million based on estimates obtained from a third-party engineering consulting firm engaged by NWN."

Further, in its Final Comments Staff stated it believed it was important to note that the prudence of any cost recovery potentially sought by the Company would only be considered in the context of a rate filing. Staff also noted that acknowledgement of an Action Item does not equate to preapproval of that Item for rate recovery.

Staff also recommended that the Company update its IRP stakeholders regarding potential regional pipeline projects and associated cost analysis as information becomes available.

With regard to Supply-Side Resources, Staff further explained in its Initial and Final Comments that the Commission received comments from Columbia Riverkeeper with questions and concerns regarding a potential Methanol Project Resource sharing Agreement, described on page 3.38 of the IRP. Columbia Riverkeeper raised concerns about the fundamental impact that such an agreement might have on the gas supply and demand balance in the Northwest region. NWN provided responses to Columbia Riverkeeper's questions pertaining to this potential project, in response to information requests submitted by Staff. A considerable amount of this information is confidential. Staff and NWN met with Columbia Riverkeeper on January 6, 2017, to discuss this potential project and Columbia Riverkeeper's concerns.

Summary of NWN's Final Comments on Staff Recommendation No. 3

NWN stated in its Final Comments that there were two distinct parts to Staff Recommendation Number 3. NWN indicated that it recognizes that Commission consideration regarding the prudence of any cost recovery potentially sought by the Company would only be considered in the context of a rate filing.

The second part of Staff Recommendation No. 3 was a response to comments received by the Commission from Columbia Riverkeeper with questions and concerns regarding a potential Methanol Project Resource Sharing Agreement. The Company stated that it interprets this recommendation as meaning the updates would occur within the context of the normal IRP cycle, including IRP updates, and pertain to only those regional pipeline projects that could be potentially used to serve the Company's gas sales customers. NWN further stated that it was supportive of this recommendation if correctly interpreted in this manner.

Staff Conclusion: Staff agrees with NWN's interpretation of the "second part" of Staff Recommendation No. 3. Since all issues appear to be resolved, Staff has no further comment about its Recommendation No. 3.

Staff Recommendation No. 3

Staff recommends:

- a) acknowledgement of NWN's Action Item proposing to *"Replace or repair, depending on relative cost-effectiveness, the large dehydrator at Mist's Miller Station. Replacement is currently estimated to cost between \$6 million and \$7 million based on estimates obtained from a third-party engineering consulting firm engaged by NWN"*;
- b) the Company update its IRP stakeholders regarding potential regional pipeline projects and associated cost analysis as information becomes available

Staff notes that the prudence of any cost recovery potentially sought by the Company would only be considered in the context of a rate filing. Staff also noted that acknowledgement of an Action Item does not equate to preapproval of that Item for rate recovery.

4. Staff Recommendation No. 4

In its filed IRP, the Company included the following Action Item related to its Demand – side resources and environmental actions:

4. Investigate the viability of developing a pilot project to reduce upstream emissions of methane and, if viable, NWN will bring this pilot forward for Commission review and approval. The pilot design would test whether reductions can be achieved at a level consistent with the Base Case carbon values incorporated into the IRP and the range of costs for a larger scale effort. If it is determined that the cost to move the market exceeds the carbon values in the IRP, the Company may alternatively consider advancing the work as a project proposal under SB 844.

See IRP at Page 1.18.

In its Final Comments, Staff recommended removing Action Item No. 4 from NWN's 2016 Action Plan. However, Staff stated that it supports ongoing stakeholder discussion regarding the viability of developing pilot projects to reduce upstream emissions of methane.

Summary of NWN's Final Comments on Staff Recommendation No. 4

NWN stated in its Final Comments that it appreciated Staff's support of the Company's work to "invest resources to explore, identify and study possible ways to reduce its carbon liability." NWN said it interpreted Staff's Comments as indicating that exploring a pilot project designed to reduce emissions in the supply sector, while theoretically linked to emissions that are outside the Company's control, is promising and merits analysis and review by the Commission. However, the Company also acknowledged Staff's concerns about including this potential project in the 2016 Action Plan so early in its development, with so few details. In its Final Comments, NWN stated that it would like to remove this Action Item from its 2016 Action Plan. However, NWN stated that it will continue to pursue the development of a detailed pilot project, and bring that forward for review at an appropriate time in the future.

Staff Conclusion: Staff appreciates the Company's agreement with its Recommendation No. 4 to remove Action Item No. 4 from its 2016 IRP.

Staff Recommendation No. 4

Staff recommends removal of Action Item No. 4 from the Company's 2016 IRP Action Plan.

5. Staff Recommendation No. 5

NWN's 2016 IRP includes the following Action Item related to its Demand-side resources and environmental actions:

2. *Work with Energy Trust of Oregon to further scope a geographically targeted DSM pilot via accelerated and/or enhanced offerings ("Targeted DSM" pilot) to measure and quantify the potential of demand-side resources to cost-effectively avoid/delay gas distribution system reinforcement projects in a timely manner and make a Targeted DSM pilot filing with the Oregon Public Utility Commission in late 2017 or early 2018.*

In its Final Comments, Staff recommended acknowledgement of NWN's Action Item proposing to work with Energy Trust to better target the DSM pilot. Staff further recommended acknowledgement of NWN's Action Item proposing to "*Work with Energy Trust of Oregon to track peak day savings from DSM programs in addition to the typical Energy Trust metric of total annual savings to better understand if the capacity costs projected to be avoided with peak day savings in the DSM savings projection are being saved.*"

Summary of NWN's Final Comments on Staff Recommendation No. 5

NWN stated that it appreciated Staff's recommendation that the Commission acknowledge the Company's action items related to a targeted DSM pilot and tracking peak day savings from Energy Trust's energy efficiency work. NWN concurs and notes that even though the Company's Action Item does not include wording about verification, the Company is not looking to impose its own standards on the Energy Trust without Commission direction. The Company stated that it included an Action Item on the topic of tracking peak day savings from EE in the IRP for the specific purpose of receiving formal feedback from the Commission.

Staff Conclusion: Staff continues to recommend acknowledgement of the Company's action items related to its proposed targeted DSM pilot.

Staff Recommendation No. 5

Staff recommends acknowledgement of the Company's Action Items to work with Energy Trust of Oregon to develop targeted DSM programs.

6. Staff Recommendation No. 6

NWN's 2016 IRP includes the following Action Item No. 1 related to its Demand-side resources and environmental actions:

Consistent with methodology in chapter 6, NWN will ensure Energy Trust has sufficient funding to acquire therm savings of 5.1 million therms in 2017 and 5 million therms in 2018 or the amount identified and approved by the Energy Trust Board. See IRP at page 1.18.

In its Final Comments, Staff recommended that Action Item No. 1 be revised from:

"Consistent with methodology in chapter 6, NWN will ensure Energy Trust has sufficient funding to acquire therm savings of 5.1 million therms in 2017 and 5 million therms in 2018 or the amount identified and approved by the Energy Trust Board."

to:

"Consistent with methodology in Chapter 6, NWN will ensure Energy Trust has sufficient funding to acquire therm savings of 6.2 million therms in 2017 and 6.8 million therms in 2018 or the amount identified and approved by the Energy Trust Board."

Staff further recommended that NWN work with Staff to modify the Company's Action Plan to include the revised savings goals. In its Final Comments, the Company agreed to work with Staff and Energy Trust of Oregon to complete revised savings goals prior to the Commission public meeting in February 2017.

Staff Conclusion: Staff appreciates the Company's agreement to work towards a revised savings goal as set forth in Staff's Recommendation No. 6.

Staff Recommendation No. 6

Staff recommends that Action Item No. 1 be changed to read:

"Consistent with methodology in Chapter 6, NWN will ensure Energy Trust has sufficient funding to acquire therm savings of 6.2 million therms in 2017 and 6.8 million therms in 2018 or the amount identified and approved by the Energy Trust Board."

7. Staff Recommendation No. 7

NWN's 2016 IRP includes the following Action Item related to its Supply-Side Resources in 4. Multiyear Action Plan, 4.1 Joint Multiyear Action Plan, *Resource Investments*:

"Proceed with the SE Eugene Reinforcement project to be in service for the 2018/2019 heating season and at a preliminary estimated cost of \$4 million to \$6 million."

In its Final Comments, Staff recommended acknowledgement of NWN's Action Item proposing to *"Proceed with the SE Eugene Reinforcement project to be in service for the 2018/2019 heating season and at a preliminary estimated cost of \$4 million to \$6 million."*

In its Final Comments, NWN stated that it appreciates Staff's finding the Company's overall distribution system planning to be reasonable and Staff's support regarding the SE Eugene Reinforcement project.

Staff Conclusion: The Commission should acknowledge the Company's Action Item as set forth in Staff's Recommendation No. 7.

Staff Recommendation No. 7

Staff recommends acknowledgement of the Action Plan Item:

“Proceed with the SE Eugene Reinforcement project to be in service for the 2018/2019 heating season and at a preliminary estimated cost of \$4 million to \$6 million.”

Staff Recommendation No. 8

NWN's 2016 IRP includes the following Action Item related to its Supply-Side Resources in 4. Multiyear Action Plan, 4.1 Joint Multiyear Action Plan, *Resource Investments*:

Resource Investments:

- 1. Plan to recall 30,000 Dth/day of Mist storage capacity from the interstate storage account effective May 2019 to serve the core customer needs, subject to a review based on an update of the annual load forecast in the summer of 2018.*

In support of this Action Item, the Company asserted that recall of Mist Storage for core customers is both a least cost and a least risk resource option to meet customer demand.

In its Final Comments, Staff recommended the Commission acknowledge the Company's Action Item set forth above. However, based upon the Company's Final Comments, Staff revises its Recommendation to read as follows:

“Plan to recall 15,000 Dth/day of Mist storage capacity from the interstate storage account effective May 2018 to serve core customer needs, subject to a review based on an update of the annual load forecast in the summer of 2017. Plan to recall 15,000 Dth/day of Mist storage capacity from the interstate storage account effective May 2019 to serve core customer needs, subject to a review based on an update of the annual load forecast in the summer of 2018.”

Summary of NWN's Final Comments on Staff Recommendation No. 8

NWN stated that one of its existing firm peak day resources, known as the “PGE Alternative Ratchet Agreement,” is available only during the 2018-19 heating season. Subsequent to the filing of the IRP, PGE provided a notice to proceed with the North Mist storage expansion project. The PGE Alternative Ratchet Agreement will be void assuming the North Mist project is in service prior to the 2018-19 heating season. While this does not change the total amount of Mist recall required by NWN over the next two years, it will affect the timing of Mist recall. The Company anticipates recalling 15,000

Dth/day of Mist storage capacity effective May 2018 and recalling 15,000 Dth/day effective May 2019. Accordingly, NWN proposes the following revised Action Item:

Plan to recall 15,000 Dth/day of Mist storage capacity from the interstate storage account effective May 2018 to serve core customer needs, subject to a review based on an update of the annual load forecast in the summer of 2017. Plan to recall 15,000 Dth/day of Mist storage capacity from the interstate storage account effective May 2019 to serve core customer needs, subject to a review based on an update of the annual load forecast in the summer of 2018.

Staff Conclusion: Staff concurs with the Company's proposed change and recommends the Commission adopt its revised Recommendation No. 8.

Staff Recommendation No. 8

Staff recommends acknowledgement of the Company's Action Item:

"Plan to recall 15,000 Dth/day of Mist storage capacity from the interstate storage account effective May 2018 to serve core customer needs, subject to a review based on an update of the annual load forecast in the summer of 2017. Plan to recall 15,000 Dth/day of Mist storage capacity from the interstate storage account effective May 2019 to serve core customer needs, subject to a review based on an update of the annual load forecast in the summer of 2018."

9. Staff Recommendation No. 9

The standard IRP role for stochastic risk analysis is to assist a utility in its selection among alternative supply/resource portfolios as to which manifest the "best" cost/risk profile.

In its Final Comments, Staff recommended that in NWN's next IRP, the following concerns be addressed:

Extensive use was made of "boxplots" without defining the meanings of their upper and lower boundaries. Similarly, Table 9.1 (on page 9.5) shows the plus and minus cost-per-decatherm ranges for several different supply resources without defining what the plus and minus meant. The meanings should be presented with the reader's first exposure to those materials.

Two pertinent risk variables are the projected cost per decatherm and the probability of a failure of supply to meet demand. The probability of a failure of supply to meet demand was scarcely mentioned in this IRP, if at all. There was a largely irrelevant boxplot presentation of stochastically simulated January average temperatures, but no

connection was made with the likelihood of a lack of capacity to meet coldest-day demand.

Finally, in Section 2.3, Combining Simulations 1 and 2 (on page 9.7) was difficult to understand. It seems that a numerical example of a specific pairing from the two simulations would have eliminated the problem.

Summary of NWN's Final Comments on Staff Recommendation No. 9

NWN stated in its Final Comments that it will use Staff's recommendation to improve upon the risk analysis chapter in the next IRP.

Staff Conclusion: Staff appreciates the Company's willingness to use the recommendations set forth in Staff's Recommendation No. 9 in its next IRP.

Staff Recommendation No. 9

Staff recommends that the Company improve its risk analysis chapter in the next IRP as described in Staff comments.

Summary of CUB's Final Comments

CUB's Final Comments were filed on January 19, 2016. In its Final Comments, CUB continued to primarily focus on NWN's Action Items related to its upstream carbon emissions reduction plan, and the Company's proposed investment of \$6 -7 million in replacement and repair costs to the Mist underground storage facility. CUB indicated that it did not support Commission Acknowledgement of the proposed upstream carbon emissions reduction plan, as filed by the Company; however, it applauded the Company's commitment to reduce upstream greenhouse gas emissions. CUB stated in its Final Comments that it supports NWN moving forward with investment in the Miller Station's large dehydrator at the Mist Underground Storage Facility, noting that cost recovery in rates will only be determined in a rate filing. CUB also stated that the third party cost study ordered in Docket Number UM 1654 would help inform stakeholders understanding of the cost recovery of this project.

Conclusion

In conclusion, Staff recommends that the Commission acknowledge the following nine recommendations and three revisions to NWN's 2016 Action Plan shown below. The revisions to the Action Plan include an update to the timing on Mist Recall, an update to DSM therm savings, and removal of the proposed pilot project for upstream methane reduction from the Action Plan, however, with continued discussion amongst stakeholders regarding its future potential.

Staff Recommendation No. 1

Staff recommends that NWN use a weather scenario based upon the Company's actual highest heating requirement day in 30 years for its peak day analysis.

Staff Recommendation No. 2

Staff recommends that the Company continue to explore load center-specific data, such as the Oregon Office of Economic Analysis' long-term population forecast by county that NWN identified in its Reply Comments.

Staff Recommendation No. 3

Staff recommends:

a) acknowledgement of NWN's Action Item proposing to *"Replace or repair, depending on relative cost-effectiveness, the large dehydrator at Mist's Miller Station. Replacement is currently estimated to cost between \$6 million and \$7 million based on estimates obtained from a third-party engineering consulting firm engaged by NWN"*;

b) the Company update its IRP stakeholders regarding potential regional pipeline projects and associated cost analysis as information becomes available

Staff notes that the prudence of any cost recovery potentially sought by the Company would only be considered in the context of a rate filing. Staff also noted that acknowledgement of an Action Item does not equate to preapproval of that Item for rate recovery.

Staff Recommendation No. 4

Staff recommends removal of Action Item No. 4 from the Company's 2016 IRP Action Plan.

Staff Recommendation No. 5

Staff recommends acknowledgement of the Company's Action Items to work with Energy Trust of Oregon to develop targeted DSM programs.

Staff Recommendation No. 6

Staff recommends that Action Item No. 1 be changed to read:

"Consistent with methodology in Chapter 6, NWN will ensure Energy Trust has sufficient funding to acquire therm savings of 6.2 million therms in 2017 and 6.8 million therms in 2018 or the amount identified and approved by the Energy Trust Board."

Staff Recommendation No. 7

Staff recommends acknowledgement of the Action Plan Item:

“Proceed with the SE Eugene Reinforcement project to be in service for the 2018/2019 heating season and at a preliminary estimated cost of \$4 million to \$6 million.”

Staff Recommendation No. 8

Staff recommends acknowledgement of the Company's Action Item:

“Plan to recall 15,000 Dth/day of Mist storage capacity from the interstate storage account effective May 2018 to serve core customer needs, subject to a review based on an update of the annual load forecast in the summer of 2017. Plan to recall 15,000 Dth/day of Mist storage capacity from the interstate storage account effective May 2019 to serve core customer needs, subject to a review based on an update of the annual load forecast in the summer of 2018.”

Staff Recommendation No. 9

Staff recommends that the Company improve its risk analysis chapter in the next IRP as described in Staff comments.

NWN's 2016 Action Plan

Resource Additions and Changes

NWN's 2016 IRP Action Plan, 4.1. Joint Multiyear Action Plan on page 1.18 of the Plan, includes the following:

Resource Investments:

- ~~1. Plan to recall 30,000 Dth/day of Mist storage capacity from the interstate storage account effective May 2019 to serve the core customer needs, subject to a review based on an update of the annual load forecast in the summer of 2018.~~
1. Plan to recall 15,000 Dth/day of Mist storage capacity from the interstate storage account effective May 2018 to serve core customer needs, subject to a review based on an update of the annual load forecast in the summer of 2017. Plan to recall 15,000 Dth/day of Mist storage capacity from the interstate storage account effective May 2019 to serve core customer needs, subject to a review based on an update of the annual load forecast in the summer of 2018.
2. Replace or repair, depending on relative cost-effectiveness, the large dehydrator at Mist's Miller Station. Replacement is currently estimated to cost between \$6 million and \$7 million based on estimates obtained from a third-party engineering consulting firm engaged by NWN.

3. *Proceed with the SE Eugene Reinforcement project to be in service for the 2018/2019 heating season and at a preliminary estimated cost of \$4 million to \$6 million.*

Demand –side resources and environmental actions:

- ~~1. Consistent with methodology in chapter 6, NWN will ensure Energy Trust has sufficient funding to acquire therm savings of 5.1 million therms in 2017 and 5 million therms in 2018 or the amount identified and approved by the Energy Trust Board.~~
1. Consistent with methodology in Chapter 6, NWN will ensure Energy Trust has sufficient funding to acquire therm savings of 6.2 million therms in 2017 and 6.8 million therms in 2018 or the amount identified and approved by the Energy Trust Board.
2. Work with Energy Trust of Oregon to further scope a geographically targeted DSM pilot via accelerated and/or enhanced offerings (“Targeted DSM” pilot) to measure and quantify the potential of demand-side resources to cost-effectively avoid/delay gas distribution system reinforcement projects in a timely manner and make a Targeted DSM pilot filing with the Oregon Public Utility Commission in late 2017 or early 2018.
3. Work with Energy Trust of Oregon to track peak day savings from DSM programs in addition to the typical Energy Trust metric of total annual savings to better understand if the capacity costs projected to be avoided with peak day savings in the DSM savings projection are being saved.
- ~~4. Investigate the viability of developing a pilot project to reduce upstream emissions of methane and, if viable, NWN will bring this pilot forward for Commission review and approval. The pilot design would test whether reductions can be achieved at a level consistent with the Base Case carbon values incorporated into the IRP and the range of costs for a larger scale effort. If it is determined that the cost to move the market exceeds the carbon values in the IRP, the Company may alternatively consider advancing the work as a project proposal under SB 844.~~

PROPOSED COMMISSION MOTION:

Acknowledge Northwest Natural Gas Company's 2016 IRP along with Staff's nine recommendations and revisions to the Company's 2016 Action Plan as set forth in Staff's memorandum detailed in the conclusion above.