

Exhibit O

Water Requirements

Mist Resiliency Project
March 2024

Prepared for



NW Natural

Northwest Natural Gas

Prepared by



and



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Table of Contents

1.0 Introduction 1

2.0 Description of Water Use – OAR 345-021-0010(1)(o)(A) 1

3.0 Water Sources – OAR 345-021-0010(1)(o)(B)(C) 1

4.0 Thermal Power Plants – OAR 345-021-0010(1)(o)(D)(E) 2

5.0 Information to Support Issuance of Groundwater/Surface Water Permit or Water Right
Transfer – OAR 345-021-0010(1)(o)(F) 2

6.0 Mitigation Measures – OAR 345-021-0010(1)(o)(G) 2

List of Attachments

Attachment O-1. Water Source Letters

Acronyms and Abbreviations

HDD	horizontal directional drilling
NMCS	North Mist Compressor Station
NWN	Northwest Natural Gas
OAR	Oregon Administrative Rule
PGE	Portland General Electric Company
Project	Mist Resiliency Project

1.0 Introduction

Northwest Natural Gas (NWN), the Certificate Holder, proposes to amend the Site Certificate for its underground natural gas storage facility at the Mist Resiliency Project (Project) in Columbia County, Oregon. Exhibit O contains information pertaining to water use during construction and operation of the Project, as required to meet the submittal requirements in Oregon Administrative Rules (OAR) 345-021-0010(1)(o) paragraphs (A) through (G). There is no Division 22 approval standard that corresponds directly to this exhibit.

2.0 Description of Water Use – OAR 345-021-0010(1)(o)(A)

OAR 345-021-0010(1)(o) Information about anticipated water use during construction and operation of the proposed facility. The applicant must include:

OAR 345-021-0010(1)(o)(A) A description of the use of water during construction and operation of the proposed facility;

This exhibit provides information about the water requirements NWN anticipates for the construction and operation of the Project. NWN will require water for construction-related activities such as hydrostatic testing of pipe, horizontal directional drilling (HDD), and dust abatement. The water is for a one-time use and will be utilized during the construction stage only. NWN will also require water for operations, supplying potable water for the North Mist Compressor Station (NMCS).

3.0 Water Sources – OAR 345-021-0010(1)(o)(B)(C)

OAR 345-021-0010(1)(o)(B) A description of each source of water and the applicant's estimate of the amount of water the facility will need during construction and during operation from each source under annual average and worst-case conditions;

OAR 345-021-0010(1)(o)(C) A description of each avenue of water loss or output from the facility site for the uses described in (A), the applicant's estimate of the amount of water in each avenue under annual average and worst-case conditions and the final disposition of all wastewater;

The total water usage for the Project during construction under worst-case conditions is estimated to be 2 million gallons over a 5-year period. The water is for a one-time use and will be utilized during the construction stage for hydrostatic testing of pipe, HDD construction, and dust abatement. Water for construction will be acquired from one or a combination of Knappa Water Association, Mist Birkenfeld Fire Department, and Clatskanie Scion, LLC.

There will be a small amount of potable water required for operations at NMCS; averaging approximately 72,000 gallons annually.

Waters used will be recycled for additional operations, where possible, to minimize overall consumption. The water will be acquired from a local municipal water source or an existing well at Miller Station and will be trucked to the site.

4.0 Thermal Power Plants – OAR 345-021-0010(1)(o)(D)(E)

OAR 345-021-0010(1)(o)(D) For thermal power plants, a water balance diagram, including the source of cooling water and the estimated consumptive use of cooling water during operation, based on annual average conditions;

OAR 345-021-0010(1)(o)(E) If the proposed facility would not need a groundwater permit, a surface water permit or a water right transfer, an explanation of why no such permit or transfer is required for the construction and operation of the proposed facility;

The Project is not a thermal power plant. Thus, OAR 345-021-0010(1)(o)(D) is not applicable. The proposed Project does not need any groundwater permits, water rights, or surface water permits.

5.0 Information to Support Issuance of Groundwater/Surface Water Permit or Water Right Transfer – OAR 345-021-0010(1)(o)(F)

OAR 345-021-0010(1)(o)(F) If the proposed facility would need a groundwater permit, a surface water permit or a water right transfer, information to support a determination by the Council that the Water Resources Department should issue the permit or transfer of a water use, including information in the form required by the Water Resources Department under OAR Chapter 690, Divisions 310 and 380; and

A groundwater permit is anticipated to be required for the use of the Clatskanie Scion, LLC domestic well located at their sorting yard facility. NWN will obtain the necessary permit from Oregon Water Resources Department.

6.0 Mitigation Measures – OAR 345-021-0010(1)(o)(G)

OAR 345-021-0010(1)(o)(G) A description of proposed actions to mitigate the adverse impacts of water use on affected resources.

The water acquired for the purpose of construction will be held to a minimum.

During hydrostatic testing, the pipelines will be tested as multiple sections; however, the sections may be tested simultaneously, and thus enough water must be available on site to facilitate testing of all lines. If the hydrostatic testing schedule allows water from the first pipeline lateral may be used to test subsequent laterals, thus minimizing the total volume of water required from the water sources listed above.

Water used during the HDD process is used during the drilling process to make drilling fluid. The assumption is that all HDD's will need to take place concurrently, or in close succession, therefore enough water must be available on site for all HDD's. If the construction schedule allows, the excess fluid from the drilling process will be collected and placed through a process to separate the bentonite, sands, and water for reuse on subsequent HDD's. The bentonite and water will be used again in the drilling process. When the drilling process is complete, the water is then used for dust abatement, if needed.

NWN does not propose any mitigation steps because affected resources will not be significantly impacted. The HDDs will be used for installation of the powerline and no hydrostatic testing will be required. Water will be used for HDD construction and dust abatement during the construction process. Water used during construction will be recycled for additional operations, where possible, to minimize overall consumption. Long-term water use includes only the municipal water or well water necessary for the NMCS.

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Attachment O-1. Water Source Letters

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February 8 ,2024

Clatskanie Scion LLC
PO Box 157
Sheridan, OR 97378

Andrew Bauer, RG, LG
NW Natural
250 SW Taylor Street
Portland, OR 97204

Re: NW Natural Mist Resiliency Project (RFA-13) Water Source

Dear Mr. Bauer,

Clatskanie Scion LLC, and Oregon Limited Liability Company is sending you this letter in response to your described intent to utilize our well water system for construction of the facility upgrades described in Request for Amendment 13 – Mist Resiliency Project (RFA 13) to The Mist Underground Natural Gas Storage Field, submitted to the Oregon Energy Facility Siting Council. We understand that NW Natural will apply for all State and Local permits required for NW Natural (or its agents) to utilize this water source to divert or obtain up to approximately 2 -million gallons of water over a five-year period from our system. It is understood this letter will be attached to RFA 13 and any permit applications needed. This proposed water diversion will be for the construction of RFA 13 – Mist Resiliency Project.

Construction is proposed to start in the summer of 2025 and be completed in the fall of 2029. The water diversion will take place over that time-period as construction necessitates. Please accept this letter as acknowledgement that Scion Lumber LLC does not have any objections to NW Natural diverting or obtaining water from our facility or infrastructure for purposes of your proposed project.

Sincerely,



Brian Myers
Clatskanie Scion LLC



92755 Allen Road
Astoria, OR 97103

P (503) 458-6461

F (503) 458-0993

kknappa@centurytel.net

March 12, 2024

Andrew Bauer, RG, LG
NW Natural
250 SW Taylor Street
Portland, OR 97204

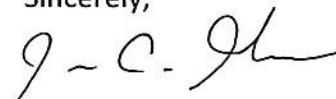
Re: NW Natural Mist Resiliency Project (RFA-13) Water Source

Dear Mr. Bauer,

Knappa Water Association is sending you this letter in response to your described intent to utilize our water utility system for construction of the facility upgrades described in Request for Amendment 13 – Mist Resiliency Project (RFA 13) to The Mist Underground Natural Gas Storage Field, submitted to the Oregon Energy Facility Siting Council. We understand that NW Natural will apply for all State and Local permits required for NW Natural (or its agents) to utilize this water source to divert or obtain up to approximately 2 -million gallons of water over a five-year period from our system. It is understood this letter will be attached to RFA 13 and any permit applications needed. This proposed water diversion will be for the construction of RFA 13 – Mist Resiliency Project.

Construction is proposed to start in the summer of 2025 and be completed in the fall of 2029. The water diversion will take place over that time-period as construction necessitates. Please accept this letter as acknowledgement that Knappa Water Association does not have any objections to NW Natural diverting or obtaining water from our facility or infrastructure for purposes of your proposed project.

Sincerely,



James C. Jackson