BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UM 2030

In the Matter of PUBLIC UTILITY COMMISSION OF OREGON, Investigation Into the Use of Northwest Natural's Renewable Natural Gas Evaluation Methodology.	Staff's Phase One Comments

In NW Natural's 2018 Integrated Resource Plan (IRP), the Company requested acknowledgement of its methodology for determining the cost-effectiveness of bringing renewable natural gas (RNG) resources to customers. The methodology, described in Appendix H to the 2018 IRP, utilized an avoided cost methodology to assess the ratepayer costs and benefits of RNG resources.

Staff's final IRP comments suggested revisions to Appendix H, and recommended launching an investigation into the use of the proposed methodology, rather than acknowledging the methodology through the IRP process. An investigation would provide opportunity for discussion, evaluation, and collaboration that would not have been possible in the IRP's timeframe.

Staff requested several changes to Appendix H including:

1. Updated greenhouse gas (GHG) policy expectations;
2. Use of a zero or low-price carbon price path beginning as late as 2030;
3. Updated inputs, assumptions and forecasts to methodology; and
4. Provide a detailed description of the SENDOUT RNG modeling process.

In Order No. 19-073, the Public Utility Commission of Oregon (Commission) adopted Staff's recommendation that the Company update and submit a Revised Appendix H, and participate in an investigation (UM 2030) into the use of the proposed methodology.

NW Natural is currently participating in UM 2030. The Company presented a Revised Appendix H at a Staff workshop on December 13, 2019, and subsequently submitted a

Revised Appendix H on January 10, 2020. Both the presentation and the revised document intended to respond to Staff's requested changes. This began a Phase One approximately 30-day comment period in which stakeholders were asked to review the updated Appendix H and consider the question of whether this methodology is appropriate for determining the cost-effectiveness of RNG projects.

Staff submits the following comments noting the Company has largely implemented Staff's requested changes to Appendix H, and also raising a question about the avoided cost methodology for distribution system capacity cost.

Change One – Updated greenhouse gas (GHG) policy expectations

In the Revised Appendix H NW Natural accurately notes there is currently uncertainty in Oregon around emissions compliance costs for the direct use of natural gas. The Company notes that Washington, through SB 5116 – 2019-20, directs the use of the social cost of carbon for resource planning.[1]

Additionally, the Company has documented the timing of future updates of these policies in Table H.4:

> The GHG compliance cost assumptions will be updated each year after the legislation sessions in each state or when legislation is signed into law.[2]

These changes satisfy Staff's request.

Change Two – Use of a zero or low-price carbon price path beginning as late as 2030

As requested NW Natural revisited their approach to stochastic modeling of annual greenhouse gas emissions compliance costs.

> NW Natural will take the same approach as presented in the most recently filed IRP where the carbon price is an input into the stochastic modeling when the price is uncertain. Figure H.4 illustrates potential carbon price sensitivities that were be included in the stochastic risk analysis.[8] [Sic] Each path is assigned a probability of starting within a given year. Once a policy starts it begins on the trajectory path starting at year 1 cost levels.[3]

It is in footnote 8 that Staff's requested change is documented:

> [8] Figure H.4 shows the compliance carbon price sensitivities used in the 2018 IRP. The Social Cost of Carbon price forecast is pulled from EPA's mid-price of the social cost of carbon based on a 2% discount rate. The three ramping price paths are allowance price forecasts for the cap-and-trade market administered under the California Air and Resource Board. Low, medium and high forecasts are produced by the California Energy Commission through 2030. The low price path is used for NW Natural's base case assumptions. *A "no compliance cost"*

[1] Revised Appendix H Renewable Gas Supply Resource Evaluation Methodology, page H.13, https://edocs.puc.state.or.us/efdocs/HAH/um2030hah144246.pdf

[2] Ibid, page H.17

[3] Ibid, page H.13

> *path was added to the figure per Staff's recommendation No. 14 in Order No. 19-073* [emphasis added].[4]

Staff notes that while this change in *protocol documentation* accurately reflects the requested Staff modification, Staff understands that this change in *practice* will only be evident in Phase Two of the UM 2030 investigation. In Phase Two the Company will file work papers demonstrating the RNG methodology applied to a proposed RNG project.

NW Natural disagreed with the 2030 deadline, and Staff was amenable to using 2026 (NW Natural's proposal) as a deadline.

These changes satisfy Staff's request.

Change Three – Updated inputs, assumptions and forecasts to methodology

Staff again notes NW Natural's addition of Table H.4 to the Revised Appendix H and the clarity it brings to the timing of future updates of inputs and forecasts used in the proposed methodology. These inputs and forecasts include: Resource Under Evaluation; Gas Prices (Deterministic and Stochastic); Peak Day & Annual Load Forecast; GHG Compliance Cost Expectations (Deterministic and Stochastic); Design, Normal, and Stochastic Weather; Gas Supply Capacity Costs (Deterministic and/ Stochastic); and Distribution System Capacity Costs.

Staff notes that besides the schedules NW Natural lays out in Table H.4 the Company documents that it will:

> …update input assumptions and forecasts at any time if unforeseen changes occur that would have a material impact on the evaluation since the previous update.[5]

These changes satisfy Staff's request.

Change Four – Provide a detailed description of the SENDOUT RNG modeling process

In the Revised Appendix H NW Natural includes approximately five pages of new content describing the software application SENDOUT which the Company uses for its supply resource planning model. This includes the following basic description:

> Given specified inputs and constraints…the software implements a linear program (LP) algorithm, which minimizes costs over a planning horizon while still meeting demand requirements. The main inputs that SENDOUT requires are demand forecasts, capacity constraints as well as costs associated with gas supplies, interstate pipeline contract details, and storage.[6]

[4] Ibid, page H.13
[5] Ibid, page H.16
[6] Ibid, page H.17

The company includes additional text, visual diagrams, a screenshot, and a table of key input category parameters, all of which aid Staff's understanding of the process. Staff appreciates this additional information.

Staff highlights a passage from the Company's introductory paragraph to SENDOUT for particular attention:

> The methodology described in this appendix for evaluating RNG should be considered independent of the tool used to complete calculations and evaluation. In other words, SENDOUT can be adapted to fit the methodology; the methodology is not dependent on SENDOUT.[7]

Staff appreciates the Company's clear articulation that the RNG cost-effectiveness methodology is independent from the SENDOUT software. This key point underscores Staff's interest in, and indeed the necessity to, review work papers actually demonstrating the RNG methodology and associated calculations, as applied to a proposed RNG project, as expected in Phase Two of this investigation.

Staff is satisfied that NW Natural has modified Appendix H as requested, and is appreciative of these changes as they have brought additional clarity to the proposed methodology.

Regarding the question of whether this methodology is appropriate for determining the cost-effectiveness of RNG projects, Staff has one area of concern at this time: distribution system capacity cost. Staff understands that, according to the Revised Appendix H:

> The avoided distribution capacity costs (D) applied to on-system supply resources (in this instance RNG) will be consistent with the methodology used for energy efficiency in the most recently filed IRP[12]. [Sic] As load within its service area grows NW Natural must reinforce its distribution system to alleviate bottlenecks where we see pressure drops or other indications of insufficient pressure.[13] [Sic] If these on-system resources inject gas on the correct side of the bottleneck on the peak hour the additional gas supports pressurization of distribution system, which can delay or avoid system reinforcement projects.[8]

Staff does not take issue with the possible benefit of an on-system RNG resource which might inject gas on the correct side of a bottleneck, on the peak hour, and thus support pressurization, which might delay or avoid system reinforcement projects. However Staff is not convinced that, separate from this circumstance, there is a distribution system capacity cost benefit to RNG. A unit of conventional gas saved due to energy efficiency is not consumed and thus does not tax the gas distribution system. However, this logic (and benefit) fails to hold for RNG: a unit of RNG may displace a unit of conventional gas, but it is still consumed, and thus does tax the gas distribution system. Staff acknowledges this dynamic is different from that of the gas transportation system, where an on-system RNG resource does avoid the need to tax the gas transportation system with some units of gas, thus rendering avoided associated transportation costs.

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[7] Ibid, page H.17

[8] Ibid, page H.15

Staff looks forward to studying the impact of this issue when reviewing work papers for a proposed RNG project in Phase Two, and discussing the issue further with the Company.

In closing Staff thanks NW Natural for participation in UM 2030 to date, and for the time and effort spent revising Appendix H. Staff is eager for Phase Two of this investigation.

Dated at Salem, Oregon, this 18th of February, 2020.

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