

**CONSOLIDATED, RESTATED, AND AMENDED
UNDERGROUND NATURAL GAS STORAGE FACILITY**

SITE CERTIFICATION AGREEMENT

for the

MIST SITE

between

The State of Oregon

acting by and through its

ENERGY FACILITY SITING COUNCIL

and

NORTHWEST NATURAL GAS COMPANY

APRIL 21, 2016

This Certification Agreement is made and entered into in the manner provided by ORS 469.300 through ORS 469.570 and ORS 469.992, by and between the State of Oregon (State), acting by and through its Energy Facility Siting Council (EFSC) and Oregon Natural Gas Development Corporation (ONG), a wholly owned subsidiary of Northwest Natural Gas Company (NWN). Any reference herein to ONG shall also include NWN.

I. SITE CERTIFICATION

- A. This agreement certifies that, to the extent authorized by state law and those warranties and conditions set forth herein, the State approves and authorizes the construction and operation of an underground storage facility for natural gas and related or supporting facilities at the Mist Site, in the manner described in NWN's site certificate application, this agreement, and the record of the administrative hearings held pursuant to ORS 469.300 through ORS 469.570, including supporting testimony filed by ONG or NWN with EFSC. This approval by the State binds the State and all counties, cities and political subdivisions in the State as to the approval of the site and the construction and operation of the underground storage reservoir and related or supporting facilities, subject only to the conditions of this agreement. However, each agency and county that

issues a permit, license or certificate shall continue to exercise enforcement authority over such permit, license or certificate.

- B. This certificate requires NWN to comply with applicable state laws or EFSC rules as they exist on the date it is executed by EFSC, and with stricter state laws or EFSC rules adopted subsequent thereto if compliance with such stricter state laws or EFSC rules is necessary to avoid a clear danger to the public health and safety.
- C. The Site Certificate has been amended 11 times, as follows:
1. Amendment 1, approved October 24, 1987, amended the site map and amended certain conditions regarding monitoring for safety and vibration.
 2. Amendment 2, approved August 2, 1988, amended the site map to allow the addition of a monitoring well.
 3. Amendment 3, approved September 21, 1990, amended the site map to replace two poorly functioning injection/withdrawal wells and add two new wells to increase capacity during the “heating season.”
 4. Amendment 4, approved July 21, 1997, enlarged the site boundary and authorized NWN to develop related and supporting surface facilities associated with new underground storage reservoirs in the Calvin Creek Storage Area, and upgrade related and supporting surface facilities at NWN’s Miller Station. The amendment also authorized NWN to develop and operate new pipelines connecting the storage facilities at Calvin Creek to Miller Station. It authorized the replacement of two reciprocating compressors with one turbine driven compressor with rated horse power of 5,035 BHP at Miller Station, subject to an operating limitation to 6,650 total horsepower.¹ It added new conditions regarding the development of new related and supporting facilities associated with the Calvin Creek Storage area and Miller Station improvements. This amendment increased the total throughput of the facility to 145 million cubic feet per day (MMcfd).

The Site Certificate to Amendment 4 covered the Miller Station improvements and the pipelines and other surface facilities. The underground storage reservoirs were under the Department of Geology and Mineral Industries (DOGAMI) jurisdiction.²

¹ The Council imposed the operating limitation in response to a request for a contested case by United Pipefitters Local 290. See Section III.A, Final Order Approving Amendment 4.

² State law grants DOGAMI broad authority “to regulate the underground storage of natural gas and the drilling and operation of any wells required therefor.” ORS 520.095(16). DOGAMI has exercised this authority through the adoption of comprehensive rules governing underground storage facilities at OAR 632 Division 10.

5. Amendment 5, approved March 13, 1998, replaced the Site Certificate amendment process set forth in section VII of the Site Certificate with the process set forth in Council rules at OAR 345, Division 7.
6. Amendment 6, approved March 30, 1999, authorized NWN to develop related and supporting facilities associated with new underground storage reservoirs in the Calvin Creek storage area. The amendment also removed operating restrictions at the Miller compression station (added in Amendment 4) and added new Site Certificate conditions associated with further development of the Calvin Creek storage area.
7. Amendment 7, approved November 17, 2000, authorized NWN to increase the allowed throughput at the Mist storage facility from 190 million cubic feet per day (“MMcfd”) to 245 MMcfd.
8. Amendment 8, approved October 26, 2001, authorized NWN to increase the allowed throughput from 245 MMcfd to 317 MMcfd and to install a new 7324 BHP turbine driven compressor and a new injection/monitoring well, served by existing pipelines. The compressor authorized by Amendment 8 is subject to EFSC’s carbon dioxide standards at OAR 345 Division 24.
9. Amendment 9, approved December 5, 2003, authorized NWN to increase the allowed throughput from 317 MMcfd to 515 MMcfd. It authorized the construction of improvements at Miller Station, including the installation of new dehydration facilities and gas quality and monitoring equipment. It also authorized NWN to develop related and supporting facilities associated with new underground storage reservoirs in the Calvin Creek storage area. The amendment also allowed NWN to terminate the vibration monitoring program created in Amendment 1.
10. The 1981 site certificate and first nine amendments were stand-alone documents. Amendment 10, approved May 30, 2008, consolidated these documents into a single unified site certificate. Amendment 10 made no substantive changes to the facility or the site certificate.
11. Amendment 11, approved April 21, 2016, authorized NWN to expand the site boundary to include the Adams storage reservoir, as well as the Newton,

When EFSC approved the Site Certificate for the Mist Site in 1981, its jurisdiction included the surface and underground components of the facility. In 1993, the siting law was amended to include within the Council’s jurisdiction only the “surface facility related to an underground gas storage reservoir that, at design injection or withdrawal rates, will receive or deliver more than 50 million cubic feet of natural or synthetic gas per day, and require more than 4,000 horsepower of natural gas compression to operate ***.” ORS 469.300(11)(a)(I). Underground storage reservoirs, injection, withdrawal, and monitoring wells, and individual wellhead equipment remain under DOGAMI’s pervasive authority over the wells and other subsurface components. ORS 469.300(11)(a)(I)(i)-(ii).

Medicine, Crater, and Stegosaur future storage areas. The amendment authorized NWN to develop only the Adams reservoir as a new underground storage area; to construct and operate a new compressor station, the North Mist Compressor Station (NMCS); and, to construct and operate an approximately 12-mile natural gas transmission pipeline, the North Mist Transmission Pipeline (NMTP), between the NMCS and Portland General Electric's Port Westward Industrial Park (PWIP). The amendment authorized NWN to increase the allowable throughput from 515 MMcfd to 635 MMcfd. New conditions were added to ensure compliance with EFSC requirements.

II. SITE DESCRIPTION OF THE UNDERGROUND STORAGE RESERVOIR AND RELATED OR SUPPORTING FACILITIES

The underground storage reservoir and related or supporting facilities to be constructed and operated consist of:³

- A. **Original Site:** Two naturally existing underground gas reservoirs (the Flora and Bruer pools) in portions of 3 sections of land all in Township 6 North, Range 5 West of the Willamette Meridian in Columbia County, Oregon, containing 940 acres, more or less from the surface of the earth to the base of the Clark and Wilson Sands and the stratigraphic equivalent thereof, which in the case of the Bruer pool was identified at a measured depth of 3,095 feet in the REC CC#1 RD 1 well and in the case of the Flora pool was identified at measured depth of 2,760 feet in REC CC#33-3 well and are entirely within project boundaries shown in Appendix 1 attached hereto and by reference incorporated herein; and
- B. **Calvin Creek:** Naturally existing underground gas reservoirs located in the Calvin Creek area, which is located on the south side of the Nehalem River approximately 2.5 miles south of Miller Station, as shown in Appendix 2. The Calvin Creek storage area is connected to the original facility by two 16-inch pipelines which cross under the Nehalem River in a corridor 200 feet wide and terminate at the Busch Valve Station, as shown in Appendix 2. The 6, 8, and 12-inch pipelines begin at the Busch Valve Station and terminate at the well sites. The 6, 8, and 12-inch pipelines are each located within a 200 foot wide corridor that has been characterized in orders approving Amendments 4-9 or changes to the facility that received Department concurrence under OAR 345-027-0050(5).
- C. **Miller Station:** The Miller Compression Station, shown in Appendix 1, is located contiguous to the Bruer Flora storage area. Miller Station contains the natural

³ NWN has adopted nomenclature for the phases of its gas storage operation at Mist. NWN refers to facilities permitted under the original 1981 permit as "phase 1." NWN refers to the development of storage pools in the Calvin Creek area permitted in 1997 under Amendment 4 as "phase 2." NWN refers to development permitted in amendment 6, coupled with the pipeline expansion authorized in amendment 2 to the South Mist Feeder Pipeline Site Certificate, as "phase 3."

gas fired compressors, a staffed operations and maintenance building, and other ancillary process equipment. Emissions from the compressors are permitted under an air contaminant discharge permit (ACDP) issued by the Department of Environmental Quality. Miller Station contains the following compressors:

1. Two 500 HP Caterpillar reciprocating compressors removed pursuant to Amendment 4.
 2. Two 1,350 HP Superior reciprocating compressors not subject to EFSC CO₂ standards.
 3. One 5,035 BHP Allison KC-5 turbine driven compressor installed in 1997 pursuant to Amendment 4 and not subject to EFSC CO₂ standards.
 4. One 7,324 BHP Allison KC-7 turbine driven compressor installed in 2001 pursuant to Amendment 8 and subject to EFSC CO₂ standards.
- D. **North Mist Expansion Area:** The North Mist Expansion Area, shown in Appendix 3, includes the Adams storage area and the North Mist Transmission Pipeline corridor, as well as the Newton, Medicine, Crater, and Stegosaur future storage areas. The North Mist Transmission Pipeline corridor traverses a north, northeast track from the North Mist Compressor Station to the PWIP.
- E. **North Mist Compressor Station:** The North Mist Compressor Station, shown in Appendix 3, is located within the North Mist Expansion Area. The North Mist Compressor Station serves only the Adams reservoir, having the capability not only to compress the gas for injection into and withdrawal from the reservoir, but also to measure and control the gas flow and dehydrate the gas as needed during withdrawal. The North Mist Compressor Station has a total installed compression of approximately 3,600 BHP provided by two gas-fueled compressors.

III. WARRANTIES

In consideration of the execution of this Certification Agreement by the EFSC and pursuant to ORS 469.400(4) and ORS 469.470(3) the following warranties are made:

A. Financial Ability

NWN warrants that it has reasonable assurance of obtaining sufficient financial resources to construct and operate the underground storage facility and related and supporting facilities including funds necessary to cover construction costs, operating costs for the design lifetime of the underground storage facility, and the costs of permanently shutting the underground storage facility down and maintaining it in a safe

condition.

B. Ability to Construct and Operate

NWN warrants that it has the ability to take those actions necessary to ensure that the underground storage facility and related and supporting facilities will be constructed and operated in a manner consistent with its representations regarding effects on the public health, safety and welfare contained in its site certificate application, and supporting testimony and the terms and conditions of this agreement including compliance with all design, quality assurance and personnel qualifications and training requirements.

C. Protection of Public health and Safety

NWN warrants that it will take those actions, including compliance with all State and Federal statutes, rules and regulations, necessary to ensure that construction and operation of the Mist underground storage facility poses no danger to the public health and safety.

IV. CONDITIONS

The following conditions are provided pursuant to the provision of ORS 469.401.

A. State and Federal Law

1. NWN and EFSC shall abide by local ordinances and state law and the rules of the Council in effect on the date of this Site Certificate, except that upon a clear showing of a significant threat to the public health, safety or the environment that requires application of later-adopted laws or rules, EFSC may, pursuant to ORS 469.401(2), require NWN to comply with such later-adopted laws or rules.
2. Nothing in this agreement shall relieve NWN from complying with requirements of Federal laws and regulations which may be applicable to construction and operation of the underground storage reservoir and associated facilities, and with the terms and conditions of any permits and licenses which may be issued to NWN by pertinent federal agencies.

B. Control of Site

Prior to commencement of construction of the facility NWN shall present evidence satisfactory to EFSC that NWN has access to and full control over the underground reservoirs and sites for the related and supporting facilities, whether by ownership, lease or easement or otherwise as necessary to: Construct and maintain the underground reservoir, compressors, pipelines, injection withdrawal and other wells, and access roads to the facility necessary for the construction, operation, monitoring

and regulation of the underground storage reservoir.

C. General Conditions

1. **Location:** Related or supporting facilities shall not be located at less than the minimum distances from any existing permanent habitable dwelling specified in OAR 345-024-0030 in effect on the date of this Certificate. [Amendment 10]
2. **Pipelines:** All pipelines in the project site shall be designed, built and operated in compliance with the requirements of the U.S. Department of Transportation set forth in Title 49, Code of Federal Regulations Part 192 subpart C in effect on the date of this Certificate, as administered by the Public Utility Commissioner of Oregon.
3. **Noise:** All compressors, pipelines, roads and related facilities shall be designed, constructed, installed and operated in such a manner so as not to violate the standards specified by the Oregon Department of Environmental Quality in OAR 340-35-35 (Noise Control Regulation) in effect on the date of this Certificate.
4. **Wells:** Operation, maintenance and abandonment of all wells on the site shall be in compliance with the applicable provision of ORS Chapter 520 and OAR Chapter 632 Division 10, in effect on the date of this Certificate, as administered by DOGAMI.
5. **Monitoring Program:** Deleted and superseded by conditions in Amendment 4. [Amendments 1,9, 10]
6. **Water Quality Protection:** NWN shall construct, build and operate surface facilities related to the underground gas storage reservoir so as to prevent emissions of pollution into ground or surface water in violation of rules at OAR Chapter 340 administered by DEQ. [Amendment 10]
7. **Fragile Soils:** Deleted and superseded by specific conditions related to soils. [Amendment 10]
8. **Socio-Economic Impacts:** Deleted and superseded by specific conditions related to public services. [Amendment 10]
9. **Water Rights:** NWN shall design, build and operate the surface facilities related to the underground gas storage reservoir in accordance with limited use licenses issued by the Department of Water Resources under Amendments 4-9. [Amendment 10]

10. **Applicants' Representations:** The facility shall be designed, built and operated in compliance with the representations made by ONG or NWN in satisfaction EFSC standards at OAR 345 Divisions 22 and 24. [Amendment 10]
11. **Gas Pressure:** NWN shall notify EFSC and Columbia County when it applies to DOGAMI for an increase in reservoir gas pressure. [Amendments 1, 10]

V. APPROVALS

The following approvals, permits, licenses, or certificates by governmental agencies are considered necessary to construct and operate the surface facilities related to the underground gas storage reservoir. Consistent with provisions of ORS 469.401 and 469.504 and any administrative rules adopted thereunder, NWN shall make application for these approvals, permits, licenses, or certificates, paying all applicable fees prior to construction of the facility or later as appropriate.

- A. **Department of Geology and Mineral Industries:** Well drilling and other permits required by ORS Chapter 520 and OAR Chapter 632 Division 10.
- B. **Department of Environmental Quality:** Air Contaminant Discharge Permit for the operation of the Mist underground storage facility.
- C. **Public Utility Commissioner:** Compliance inspection of pipelines, pursuant to Title 49 CFR, Part 192 as necessary.
- D. **Department of Consumer and Business Services:** Pressure vessel inspection, State Fire Marshall approvals and plan review of construction drawings.
- E. **Department of Transportation:** Single trip permits for oversize or overweight loads.
- F. **Columbia County:** Building, plumbing, electrical permits, and conditional land use permits. [Amendment 1]

VI. AMENDMENT OF SITE CERTIFICATE AGREEMENT

Amendments to this Site Certificate shall be governed by duly adopted rules of the Energy Facility Siting Council for the amendment of site certificates. As of the date of the execution of Amendment 11, the Council rules applicable to the amendment of this Site Certificate are OAR 345-027-0050, 0060, 0070 and 0080.

Changes to the facility that involve a change to the site boundary shall be reviewed as set forth in OAR 345-027-0050(1). Changes to the facility that involve the installation of pipelines or other surface facilities on land that is within the site boundary but that has not been characterized (ground truthed) in a previous Council order can be implemented without an

amendment subject to Department review described at OAR 345-027-0050(5). Changes to the facility that involve the installation of pipelines or other surface facilities that have been characterized in a previous Council order or Department concurrence under section (5) may be implemented and reported under OAR 345-027-0050(4). In addition to these circumstances, pursuant to OAR 345-027-0050(5), NWN may ask the Department to determine whether a proposed change requires an amendment.

VII. CONDITIONS UNDER AMENDMENTS

A. Conditions related to EFSC Rules at OAR Chapter 345 Division 27

(Amendments 1 – 10)

1. Prior to any amendment that changes the site, NWN shall submit to the Oregon Department of Energy (ODOE) a legal description of the Project site to be appended to the Site Certificate prior to construction. [Amendments 4, 8]
2. The Project shall be designed, constructed, operated and retired:
 - a. Substantially as described in the amended Site Certificate;
 - b. In compliance with the requirements of ORS Chapter 469, applicable Council rules, and applicable state and local laws, rules and ordinances in effect at the time the Council issues or amends the Site Certificate; and
 - c. In compliance with all applicable permit requirements of other state agencies. [Amendment 4]
3. No construction, including clearing of a right of way, except for the initial survey, may commence on any part of the facility until the certificate holder has adequate control, or has the statutory authority to gain control, of the lands on which clearing or construction will occur. [Amendment 4]
4. NWN shall, to the extent practical, prevent any condition from developing on the Project site that would preclude restoration of the site to a useful condition. [Amendments 4, 10]
5. NWN shall restore vegetation to the extent practicable and shall landscape portions of the area disturbed by Project construction in a manner compatible with its surroundings and/or proposed future use. Upon completion of Project construction, NWN shall dispose of all temporary structures not required for future use and all timber, brush, refuse and

flammable materials or combustible material resulting from the clearing of land or from construction of the facility. [Amendment 4]

6. NWN may operate all compressors installed as of January 11, 2008 at full rated capacity.⁴ [Amendments 6, 10]
7. NWN shall notify ODOE, the State Building Codes Division and DOGAMI promptly if site investigations or trenching reveal that conditions in the foundation rocks differ significantly from those described in the Application for Amendment 6, 8, or 9. The Council may, at such time, require the certificate holder to propose additional mitigating actions in consultation with the Department of Geology and Mineral Industries and the Building Codes Division. [Amendment 6]
8. NWN shall notify ODOE, the State Building Codes Division and DOGAMI promptly if shear zones, artesian aquifers, deformations or clastic dikes are found at or in the vicinity of the site. [Amendment 6]
9. NWN shall submit to ODOE copies of all incident reports involving the certified pipeline required under 49 CFR § 191.15. [Amendment 6, 11]
10. Pursuant to Amendment 11, the permitted daily throughput of the facility is 635 MMcfd. [Amendments 7, 8, 9, 11]
11. NWN shall establish, in consultation with affected state agencies and local governments, monitoring programs as required by the Site Certificate for impact on resources protected by the standards of OAR Chapter Divisions 22 and 24, and to ensure compliance with the Site Certificate. [Amendment 6]
12. If NWN becomes aware of a significant environmental change or impact attributable to the facility, NWN shall submit ODOE as soon as possible a written report identifying the issue and assessing the impact on the facility and any affected Site Certificate conditions

B. Conditions related to EFSC Rules at OAR Chapter 345 Division 27

(Amendment 11)

1. The certificate holder shall begin construction of the components authorized by Amendment 11 within two years after the effective date of the amended site certificate. Under OAR 345-015-0085(8), the site certificate is effective

⁴Amendment 4, issued in 1997, contained a condition limiting total horsepower at Miller Station. The Council removed this limitation in 1999 under Amendment 6. No further operating limits apply to compression at Miller Station.

upon execution by the Council chair and the certificate holder. [Amendment 11 General Standard Condition 1] [Mandatory Condition 345-027-0020(4)]

2. The certificate holder shall complete construction of the components authorized by Amendment 11 within four years of the effective date of the amended site certificate. [Amendment 11 General Standard Condition 2] [Mandatory Condition 345-027-0020(4)]
3. The certificate holder shall submit a legal description of the Amendment 11 site to the Oregon Department of Energy within 90 days after beginning operation of the components authorized by Amendment 11. The legal description required by this rule means a description of metes and bounds or a description of the site by reference to a map and geographic data that clearly and specifically identify the outer boundaries that contain all parts of the facility. [Amendment 11 Mandatory Condition 1] [OAR 345-027-0020(2)]
4. The certificate holder shall design, construct, operate and retire the components authorized by Amendment 11:
 - a. Substantially as described in the amended Site Certificate;
 - b. In compliance with the requirements of ORS Chapter 469, applicable Council rules, and applicable state and local laws, rules and ordinances in effect at the time the Site Certificate is issued; and
 - c. In compliance with all applicable permit requirements of other state agencies.

[Amendment 11 Mandatory Condition 2] [OAR 345-027-0020(3)]

5. Except as necessary for the initial survey or as otherwise allowed for wind energy facilities, transmission lines or pipelines under this section, the certificate holder shall not begin construction, as defined in OAR 345-001-0010, or create a clearing on any part of the site until the certification holder has construction rights on all parts of the site. For the purpose of this rule, "construction rights" means the legal right to engage in construction activities. For wind energy facilities, transmission lines or pipelines, if the certificate holder does not have construction rights on all or parts of the site, the certificate holder may nevertheless begin construction, as defined in OAR 345-001-001, or create a clearing on a part of the site if the certificate holder has construction rights on that part of the site and:
 - a. The certificate holder would construct and operate part of the facility on that part of the site even if a change in the planned route of a

transmission line or pipeline occurs during the certificate holder's negotiations to acquire construction rights on another part of the site; or

b. *[relates to wind energy facilities and therefore not applicable]*

[Amendment 11 Mandatory Condition 3] [OAR 345-027-0020(5)]

6. The certificate holder shall prevent the development of any conditions on the site that would preclude restoration of the site to a useful, non-hazardous condition to the extent that prevention of such site conditions is within the control of the certificate holder. [Amendment 11 Mandatory Condition 4] [OAR 345-027-0020(7)]
7. Upon completion of construction, the certificate holder shall restore vegetation to the extent practicable and shall landscape all areas disturbed by construction in a manner compatible with the surroundings and proposed use. Upon completion of construction, the certificate holder shall remove all temporary structures not required for future operation and dispose of all timber, brush, refuse and flammable or combustible material resulting from clearing of land and construction of the facility. [Amendment 11 Mandatory Condition 5] [OAR 345-027-0020(11)]
8. The certificate holder shall notify the department, the State Building Codes Division and the Department of Geology and Mineral Industries promptly if site investigations or trenching reveal that conditions in the foundation rocks differ significantly from those described in Request for Amendment No. 11. After the department receives the notice, the Council may require the certificate holder to consult with the Department of Geology and Mineral Industries and the Building Codes Division and to propose mitigation actions. [Amendment 11 Mandatory Condition 6] [OAR 345-027-0020(13)]
9. The certificate holder shall notify the department, the State Building Codes Division and the Department of Geology and Mineral Industries promptly if shear zones, artesian aquifers, deformations or clastic dikes are found at or in the vicinity of the site. [Amendment 11 Mandatory Condition 7] [OAR 345-027-0020(14)]
10. If the certificate holder becomes aware of a significant environmental change or impact attributable to the Amendment 11 components, the certificate holder shall, as soon as possible, submit a written report to the department describing the impact on the facility and any affected site certificate conditions. [Amendment 11 Mandatory Condition 8] [OAR 345-027-0020(6)]

11. Before any transfer of ownership of the facility or ownership of the site certificate holder, the certificate holder shall inform the department of the proposed new owners. The requirements of OAR 345-027-0010 apply to any transfer of ownership that requires a transfer of the site certificate. [Amendment 11 Mandatory Condition 9] [OAR 345-027-0020(15)].
 12. The certificate holder shall design, construct and operate all pipelines in accordance with:
 - a. The requirements of the U.S. Department of Transportation as set forth in Title 49, Code of Federal Regulations Part 192. [OAR 345-027-0023(3)(a)]
 - b. The certificate holder shall develop and implement a program using the best available practicable technology to monitor the pipeline to ensure protection of public health. [Amendment 11 Site Specific Condition 2] [OAR 345-027-0023(3)(b)]
 13. The corridor for the North Mist Transmission Pipeline, associated with Amendment 11, shall be as shown in Request for Amendment 11, Exhibit C, Project Location and Maps. Changes in pipeline corridor shall require prior Council approval. [Amendment 11 Site Specific Condition 3] [OAR 345-027-0023(5)]
 14. Pursuant to Amendment 11, the site boundary is 5,472 acres and the permitted daily throughput of the facility is 635 MMcfd. [Amendment 11 Site Specific Condition 4] [OAR 345-027-0023(6)]
- C. Conditions related to EFSC Standards at OAR Chapter 345 Division 22
1. Conditions Generally Applicable to the Facility
 - a. Socio Economic Impact
 - (1) NWN shall provide the Mist Birkenfield Rural Fire Protection District with an annual tour of the Miller Station to familiarize personnel with the facility in case of an emergency. [Amendment 4]
 - b. Waste Minimization
 - (1) NWN shall transport construction waste materials to an appropriate recycling facility or to an approved sanitary landfill for nonrecyclable goods. NWN shall collect scrap steel and welding rods for transportation to a recycling facility. Silt fence and straw

bales shall be transported to an approved landfill. [Amendment 4, 11]

- (2) Nonhazardous wastes associated with the Project such as crankcase oil, triethylene glycol and oil/water separator oils shall be collected, transported and recycled by a vendor as bunker fuel. Oily rags and oil filters shall be incinerated off site by a permitted disposal facility. Granular activated carbon will be collected and sent to a permitted facility for regeneration. NWN may use alternate methods of disposal if approved by ODOE. [Amendment 4, 11]
- (3) Water used for pressure testing shall be disposed of in a manner consistent with approved permits. [Amendment 4, 11]

c. Retirement

- (1) Prior to termination of the Site Certificate, NWN shall retire the Project site sufficiently to restore it to a useful condition. Site restoration shall include, but not be limited to, steps to:
 - (a) Remove any hazardous material stored in buildings or located in process equipment and dispose of them following applicable state hazardous materials statutes and rules,
 - (b) Disassemble the buildings and steel structures, break up the concrete slabs, and dispose of these materials either as scrap or at an appropriate landfill,
 - (c) Remove above ground portions of all pipelines,
 - (d) If necessary, revegetate the area, including pipeline rights-of-ways, to prevent erosion and encourage habitat development,
 - (e) Inspect all pipelines and remove any hazardous materials found, and dispose of hazardous materials generated from cleaning the pipelines in accordance with applicable state hazardous materials statutes and rules. [Amendment 4, 11]

2. Conditions Applicable to Amendment 4

a. Structural and Soils

- (1) The pipeline corridor shall be as shown on Figure G-1 of Exhibit 10 of the Application for Amendment 4. Changes in pipeline corridor shall require prior Council approval. [Amendment 4]
- (2) NWN shall construct modifications to Miller Station substantially in accordance with the recommendations in Exhibit 11, Section 7 of the Application for Amendment 4. In the vicinity of the new compressor building, the adjacent equipment, in the dehydration area and in areas where there will be heavy loads and traffic, all fill will be classed as "structural fill." This fill will utilize imported soil and will be compacted as specified in Section 7.1.3 of Exhibit 11 of the Application for Amendment 4. For trench backfill in unimproved areas (no surface traffic), the backfill above pipe will consist of removed soil placed with nominal compaction, as specified in Section 7.1.3 of Exhibit 11 of the Application for Amendment 4. [Amendment 4]
- (3) NWN shall design and construct pipelines substantially in accordance with the recommendations in Section 8 of Exhibit 11 of the Application for Amendment 4. [Amendment 4]

b. Fish and Wildlife Habitat

- (1) NWN shall utilize directional drilling for the pipeline installation at the Nehalem River. Drilling shall begin at points no closer than 300 feet from the river bank and shall place the pipeline at least 20 feet below the river bed. [Amendment 4]
- (2) NWN shall minimize impacts for the Category 2 wetland north of highway 202 by taking steps including but not limited to:
 - (a) using a single trench for dual pipelines and keeping the installation as narrow as possible while remaining consistent with safety and practical installation requirements.
 - (b) timing construction for the dry time of year, not to extend beyond November 15, 1997.

- (c) separating and returning topsoil to the trench backfill surface for pipelines and installing clay barriers at each end of the wetland crossing.
 - (d) avoiding the rest of the wetland during construction by use of the existing road through the wetland for construction equipment. [Amendment 4]
- (3) NWN shall restore habitat in the Category 2 wetland to the north of highway 202 to preconstruction conditions within two growing seasons. [Amendment 4]
 - (4) NWN shall minimize the loss of habitat in forested areas and clear cuts by allowing vegetation to grow back in the construction corridor except for the 40 foot area directly over the pipeline. NWN shall restore surface vegetation in farmed areas. [Amendment 4]
 - (5) NWN shall time the crossing of any small tributaries or creeks during the dry period, and shall restore the stream bed and stream banks before the rainy season, not to extend beyond November 15, 1997. [Amendment 4]
 - (6) NWN shall minimize impact to wetlands by separating the upper foot of topsoil from the rest of the trench spoils and replacing it on the top of the trench. [Amendment 4]
 - (7) NWN shall filter any water pumped from the trench during construction to remove sediments before it is returned to the wetland. [Amendment 4]
 - (8) NWN shall complete pipeline construction through the wetland by November 15, 1997. [Amendment 4]
- c. Historic, Archeological and Cultural
- (1) A qualified archeologist shall monitor all grading and excavation activities associated with boring operations. If any artifacts or other cultural materials that might qualify as “archeological objects” as defined at ORS 358.905(1)(c) are identified, ground disturbing activities will cease until the archeologist can evaluate their potential significance. If the material is likely to be eligible for listing on the National Register of Historic Places or to qualify as archeological objects or sites, as defined at ORS 358.905(j)(c), NWN shall consult with the State Historic Preservation Office (“SHPO”)

and will comply with the archeological permit requirement administered by the SHPO as set forth in OAR 736 Division 51. [Amendment 4]

3. Conditions Applicable to Amendment 6

a. Structural and Soils

- (1) The pipeline corridor shall be substantially as shown on Figure G-I of Exhibit 14 of the Application for Amendment 6. NWN may change the pipeline corridor by obtaining ODOE or EFSC concurrence as described in OAR 345-027-0050. [Amendments 6, 10]
- (2) NWN shall design and construct the pipelines substantially in accordance with the recommendations in Sections 5.2 and 5.3 of Exhibit 14 of the Application for Amendment 6. [Amendment 6]

b. Land Use

- (1) NWN shall provide Columbia County Land Development Services (LDS) with drawings showing the final locations of all wells (underground natural gas storage facilities) and pipelines as constructed. [Amendment 6]
- (2) NWN shall submit to LDS a letter from the Oregon Department of Transportation that all of ODOT's permit requirements have been met. [Amendment 6]
- (3) NWN shall submit to LDS a letter from the Mist-Birkenfeld & Vernonia Fire Districts stating that all fire safety concerns have been addressed. [Amendment 6]

c. Fish and Wildlife Habitat

- (1) NWN shall return the construction area to approximately its original grade, and revegetate the disturbed areas using appropriate plant species. NWN will allow and encourage natural vegetation to return in the disturbed area, except that NWN may prevent large trees from growing in the permanent maintenance right-of-way which shall be as narrow as practicable and no greater than 40 feet wide. [Amendment 6]
- (2) During construction NWN shall use appropriate erosion control and sediment control measures, such as those in Washington County

Erosion Control Plans Technical Guidance Book (February 1994), as necessary to prevent material from leaving the construction area or adversely affecting water quality in nearby and downslope streams. NWN shall also use best management practices (BMP) and follow Oregon Department of Forestry, Forest Practice Administrative Rules during construction. [Amendment 6]

4. Conditions Applicable to Amendments 8 and 9

a. Structural and Soils

- (1) NWN shall design the modifications authorized by Amendments 8 and 9 in accordance with the seismic design factors show in Table 2 of GeoEngineers' September 18, 2001 report "EFSC Structural Standard Information, Miller Station Gas Compression Facility, Mist, Oregon." [Amendments 8, 9]
- (2) NWN shall design, engineer and construct the modifications authorized by Amendments 8 and 9 substantially in accordance with the recommendations in the section entitled "Non-Seismic Design and Construction Recommendations" in GeoEngineers' September 18, 2001 report "EFSC Structural Standard Information, Miller Station Gas Compression Facility, Mist, Oregon." [Amendments 8, 9]

5. Conditions Applicable to Amendment 9

a. Structural and Soils

- (1) During construction authorized by Amendment 9, NWN shall implement the recommendations in Exhibit 6, section 7 of the application for Amendment 9. [Amendment 9]

b. Fish and Wildlife Habitat

- (1) During the construction under Amendment 9, NWN will minimize removal of vegetation to the extent practical. [Amendment 9]
- (2) Where an Amendment 9 pipeline is installed adjacent to an existing one, the permanent easement will be only 10 feet wider than the existing one. However, where the Schlicker pool pipeline approaches the Busch valve station, the permanent easement may be 30 feet wider than the existing one to allow installation of surface equipment. [Amendment 9]

- (3) NWN will use the erosion control measures required for the NPDES 1200-C (a federal permit) and Best Management Practices (BMPs) to prevent erosion of soil into the ephemeral stream channel during construction of the Amendment 9 pipelines. [Amendment 9]
 - (4) Following construction of the pipelines for Amendment 9, NWN will allow and encourage native vegetation to grow back in the temporary construction easement and staging areas. [Amendment 9]
 - (5) Where revegetation is necessary in the permanent right-of-way for the pipelines constructed under Amendment 9, NWN will plant vegetation that provides forage for big game species. [Amendment 9]
 - (6) During pipeline construction for Amendment 9, NWN will restore any stream channels to pre-construction conditions, including grades, contours, morphology and substrate and will take measures to prevent scouring of stream slopes. [Amendment 9]
 - (7) At stream crossings, crews will use hand tools to control [right-of-way] vegetation in the permanent easement for the Amendment 9 pipelines. [Amendment 9]
 - (8) Construction of the Busch well pipeline will follow the US Fish and Wildlife Service scheduling and distance guidelines to avoid adverse impact to the bald eagle nest. [Amendment 9]
6. Conditions Applicable to Amendment 11

a. Structural Standard

- (1) The site certificate holder shall design and build the components authorized by Amendment 11 according to the Oregon Structural Specialty Code which uses the 2012 International Building Code, with current amendments by the state of Oregon and local agencies. [Amendment 11 Structural Standard Condition 1]
- (2) The site certificate holder shall design, engineer, and construct the components authorized by Amendment 11 to avoid dangers to human safety presented by seismic hazards affecting the site that are expected to result from all maximum probable seismic events. Seismic hazards include ground shaking, landslide, liquefaction, lateral spreading, tsunami inundation, fault displacement, and

subsidence. [Amendment 11 Structural Standard Condition 2] [OAR 345-027-0020(12)]

- (3) Prior to beginning construction of Amendment 11 components, the site certificate holder shall complete the following geotechnical investigations. The final scope of the studies will be determined by NWN's geotechnical consultants and confirmed by the department in consultation with DOGAMI. The additional studies shall include:
- Civil site plans for the NMCS, the utility conduit, and NMTP alignments rights of way. Civil site plans will include:
 - Existing topography,
 - Proposed grading (cut and fill),
 - Alignment of the utility conduit and NMTP,
 - Existing utilities, culverts, and other site features within the rights of way, and
 - Final positioning of equipment within the NMCS area.
 - Site-specific geotechnical studies for the proposed cut and fill slopes along the pipeline and utility conduit alignments, following the development of civil site plans and site grading delineation. Site-specific geotechnical studies will include slope stability analysis, as needed, to provide recommendations to mitigate potential adverse impacts to slope stability that may result from cutting into hillsides adjacent to existing roadways. The study will also include recommendations for restoring site grades to pre-construction conditions, and recommendations for engineered fill slopes will include specifications for materials to be used, adequacy of native soils to be used as fill, lift thickness, and compaction criteria for wet and dry weather conditions.
 - Site-specific geotechnical evaluation for the development of the NMCS, once final site grading and final facility location is determined. Additional borings will be completed to define geotechnical conditions at the proposed equipment locations at the site once final layout is determined. If cuts and fills greater than five feet are anticipated, additional borings will be completed in cut and fill slope locations to evaluate the stability of cut and fill slopes. The final geotechnical engineering report will include the information and assessment identified in Exhibit H, Section H.5.
 - Evaluation of the two landslides identified along the utility conduit alignment to better define risk to adjacent logging

road and utility conduit, and to evaluate potential road stabilization options to be discussed with the road owner.

[Amendment 11 Structural Standard Condition 3]

- (4) The site certificate holder shall include the identified landslide hazards in its established landslide monitoring program. If future investigations identify additional landslide hazards that may adversely impact the Amendment 11 components, those landslide hazards shall also be added to the landslide monitoring program.

[Amendment 11 Structural Standard Condition 4]

b. Soil Protection

- (1) During construction of the Amendment 11 components, the certificate holder shall conduct all construction work in compliance with a final Erosion and Sediment Control Plan that is satisfactory to the Oregon Department of Environmental Quality as required under the National Pollutant Discharge Elimination System Construction Stormwater Discharge General Permit 1200-C. [Amendment 11 Soil Protection Condition 1]
- (2) During construction of Amendment 11 components occurring partially or wholly on privately-owned agricultural land, the certificate holder shall implement the Agricultural Impact Mitigation Plan, provided as Attachment D of this order. [Amendment 11 Soil Protection Condition 2]
- (3) Prior to beginning construction of Amendment 11 components, the certificate holder shall prepare and submit to the department for review and approval a construction spill prevention and management plan (SPMP) for implementation during construction. The construction SPMP shall include at a minimum the following procedures and best management practices (BMPs):
 - Use secondary containment around stationary equipment (including drill rigs, drilling fluid pumps, centrifugal pumps, and mobile fluid storage tanks),
 - Use drip pans during equipment maintenance,
 - Properly store materials on-site,
 - Maintain spill kits at construction areas,
 - Refuel all equipment at least 100 feet away from water bodies and delineated wetlands,

- Train employees on the BMPs and procedures included in the construction SPMP, and
- The requirements for oil and hazardous material emergency response consistent with DEQ rules at OAR 340, Division 142.

[Amendment 11 Soil Protection Condition 3]

- (4) During horizontal directional drilling (HDD) associated with components authorized by Amendment 11, the certificate holder shall implement the procedures in the Inadvertent Return Response Plan (IRRP), provided as Attachment F of this order. The certificate holder shall employ a monitor during HDD to watch for surface fluid release at the entry and exit points of the HDD drill and the area within 150 feet of the entry/exit locations. The certificate holder shall add the Oregon Department of Energy to the list of agencies that will be contacted by phone within 24 hours of an inadvertent return that impacts a wetland or perennial stream. The certificate holder shall contact the department within 48 hours if there is an inadvertent return that does not impact wetlands or waterways but does require issuance of a containment installation order.

[Amendment 11 Soil Protection Condition 4]

- (5) Prior to operation of components authorized by Amendment 11, the certificate holder shall prepare and submit to the department for review and approval an operational Spill Prevention and Management Plan (SPMP). The operational SPMP shall contain at a minimum the following procedures and best management practices:
- Install containment diking at the NMCS designed to hold chemical spills.
 - Install curbing at the NMCS buildings to prevent spills and leaks from being released to the environment, and routing runoff to treatment or control areas.
 - Install drip pans to contain very small volumes of leaks, drips, and spills.
 - Maintenance of on-site absorbent socks and absorbent granules to control and clean-up a spill or release.
 - Train employees on the BMPs and procedures included in the operational SPMP.
 - The requirements for oil and hazardous material emergency response pursuant to DEQ rules at OAR 340, Division 142.

[Amendment 11 Soil Protection Condition 5]

c. Land Use

- (1) During construction and operation, the certificate holder shall design and construct signs for the Amendment 11 components in compliance with sign requirements of Columbia County Zoning Ordinance (CCZO) 308.6. [Amendment 11 Land Use Condition 1]
- (2) Prior to construction of components authorized by Amendment 11, the certificate holder shall coordinate with and provide written notification to surface property owners on timing and location of tree removal and other site preparation and ground disturbing activities associated with the NMCS and the I/W well pad sites. Copies of written notification to each affected surface property owner shall be maintained onsite and made available to the department upon request. [Amendment 11 Land Use Condition 2]
- (3) Prior to construction of components authorized by Amendment 11, the certificate holder shall provide written notification to the department verifying whether the NMCS parcel and I/W well pad site would be leased or purchased from the current landowners. If one or both sites are purchased, the certificate holder shall comply with the following requirements:
 - (a) The certificate holder shall file a waiver of remonstrance with Columbia County certifying that the certificate holder would not remonstrate against or begin legal action or suit proceeding to cause or persuade the owner or operator of any farm or forest lands to modify the conduct or legal and accepted farm or forest operations. A copy of the waiver of remonstrance shall be provided to the department and maintained onsite for the duration of construction and made available to the department upon request.
 - (b) The certificate holder shall secure a partition for the parcel in accordance with Columbia County Subdivision and Partitioning Ordinance and shall ensure that the purchased site complies with applicable parcel dimensions, County Road fire safety design standards, and setbacks. A copy of the approved partition shall be maintained onsite for the duration of construction and operation and made available to the department upon request. [Amendment 11 Land Use Condition 3]

- (4) Prior to construction or placement of a utility or facilities within a public road or county right-of-way, the certificate holder shall apply for and obtain a Public Road Construction Permit from the Columbia County Road Department. A copy of the road permit shall be maintained onsite and made available to the department upon request. [Amendment 11 Land Use Condition 4]
- (5) Prior to construction of Amendment 11 components, the certificate holder shall apply for and obtain a County Road access permit (part of the County Building Permit) from the Columbia County Land Development Services Department. A copy of the County Road access permit shall be maintained onsite and made available to the department upon request. [Amendment 11 Land Use Condition 5]
- (6) Prior to construction of the North Mist Transmission Pipeline, associated with Amendment 11, the certificate holder shall apply for and obtain a Floodplain Development permit from Columbia County Land Development Services Department for the NMTP for areas where the pipeline corridor is located in a Flood Hazard Area. A copy of the Development Permit shall be maintained onsite and made available to the department upon request. [Amendment 11 Land Use Condition 6]
- (7) Prior to construction of the North Mist Transmission Pipeline, associated with Amendment 11, the certificate holder shall apply for and obtain a Stream/Wetland Protection permit from Columbia County Land Development Services Department for the NMTP for areas where the pipeline corridor is located in a Wetland Area overlay zone. [Amendment 11 Land Use Condition 7]

d. Retirement and Financial Assurance

- (1) Before beginning construction of the components authorized by Amendment 11, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition. The certificate holder shall maintain a bond or letter of credit in effect at all times until the Amendment 11 components have been retired. The Council may specify different amounts for the bond or letter of credit during construction and during operation of the Amendment 11 components. [OAR 345-027-0020(8)] [Amendment 11 Retirement and Financial Assurance Condition 1]

- (2) Prior to construction of the components authorized by Amendment 11, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit naming the State of Oregon, acting by and through the Council, as beneficiary or payee. The initial bond or letter of credit amount for the Amendment 11 components is \$3.030 million (in first quarter 2015 dollars), to be adjusted to the date of issuance, and adjusted on an annual basis thereafter, as described in sub-paragraph (b) of this condition:
 - (a) The certificate holder may adjust the amount of the initial bond or letter of credit based on the final design configuration of the Amendment 11 components. Any revision to the restoration costs should be adjusted to the date of issuance as described in (b) and subject to review and approval by the Council.
 - (b) The certificate holder shall adjust the amount of the bond or letter of credit using the following calculation:
 - (1) Adjust the amount of the bond or letter of credit (expressed in first quarter 2015 dollars) to present value, using the U.S. Gross Domestic Product Implicit Price Deflator, Chain-Weight, as published in the Oregon Department of Administrative Services' "Oregon Economic and Revenue Forecast" or by any successor agency and using the first quarter 2015 index value and the quarterly index value for the date of issuance of the new bond or letter of credit. If at any time the index is no longer published, the Council shall select a comparable calculation to adjust first quarter 2015 dollars to present value.
 - (2) Round the result total to the nearest \$1,000 to determine the financial assurance amount.
 - (c) The certificate holder shall use an issuer of the bond or letter of credit approved by the Council.

- (d) The certificate holder shall use a form of bond or letter of credit approved by the Council. The certificate holder shall describe the status of the bond or letter of credit in the annual report submitted to the Council under OAR 345-026-0080. The bond or letter of credit shall not be subject to revocation or reduction before retirement of the facility site.

[Amendment 11 Retirement and Financial Assurance Condition 2]

- (3) The certificate holder shall retire the components associated with Amendment 11 if the certificate holder permanently ceases construction or operation of the Amendment 11 components. The certificate holder shall retire the components associated with Amendment 11 according to a final retirement plan approved by the Council, as described in OAR 345-027-0110. The certificate holder shall pay the actual cost to restore the site to a useful, non-hazardous condition at the time of retirement, notwithstanding the Council's approval in the amended site certificate of an estimated amount required to restore the site. [OAR 345-027-0020(9)]

[Amendment 11 Retirement and Financial Assurance Condition 3]

- (4) If the Council finds that the certificate holder has permanently ceased construction or operation of the components authorized by Amendment 11 without retiring the facility according to a final retirement plan approved by the Council, as described in OAR 345-027-0110, the Council shall notify the certificate holder and request that the certificate holder submit a proposed final retirement plan to the department within a reasonable time not to exceed 90 days. If the certificate holder does not submit a proposed final retirement plan by the specified date, the Council may direct the department to prepare a proposed final retirement plan for the Council's approval. Upon the Council's approval of the final retirement plan, the Council may draw on the bond or letter of credit described in section (8) to restore the site to a useful, non-hazardous condition according to the final retirement plan, in addition to any penalties the Council may impose under OAR Chapter 345, Division 29. If the amount of the bond or letter of credit is insufficient to pay the actual cost of retirement, the certificate holder shall pay any additional cost necessary to restore the site to a useful, non-hazardous condition. After completion of site restoration, the Council shall issue an order to terminate the site certificate if the Council finds that the facility has been retired according to the approved final retirement plan. [OAR 345-027-0020(16)]

[Amendment 11 Retirement and Financial Assurance Condition 4]

e. Fish and Wildlife Habitat

- (1) Prior to construction of components authorized by Amendment 11, the certificate holder shall conduct a field-based habitat, fish, and wildlife survey of the area within and extending to the site boundary of the Amendment 11 components. Following completion of the field survey, the certificate holder shall provide the department and the Oregon Department of Fish and Wildlife (ODFW) the report containing the results of the survey, including a map set of the components associated with Amendment 11, showing all project components, the habitat categories of all areas that will be affected by the project, and the locations of any sensitive resources such as active bird nests. The report shall also include an updated version of Table FW-1 *Potential Temporary and Permanent Impacts by Habitat Category and Type* of the final order, showing the acres of expected temporary and permanent impacts to each habitat category, type, and sub-type.

In classifying the affected habitat into habitat categories, the certificate holder shall consult with the department and ODFW. The certificate holder shall not begin construction of the components associated with Amendment 11 until the habitat assessment has been approved by the department, in consultation with ODFW. If the department and ODFW have not provided a response within 30 days following the site certificate holder's submission of the habitat assessment to the department and ODFW, the assessment will be considered approved. The certificate holder shall not construct any facility components within areas of Category 1 habitat and shall avoid temporary disturbance of Category 1 habitat.

[Amendment 11 Fish and Wildlife Condition 1]

- (2) Prior to construction of Amendment 11 components, the certificate holder shall flag all environmentally sensitive areas as restricted work zones. Restricted work zones shall include but not be limited to areas with sensitive or protected plant species, including candidate species, wetlands and waterways that are not authorized for construction impacts, areas with seasonal restrictions, and active State sensitive species bird nests. [Amendment 11 Fish and Wildlife Condition 2]
- (3) During construction, all Project personnel shall attend an environmental awareness training session conducted by an environmental professional prior to working on the Project site. The

training shall include, but not be limited to, the following topics: identification of approved Project boundaries and access roads including flagged exclusion areas; identification of sensitive wetland and waterbody resources; identification of sensitive and special status plant and wildlife species found in the analysis area; techniques regarding avoidance and minimization measures the certificate holder will implement; the notification process to be followed if new sensitive resources are identified; permit requirements; buffer distances from sensitive and protected resources; work timing restrictions including seasonal restrictions; the role of the onsite environmental inspector(s) and NWN environmental personnel; and other topics as necessary. A copy of the training shall be provided to the department. Records of completed worker training shall be maintained onsite and made available to the department upon request. [Amendment 11 Fish and Wildlife Condition 3]

- (4) During construction and operation of components authorized by Amendment 11, the certificate holder may use herbicides to control noxious weeds, undesirable plant species, and vegetation within the site boundary. Herbicides shall be applied by an appropriately licensed person and according to all state and federal regulations. The certificate holder shall consult with landowners prior to applying herbicides on any land not owned by the certificate holder. If requested by a landowner, the certificate holder shall not use herbicides on that landowner's property. The certificate holder shall not allow herbicides to migrate onto nearby property from herbicide use on another parcel. Herbicides shall not be used in or near sensitive environments. Herbicides shall not be used within 100 feet of any occurrence of special status or otherwise sensitive plant species. Except where the product label applies more stringent requirements, when applied from the ground, herbicides shall not be used within 10 feet of any wetlands, stream, river, or other waterway except if specifically approved for use near aquatic environments. [Amendment 11 Fish and Wildlife Condition 4]
- (5) During construction and operation of Amendment 11 components, the certificate holder shall restrict vehicle speed on roadways within the site boundary to 25 miles per hour. [Amendment 11 Fish and Wildlife Condition 5]
- (6) Prior to construction of Amendment 11 components the certificate holder shall obtain an ODFW Wildlife Capture, Holding, Transport, and Relocation Permit specifically for reptiles and amphibians. The

certificate holder shall implement all provisions of the permit. A copy of the permit shall be maintained on-site and shall be made available to the department upon request. [Amendment 11 Fish and Wildlife Condition 6]

- (7) Prior to construction of Amendment 11 components, the certificate holder shall finalize and implement the Habitat Mitigation Plan (HMP) provided in Attachment E of the final order, as approved by ODOE in consultation with ODFW. Provision 7(f) regarding impacted acreage calculations shall be completed and submitted to the department after construction is complete as described in the condition below.
 - (a) The final HMP shall include an implementation schedule for all mitigation actions, including securing the conservation easement, conducting the ecological uplift actions at the compensatory mitigation parcel, revegetation and restoration of temporarily impacted areas, and monitoring. The mitigation actions shall be implemented according to the following schedule, as included in the HMP:
 - a. Restoration and revegetation of temporary construction-related impact area shall be conducted no later than the fall of the year of construction.
 - b. The habitat enhancement actions at the compensatory habitat mitigation site shall be implemented concurrent with construction. Plantings along the ditch shall occur in the fall of the year of construction.
 - (b) The final HMP shall include a plan to remove noxious weeds and revegetate areas that are temporarily disturbed during construction within the 80-foot construction easement in the commercial timberland portion of the Project, south of U.S. Highway 30. Revegetation shall be with seed mixes and forbs beneficial to fish and wildlife as recommended by ODOE, in consultation with ODFW. NWN shall implement this condition regardless of whether the underlying landowner has conducted timber harvest prior to construction of Amendment 11 components.
 - (c) The final HMP shall include a monitoring and reporting program for evaluating the effectiveness of all mitigation actions, including restoration of temporarily impacted areas and ecological uplift actions at the compensatory mitigation parcel. Monitoring of the weed removal and revegetation per condition 7(b) shall be for one year following implementation. Monitoring of the compensatory mitigation parcel shall be during years one, three, and five following implementation.

- (d) The final HMP shall be submitted and ODOE's concurrence received prior to beginning construction. ODOE shall consult with ODFW on the final HMP. If ODOE and ODFW have not provided a response within 30 days following the site certificate holder's submission of the final HMP, the HMP will be considered approved.
- (e) The HMP may be amended from time to time by agreement of the certificate holder and the department. Such amendments may be made without amendment to the site certificate. The Council authorizes the department to agree to amendments of this plan and to mitigation actions that may be required under this plan; however, the Council retains the authority to approve, reject or modify any amendment of this plan agreed to by the department.
- (f) Within 30 days of completion of construction, the certificate holder shall submit to the department and ODFW an updated HMP Table 1, providing the finalized acreage numbers for both temporary and permanent impacts by habitat category and type. Mitigation shall be commensurate with the final acreage numbers, the approved HMP, and the EFSC Fish and Wildlife Habitat standard.

[Amendment 11 Fish and Wildlife Condition 7]

- (8) During construction of Amendment 11 components, NWN shall employ at a minimum one environmental inspector to be onsite daily. The environmental inspector shall oversee permit compliance and construction, and ensure that known sensitive environmental resources are protected. The environmental inspector shall prepare a weekly report during construction, documenting permit compliance and documenting any corrective actions taken. Reports shall be kept on file and available for inspection by the department upon request. [Amendment 11 Fish and Wildlife Condition 8]

f. Threatened and Endangered Species

- (1) To the extent practicable, the certificate holder shall conduct construction, operation, and maintenance activities of Amendment 11 components during daylight hours outside of dawn and dusk in Columbian white-tailed deer habitat. Dawn is assumed to be 30 minutes prior to sunrise and dusk is assumed to be 30 minutes after sunset. HDD boring may occur throughout a 24-hour period. [Amendment 11 Threatened and Endangered Species Condition 1]

- (2) To the extent practicable, the certificate holder shall avoid construction activities within the range of the Columbian white-tailed deer during fawning season of June 1 to July 31. Except that HDD boring activities may begin or recommence on July 15 rather than August 1. [Amendment 11 Threatened and Endangered Species Condition 2]
- (3) During construction of Amendment 11 components in Columbia white-tailed deer habitat, the certificate holder shall install deer escape ramps at all open trenches and to the extent practicable, minimize the time the trench is left open. [Amendment 11 Threatened and Endangered Species Condition 3]
- (4) Prior to construction of Amendment 11 components, the certificate holder shall conduct a pre-construction survey for tall bugbane in the vicinity of the population identified during the 2013-2014 botanical survey. Areas with tall bugbane will be flagged and those plants that occur in the vicinity of proposed construction activities will be protected using construction safety fencing or similar visual and physical barrier to protect from construction-related impacts. Results of the pre-construction survey shall be reported to the department. [Amendment 11 Threatened and Endangered Species Condition 4]
- (5) Prior to construction of amendment 11 components, if any previously unidentified state-listed threatened or endangered species (listed under ORS 564.105(2) or ORS 496.172(2)) is discovered during the pre-construction survey (see Fish and Wildlife Condition 1), the certificate holder shall consult with ODFW or ODA and the department to develop a protection plan for that species and to maintain continued compliance with the Threatened and Endangered Species standard (OAR 345-022-0070). [Amendment 11 Threatened and Endangered Species Condition 5]

g. Historic, Cultural and Archeological Resources

- (1) During construction related ground-disturbing activities of components authorized by Amendment 11, if any artifacts or other cultural materials that might qualify as “archaeological objects” as defined at ORS 358.905(1)(a) or “archaeological sites” as defined at ORS 358.905(1)(c) are identified, ground disturbing activities will cease until a professional archeologist can evaluate its potential significance. The certificate holder shall flag or mark the area and

shall notify the department and the State Historic Preservation Office (SHPO) of the find immediately.

If SHPO determines that the resource is significant, the certificate holder shall make recommendations to the Council for mitigation, including avoidance, field documentation, and data recovery, in consultation with the department, SHPO, interested tribes and other impacted parties. The certificate holder shall not restart work in the affected area until the certificate holder has demonstrated to the Council that it has complied with the archaeological resource protection regulations.

In accordance with Fish and Wildlife Condition 4, the worker training shall include a section describing this permit condition, how to identify archaeological objects, and the certificate holder's requirement to avoid impacting significant historic, cultural, and archaeological resources. [Amendment 11 Historic, Cultural and Archeological Condition 1]

h. Public Services

- (1) Prior to construction, the certificate holder shall develop a fire protection and safety plan for the construction and operation of the NMCS and NMTP. The fire protection and safety plans shall include personnel training requirements, training materials, and accident prevention measures and plans. The certificate holder shall consult with and shall obtain written concurrence from the Mist-Birkenfeld Fire Marshal and Clatskanie RFPD Fire Marshal to confirm construction and operational activities comply with all applicable requirements. The certificate holder shall submit a copy of the NMCS and NMTP fire protection and safety plans to the department. [Amendment 11 Public Services Condition 1]

i. Waste Minimization

- (1) Prior to construction of the North Mist Transmission Pipeline associated with Amendment 11, the certificate holder shall seek land-owner authorization for bentonite land application and shall provide to the department the following information:
 - (a) List of land-owners contacted for authorization of bentonite application including first and last name, address and tax lot identification number, and

- (b) Written consent letters obtained from land-owners authorizing bentonite application, and
- (c) Estimated quantity of bentonite to be applied to each land owner whom provided consent per (b).

In the event land-owner authorization for bentonite land application is not received for all or a portion of the quantities generated during HDD construction, the site certificate holder shall provide to the department the information requested in (a), estimated total quantity of bentonite to be transported to a disposal facility, and name of disposal facility where bentonite will be transferred. [Amendment 11 Waste Minimization Condition 1]

- (2) Before beginning construction of components authorized by Amendment 11, the certificate holder shall provide confirmation in writing to the department that the third parties have obtained all necessary permits or approvals for receiving and discharging hydrostatic test water and shall provide to the department proof of agreement between the certificate holder and the third parties regarding access to the resources or services secured by the permits or approvals. [Amendment 11 Waste Minimization Condition 2]
- (3) Before beginning operation of components authorized by Amendment 11, the certificate holder shall provide confirmation in writing to the department that the third parties have obtained all necessary permits or approvals for disposing of produced saline process water from the Adams reservoir and shall provide to the department proof of agreement between the certificate holder and the third parties regarding access to the resources or services secured by the permits or approvals. [Amendment 11 Waste Minimization Condition 3]

D. Conditions Related to EFSC Standards at OAR Chapter 345 Division 24

Under ORS 469.401(2), EFSC must impose conditions in the Site Certificate for the protection of public health and safety. Throughout this Site Certificate are conditions related to other decisional criteria that are ultimately intended to protect public health and safety. The following conditions protect public health and safety specifically with regard to EFSC standards for surface facilities related to underground natural gas storage and natural gas pipelines.

1. Conditions Applicable to this Facility
 - a. NWN shall design, construct, operate and retire the Project in accordance with applicable statutes, rules and ordinances. [Amendment 4]
 - b. NWN shall construct all pipelines in accordance with the requirements of the U.S. Department of Transportation as set forth in Title 49, Code of Federal Regulations Part 192. [Amendment 4]
 - c. Isolation valves shall be located at both ends of the 16 inch pipelines connecting Miller Station and the Busch Valve Station and at both ends of the eight inch and six inch pipelines connecting the well sites with the sixteen inch pipeline at the Busch Valve Station. [Amendment 4]
 - d. NWN shall maintain a program to monitor the proposed pipeline to ensure protection of the public health and safety, including but not limited to:
 - (1) Pressure sensing devices positioned at Miller Station and near the wellheads to relay critical information to both Miller Station and, as needed, from Miller Station to the Portland gas control center,
 - (2) High and low pressure alarms monitored on a 24 basis to detect and locate areas where pressure variations may indicate abnormal conditions, and
 - (3) Emergency response personnel on duty 24 hours per day, at Miller Station or in Portland, trained to respond to situations that require immediate attention. [Amendment 4]
2. Condition Applicable to Amendment 4
 - a. Within two months of initial startup of the new compressor, NWN shall conduct noise surveys at the two locations previously tested on February 20 and 21, 1997 to demonstrate compliance with DEQ Noise regulations at OAR 340-35-0035. Sound measurements shall be made with all compressors running at within 5% of horsepower permitted by this Site Certificate. Measurements shall be made at each location during atmospheric conditions best for sound propagation. Sound monitoring shall not be conducted when winds are in excess of 5 mph. [Amendment 4]

3. Condition Applicable to Amendment 8

- a. Within six months of initial startup of the new compressor authorized by Amendment 8, NWN shall conduct noise surveys at the locations previously tested pursuant to Amendment 4 to demonstrate compliance with DEQ Noise regulations at OAR 340-035-0035. Sound measurements shall be made with the compressor authorized by Amendment 8 running at within 5% of rated horsepower. Measurements shall be made at a time when weather and atmospheric conditions are comparable in terms of sound propagation to the conditions that existed during the measurements taken pursuant to Amendment 4. NWN shall mathematically add the sound from this compressor to the sound from compressors installed prior to Amendment 8, as measured in the tests required by Amendment 4. NWN shall add instrument error to the noise measurements and shall treat instrument errors as cumulative. NWN shall promptly notify ODOE if the total from this mathematical addition exceeds the limits in Table 8 of OAR 340-035-0035. [Amendment 8]

4. Conditions Applicable to Amendment 11

- a. Prior to construction of Project components authorized by Amendment 11, the site certificate holder shall submit a written equipment design and estimated emissions report to the department, including the following information:
- (1) Manufacturer specifications for the selected natural gas-fired engine-driven compressors
 - (2) Fuel consumption rate (Btu/HP-hr), based on higher heating value of fuel, and rated engine capacity (HP), based on manufacturer specifications
 - (3) Engine load factor and adjusted HP
 - (4) Estimated annual hours of operation (hr/yr) for both engine-driven compressors
 - (5) Carbon dioxide emission calculations including: gross carbon dioxide emission rate, net carbon dioxide emission rate based on Council emission rate standard equal to 0.504 lb CO₂/HP-hr, and estimated excess carbon dioxide emissions for the assumed 30-year operational lifetime. Calculations shall be based on information provide in (1)(a) – (1)(d) of this condition and consistent with OAR 345-024-0620(1).

[Amendment 11 Carbon Dioxide Emissions Condition 1]

- b. Following receipt of written validation by the department of monetary path payment calculations, and before beginning construction, the site

certificate holder shall remit payment to The Climate Trust in the full amount of the monetary path payment requirement as determined by the calculations set forth in Carbon Dioxide Emissions Condition 1. Monetary path payment requirements shall be calculated using an offset rate of \$1.27 per ton of excess carbon dioxide emissions, adjusted from the year in which the Council issues the final order for Amendment 11, to present value dollars of the year in which payment is made to the Climate Trust. Present value shall be calculated using the US Gross Domestic Product Implicit Price Deflator, as published by the US Department of Commerce, Bureau of Economic Analysis, or any successor agency (“the index”). As part of the monetary path payment, the certificate holder shall also pay selection and contracting funds in an amount equal to 10 percent of the first \$500,000 of the offset funds and 4.286 percent of any offset funds in excess of \$500,000.

- c. The department shall establish an “offset credit account” for Amendment 11. The initial offset credit account shall be the total carbon dioxide offsets for which the site certificate holder has provided offset funds to The Climate Trust, pursuant to Carbon Dioxide Emissions Condition 2.
- d. Each year after beginning commercial operation of the North Mist Compressor Station (“annual carbon dioxide reporting period”), the site certificate holder shall report to the department the annual hours of operation (hr/yr) and annual fuel consumption (MMBtu/yr) for each of the two natural gas-fired, engine-driven compressors. The site certificate holder shall provide the annual report to the department consistent with the annual reporting date for all Mist Facility components.
 - (1) The department shall calculate the excess carbon dioxide emissions during each annual carbon dioxide reporting period and subtract those emissions from the offset credit account annually.
 - (2) The offset credit account shall maintain a minimum of 4,500 tons of carbon dioxide credits unless the department determines that based on the calculations conducted in (3)(a) that the balance in the carbon dioxide offset credit account is adequate to cover the estimated future emission of the NMCS over the expected 30-year life span of the NMCS. If the department determines that based on calculations conducted in (3)(a) that the offset credit account is unlikely to contain adequate credits to offset the NMCS carbon dioxide emissions over the estimated 30-year life of the NMCS, the site certificate holder shall replenish the offset credit account. The site certificate holder shall replenish the offset credit account equivalent to the full amount of the estimated future excess

emissions. The department shall estimate excess emissions for the remaining period of the deemed 30-year life of the NMCS, based on the average annual excess carbon dioxide emissions in the prior three years. The department shall calculate the estimated future excess emissions of the new compressors and notify the site certificate holder of the amount of payment required, using the monetary path offset rate as described in (c) below.

- (3) For any additional future payments related to the carbon dioxide offset credit account as described in this condition, the carbon dioxide offset rate of \$1.27 shall be adjusted for inflation to present value from the date the Council issues the final order for Amendment 11, using the US Gross Domestic Product Implicit Price Deflator, as published by the US Department of Commerce, Bureau of Economic Analysis, or any successor agency.
 - (4) The department shall calculate and the certificate holder shall pay additional contracting and selection funds to the qualified organization pursuant to Carbon Dioxide Emissions Condition 2(1).
 - (5) The certificate holder shall remit payment of the additional monetary path payment requirement to replenish the offset credit account to The Climate Trust or other qualified organization (as defined in OAR 345-024-0720) within 30 days after notification by the department of the amount that the certificate holder owes.
- e. The two engine-driven compressors operated at the North Mist Compressor Station shall be fueled solely with pipeline quality natural gas or with synthetic gas with a carbon content per million Btu no greater than pipeline quality natural gas. The department shall use a rate of 117 pounds of carbon dioxide per million Btu of natural gas fuel to calculate carbon dioxide emissions.

[Amendment 11 Carbon Dioxide Emissions Conditions 2]

E. Other Amendment-Specific Conditions

1. Conditions Applicable to Amendment 4
 - a. Conditions for DSL Removal Fill Permit

Construction of the Project will require a Removal-Fill permit from the Department of State Lands (DSL). The Council, in consultation with DSL, approves the activities associated with the Removal-Fill permit, subject to the following conditions:

- (1) NWN shall minimize impacts for the Category 2 wetland north of Highway 202 by taking steps including but not limited to:
 - (a) using a single trench for dual pipelines and keeping the installation as narrow as possible while remaining consistent with safety and practical installation requirements.
 - (b) timing construction for the dry time of year, not to extend beyond November 15.
 - (c) separating and returning topsoil to the trench backfill surface for pipelines and installing clay barriers at each end of the wetland crossing.
 - (d) avoiding the rest of the wetland crossing during construction by use of the existing road through the wetland for construction equipment. [Amendment 4]
- (2) NWN shall restore habitat in the Category 2 wetland to the north of highway 202 to preconstruction conditions within two growing seasons. [Amendment 4]
- (3) NWN shall minimize impact to wetlands by separating the upper foot of topsoil from the rest of the trench spoils and replacing it on the top of the trench. [Amendment 4]
- (4) NWN shall filter any water pumped from the trench during construction to remove sediments before it is returned to the wetland. [Amendment 4]
- (5) NWN shall complete pipeline construction through the wetland by November 15, 1997. [Amendment 4]
- (6) Turbidity shall not exceed 10% above natural stream turbidities as a result of the project except that the Department of Environmental Quality allows that the 10% limit may be exceeded for a limited duration, provided all practicable erosion control measures have been implemented, including but not limited to:
 - (a) use of filter bags, sediment fences, catch basins or other means to prevent off site movement of soil
 - (b) use of impervious covers for stockpiles left unattended or during a rain event,
 - (c) waste materials and spoils shall be placed on uplands, such that the material cannot reenter a waterway or wetland, and
 - (d) all areas of soil disturbance shall be seeded or otherwise revegetated with native species upon completion of construction to prevent subsequent erosion. [Amendment 4]

b. Conditions Related to Limited Water Use Permit

- (1) Construction of the Project will require a one-time use of approximately 300,000 gallons of water for pipeline testing. This use will require a Limited Water Use permit from the Water Resources Department. The water would be withdrawn from the Nehalem River. The Council approves this use, subject to the following conditions and in consultation with the Water Resources Department:
 - (a) The licensee shall install, maintain and operate fish screening and by-pass devices as required by the Oregon Department of Fish and Wildlife to prevent fish from entering the proposed diversion. The required screens and by-pass devices are to be in place, functional and approved by an Oregon Department of Fish and Wildlife representative prior to diversion of any water. [Amendment 4]
 - (b) The use shall be allowed only at times when the Watermaster has determined the flows of the source stream, namely the Nehalem River, are sufficient to satisfy instream water rights. [Amendment 4]
 - (c) The licensee shall give notice to the Watermaster not less than 15 days or more than 60 days in advance of using the water. The notice shall include the location of the diversion and place of use, the quantity of water to be diverted and the intended use. [Amendment 4]
 - (d) The licensee shall maintain a record of use, including the total number of hours of pumping, an estimate of the total quantity pumped, and the categories of beneficial use to which the water is applied. The record of use shall be submitted to the Watermaster upon request. [Amendment 4]
 - (e) The limited license is effective for use between September 15, 1997 and November 15, 1997. [Amendment 4]

c. Conditions Related to DEQ WPCF permit

Construction of the Project will require a one-time discharge of the water used for pipeline testing. The water will be discharged by land application to a pasture located near the Nehalem River and in the vicinity of the directional drilling site. This discharge requires a Water Pollution Control

Facilities (WPCF) permit from the Department of Environmental Quality (DEQ). The Council approves this activity, subject to the following conditions and in consultation with DEQ:

- (1) No discharge to State waters is permitted. All waste water shall be distributed on land for dissipation by evapotranspiration and controlled seepage by following sound irrigation practices so as to prevent:
 - (a) Prolonged ponding of waste on the ground surface;
 - (b) Surface runoff or subsurface drainage through drainage tile;
 - (c) Creation of odors, fly and mosquito breeding and other nuisance conditions, and
 - (d) The overloading of land with nutrients or organics.
[Amendment 4]
- (2) NWN shall, during all times of disposal, provide personnel whose primary responsibilities are to assure the continuous performance of the disposal system within the limitations of the permit.
[Amendment 4]
- (3) Prior to land disposal of the waste water it shall be treated by filtering through straw bales. [Amendment 4]
- (4) Unless approved by EFSC and DEQ, waste water that is disposed of on land but not used to irrigate crops shall be disposed of on a deep-rooted cover crop to ensure maximum infiltration and evapotranspiration rate. [Amendment 4]
- (5) Prior to constructing or modifying any waste water control facilities, detailed plans and specifications shall be approved in writing by EFSC and DEQ. [Amendment 4]
- (6) An adequate contingency plan for prevention and handling of spills and unplanned discharges shall be in force at all times. A program of employee orientation and education shall be maintained to ensure awareness of the necessity for good inplant control and proper action in the event of a spill or accident. [Amendment 4]

2. Conditions Applicable to Amendment 8

a. Condition under OAR 345 Division 27

- (1) NWN must decommission the new equipment and portion of the facility described in Amendment 8 and restore the site to a useful and non-hazardous condition as provided in OAR 345-022-0010 and the retirement plan previously described in the Order Approving Amendment 4. In addition, immediately upon execution of Amendment 8 to the Site Certificate, NWN must provide EFSC with a surety bond or other form of financial assurance, which shall guarantee NWN's obligation and indemnify the state from any failure by NWN to decommission the new equipment and portion of the facility described in Amendment 8 and restore the site to a useful and non-hazardous condition as provided in OAR 345-022-0010 and the retirement plan previously described in the order approving Amendment 4 to the Site Certificate. The Council delegates authority for approval of the bond to the Council chair. The amount of the bond or financial assurance must be \$400,000 in 2001 dollars. The calculation of 2001 dollars shall be made using the U.S. Gross Domestic Product Implicit Price Deflator, as published by the U. S. Department of Commerce, Bureau of Economic Analysis, or any successor agency (the "index"). If, at any time, the index is no longer published, the Council will select a comparable replacement index. [Amendment 8] [OAR 345-027-0020(8)]

b. Conditions under OAR 345 Division 24

- (1) Immediately upon execution of Site Certificate Amendment 8 authorizing the compressor described in NWN's Request for Amendment 8 ("new compressor"), NWN shall report to EFSC the design and operating parameters of the new compressor, as specified in subsections (a) through (c).
 - (a) NWN shall notify the Council in writing of its final selection of a gas turbine compressor vendor. [Amendment 8]
 - (b) NWN shall submit written design information sufficient to verify the new compressor's designed heat rate (higher heating value) and its nominal capacity. NWN shall include an affidavit certifying the heat rate and nominal capacity of the new compressor. [Amendment 8]

- (c) NWN shall specify the estimated annual average hours that it reasonably expects to operate the new compressor.
[Amendment 8]
- (2) NWN shall submit all monetary path payment requirement calculations to the Department of Energy (“department”) for verification in a timely manner prior to making payments to The Climate Trust. NWN shall use the contracted design parameters for nominal capacity and heat rate of the new compressor, along with the estimated annual hours of operation, that it reports pursuant to Condition (1) to calculate the estimated monetary path payment requirement. For the purposes of this Site Certificate, the “monetary path payment requirement” means the offset funds determined pursuant to OAR 345-024-0630 and the selection and contracting funds that NWN must disburse to The Climate Trust, as the qualified organization, pursuant to OAR 345-024-0710 and this Site Certificate. [Amendment 8]
 - (a) The net carbon dioxide emissions rate for the new compressor shall not exceed 0.522 pounds of carbon dioxide per horsepower hour. [Amendment 8]
 - (b) The offset fund rate for the monetary path payment requirement shall be \$0.85 per ton of carbon dioxide (in 2001 dollars). For the initial monetary path payment that NWN must make prior to beginning construction, the calculation of 2001 dollars shall be made using the US Gross Domestic Product Implicit Price Deflator, as published by the US Department of Commerce, Bureau of Economic Analysis, or any successor agency (“the index”). The amount of the payment requirement shall increase annually by the percentage increase in the index and shall be pro-rated within the year to the date of disbursement to The Climate Trust from October 26, 2001. If at any time the index is no longer published, the Council shall select a comparable calculation of 2001 dollars. [Amendment 8]
 - (c) NWN shall offset excess carbon dioxide emissions using the monetary path as described in OAR 345-024-0710 and this Site Certificate. Contracting and selecting funds shall equal twenty (20) percent of the value of any offset funds up to the first \$250,000 (in 2001 dollars) and 4.286 percent of the value of any offset funds in excess of \$250,000 (in 2001 dollars).
[Amendment 8]

- (3) Immediately upon execution of this Site Certificate Amendment 8, NWN shall pay cash to The Climate Trust in the full amount of the monetary path payment requirement (in 2001 dollars) as determined by the calculations set forth in Condition (2). [Amendment 8]
- (4) The department shall establish an “offset credit account.” The initial offset credit account shall be the total carbon dioxide offsets for which NWN has provided offset funds to The Climate Trust, pursuant to Condition (3). [Amendment 8]
- (5) Each year after beginning commercial operation of the new compressor (“annual carbon dioxide reporting period”), NWN shall report to the department the annual hours the new compressor operated and its fuel use in Btu. NWN shall provide the annual report to the department within 30 days of the anniversary date of beginning commercial operation of the new compressor. [Amendment 8]
 - (a) The department shall calculate the excess carbon dioxide emissions during each annual carbon dioxide reporting period and subtract those emissions from the offset credit account annually. [Amendment 8]
 - (b) If the offset credit account contains fewer than 6,000 tons of carbon dioxide offset credits, NWN shall replenish the offset credit account. NWN shall replenish the offset credit account equivalent to the full amount of the estimated future excess emissions. The department shall estimate excess emissions for the remaining period of the deemed 30-year life of the facility, based on the average annual excess carbon dioxide emissions in the prior three years. The department shall calculate the estimated future excess emissions of the new compressor and notify NWN of the amount of payment required, using the monetary path, to replenish the offset credit account. [Amendments 8, 9]
 - (c) Notwithstanding the index identified in Condition (2)(b), pursuant to OAR 345-024-0710(6)(a) the formula to calculate the rate for the dollar value per ton of carbon dioxide offsets by which NWN shall replenish its offset credit account through the monetary path shall be $\$0.85 \text{ times } (1.0891 \text{ to the power } “t”)$; where “t” is the elapsed time in years between October

26, 2001, and the date the Office notifies NWN that it must replenish its offset credit account, pursuant of OAR 345-024-0630(4). Fractional years shall be calculated by dividing the number of elapsed days in excess of a whole year by 365. [Amendment 8]

- (d) The department shall calculate additional contracting and selection funds pursuant to Condition 2(c).
 - (e) NWN shall disburse in cash the additional monetary path payment requirement to replenish the offset credit account to The Climate Trust within 30 days after notification by the department of the amount that NWN owes. [Amendment 8]
- (6) The new gas turbine compressor shall be fueled solely with pipeline quality natural gas or with synthetic gas with a carbon content per million Btu no greater than pipeline quality natural gas. The department shall use a rate of 117 pounds of carbon dioxide per million Btu of natural gas fuel to calculate carbon dioxide emissions. [Amendment 8]
3. Conditions Applicable to Amendment 9
- a. Condition under OAR 345 Division 27
 - (1) Before beginning the construction authorized under Amendment 9, NWN shall submit to the State of Oregon, through the Council, a bond or letter of credit, satisfactory to the Council, in the amount of \$500,000 in 2003 dollars. This condition may be satisfied by a new financial instrument or by updating the bond submitted pursuant to Amendment 8. [Amendment 9]
4. Conditions Applicable to Amendment 11
- a. Conditions for DSL Removal Fill Permit
 - (1) Prior to construction of the Amendment 11 components, the certificate holder shall submit to the department and DSL the final Site Rehabilitation of Temporary Impacts Plan consistent with the draft plan provided in Attachment G of this order. The certificate holder shall obtain written concurrence from the department and DSL that the final plan demonstrates compliance with and is consistent with all applicable rules and requirements. If the department and DSL have not provided a response within 30 days

following the site certificate holder's submission of the final Site Rehabilitation of Temporary Impacts Plan, the Plan will be considered approved. [Amendment 11 Removal-Fill Condition 1]

- (2) During operation of the Amendment 11 components, the certificate holder shall monitor temporarily impacted and restored wetland sites for three years following the year of construction completion. Annual monitoring shall occur during the growing season and shall include visual surveys to estimate the coverage area of native versus nonnative species. The certificate holder shall provide an annual report with the methodology and results of the surveys on an annual basis to USACE, DSL, and the department. [Amendment 11 Removal-Fill Condition 2]
- (3) Before beginning construction of the Amendment 11 components, the certificate holder must obtain and provide proof to the department that a removal-fill permit from DSL was obtained and that it includes the conditions recommended in Attachment H of the final order. The certificate holder must comply with all conditions of the removal-fill permit. [Amendment 11 Removal-Fill Condition 3]

b. Conditions Related to Limited Water Use Permit

- (1) The use of water under a limited license shall not have priority over any water right exercised according to a permit or certificate and shall be subordinate to all other authorized uses that rely upon the same source.
- (2) The certificate holder shall give notice to the Watermaster at least 15 days in advance of using water under the limited water use licenses.
- (3) At each diversion from which the certificate holder withdraws water, the certificate holder shall install a totalizing flow meter and maintain a record of use, including the period of use, and the categories of beneficial use to which the water is applied. The record of use shall be supplied to the Watermaster on request.
- (4) Both licenses are effective for the requested use between June 1, 2017 and November 30, 2018. Upon completion of the Project, the certificate holder shall submit the record of use to the OWRD and the department.

- (5) At the Beaver Slough outtake, certificate holder shall install an ODFW-approved fish screen on the suction hose.

[Amendment 11 Limited Water Use License Condition 1]

c. Conditions under Noise Control Regulations (OAR 340, Division 35)

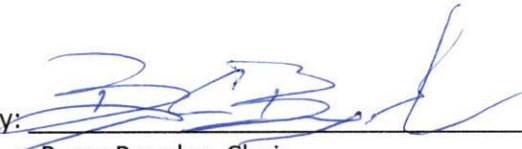
- (1) Prior to operation of the Amendment 11 components, the certificate holder shall submit an Operational Complaint-Based Noise Monitoring Protocol (protocol) to the department for review and approval. The protocol shall provide for testing at houses whose owners or occupants submit a complaint to EFSC or the department. The protocol shall include a schedule for completion of noise testing following complaints and when testing results will be transmitted to the department and EFSC. [Amendment 11 Noise Control Condition 1]
- (2) During operation of the Amendment 11 components, public complaints received by the certificate holder of noise generated from operation of the Amendment 11 components shall be documented, responded to, and reported to the department within 72-hours of complaint receipt. NWN shall provide to the department a report summarizing the noise complaint, date complaint received, proposed noise monitoring activities, or other action deemed appropriate to respond to the noise complaint, and results (in dBA) of noise monitoring to determine compliance with the DEQ noise control regulation. [Amendment 11 Noise Control Condition 2]

VIII. SUCCESSORS AND ASSIGNS

This agreement is binding upon NWN and any co-owners, partners or joint venturers of NWN in the construction and operation of the underground storage facility and related and supporting facilities and upon any successors in interest to or assignees of either NWN or any co-owner, partner or joint venturer.

IN WITNESS WHEREOF, this Site Certificate Agreement has been executed by the State of Oregon, acting by and through its Energy Facility Siting Council, and Northwest Natural Gas Company as below subscribed on this 21st day of April, 2016.

Energy Facility Siting Council

By:  _____ Date: 4/21/2016
Barry Beyeler, Chair

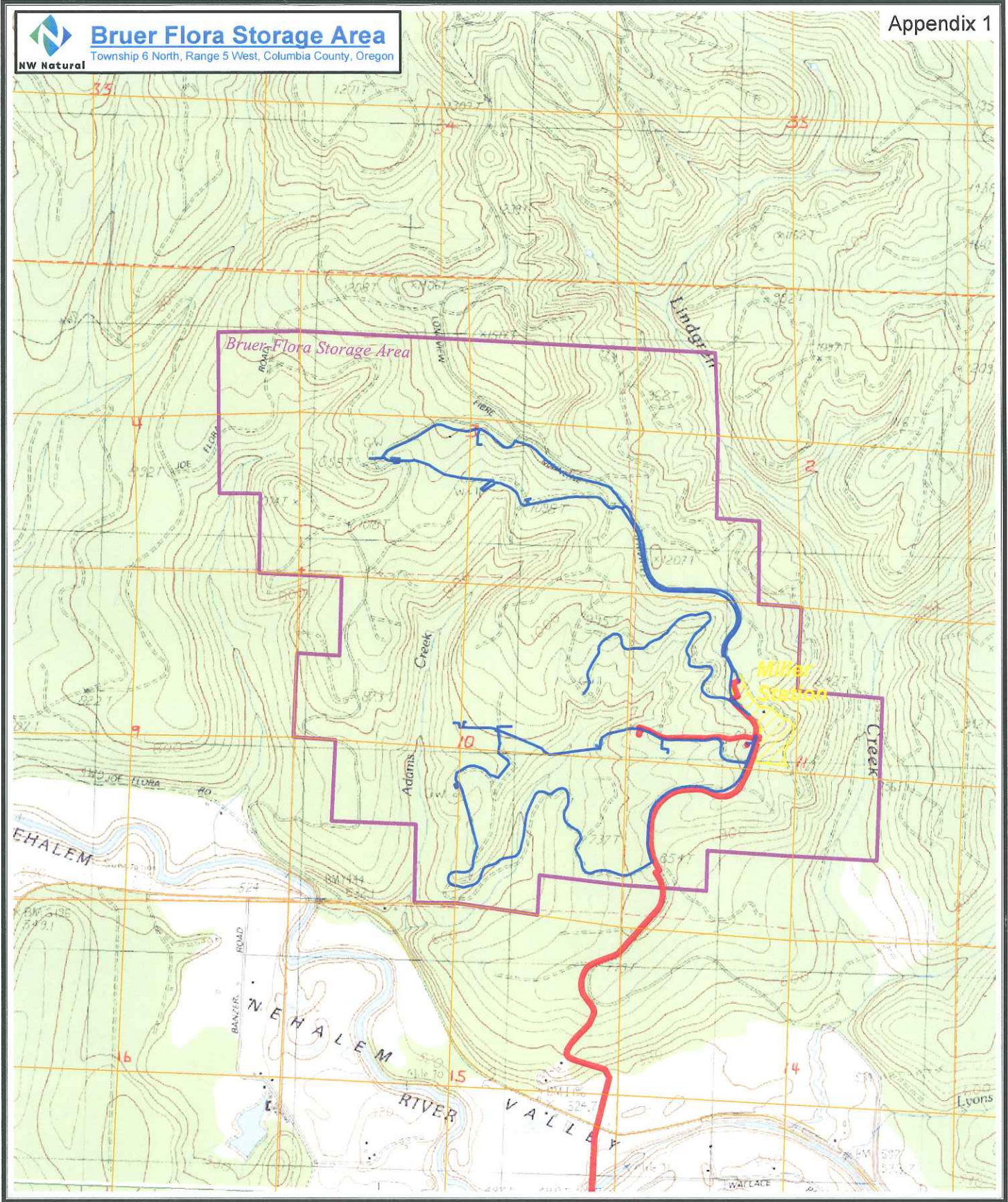
Northwest Natural Gas Company

By:  _____ Date: 4/21/2016
Northwest Natural Gas Company

APPENDIX 1: Map of Bruer-Flora Storage Area and Miller Station

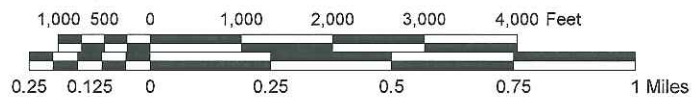
APPENDIX 2: Map of Calvin Creek Storage Area

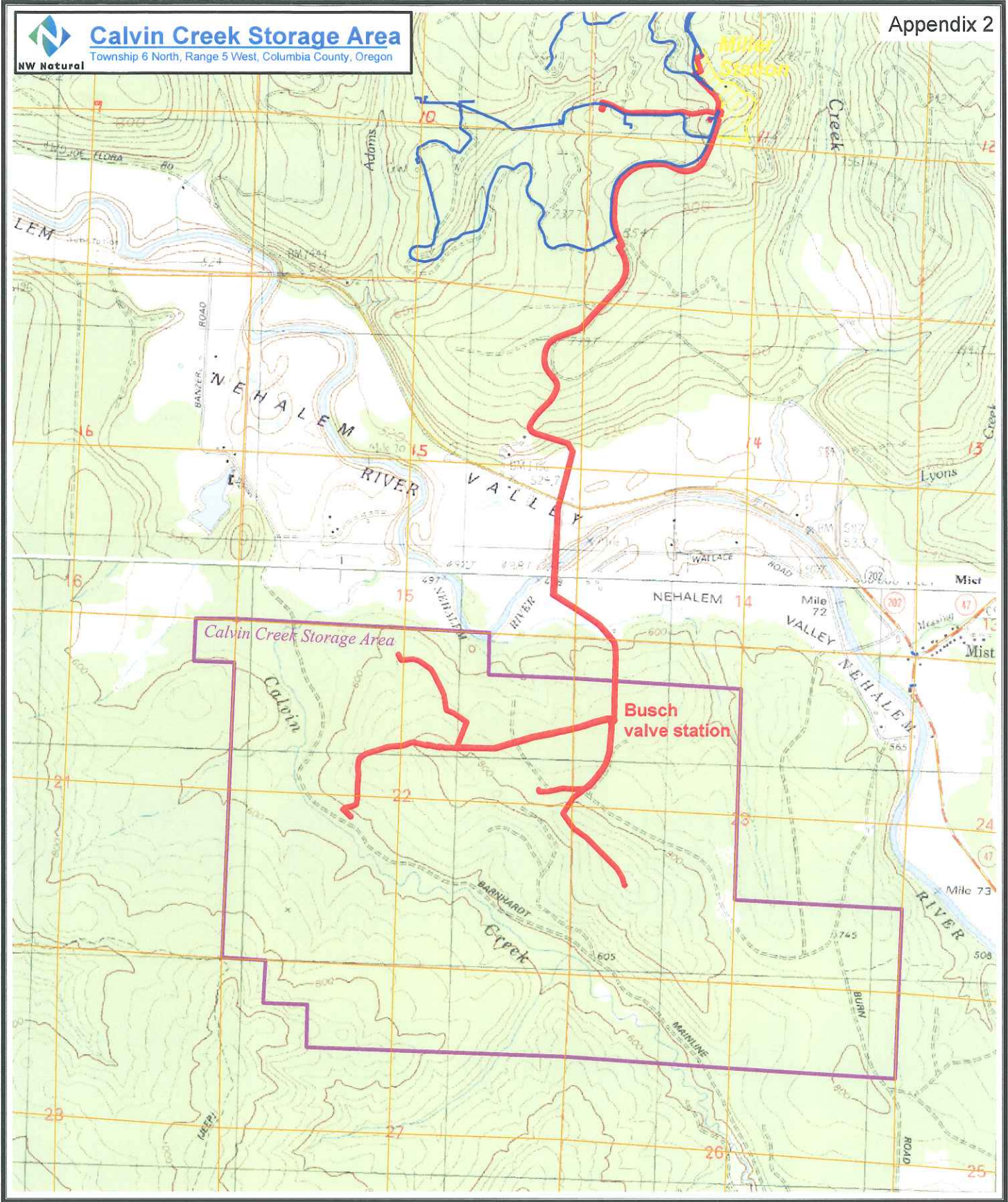
APPENDIX 3: Map of North Mist Expansion Project Area



Plot Date: January 22, 2008

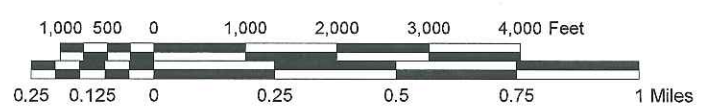
- Bruer Flora Storage Area Boundary
- 200' Study Corridors
- Existing Pipelines

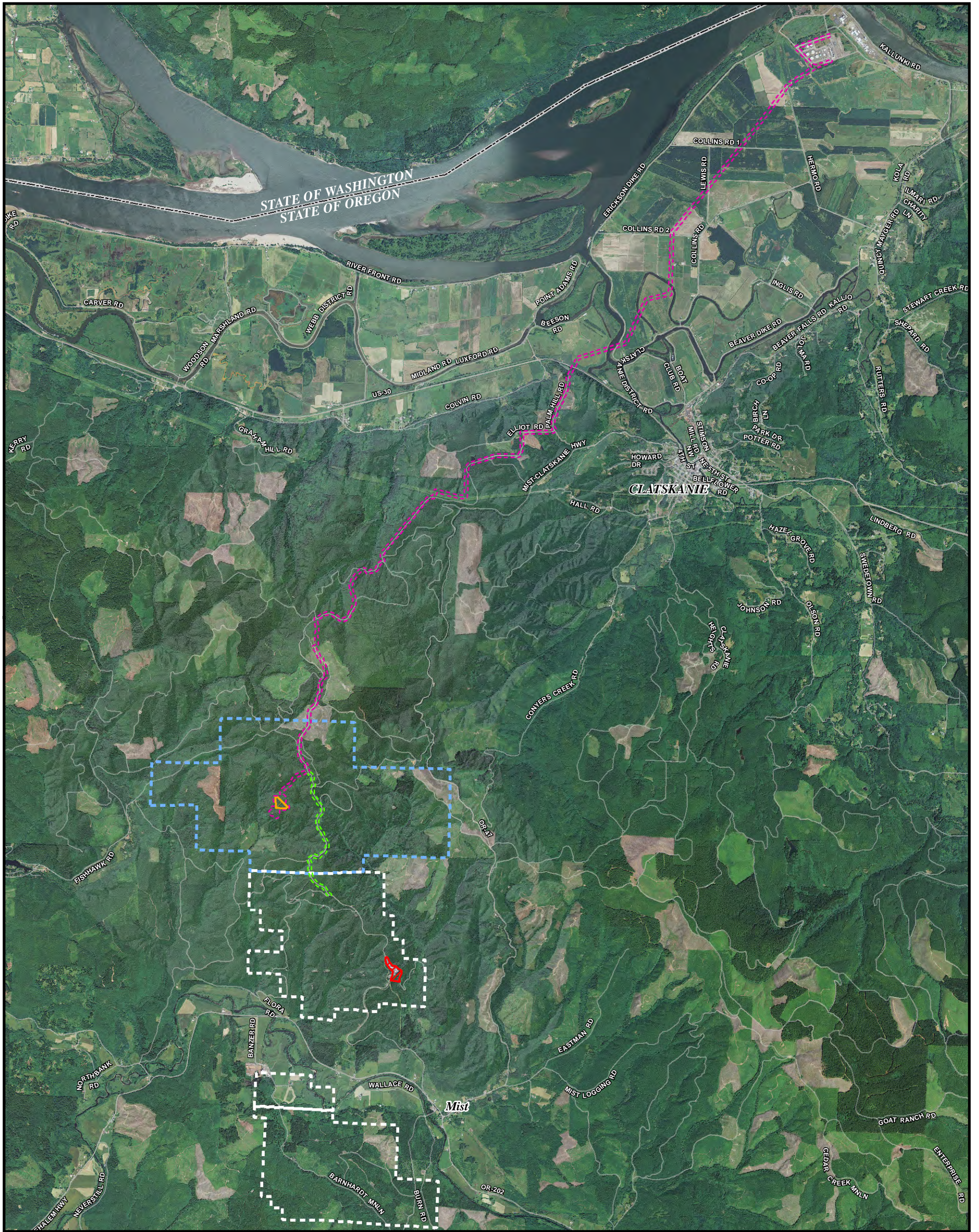




Plot Date: January 22, 2008

- Calvin Creek Storage Area Boundary
- 200' Study Corridors
- Existing Pipelines



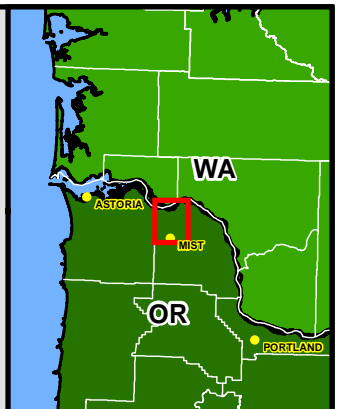


**NW Natural
North Mist Expansion Project**
Amendment No. 11

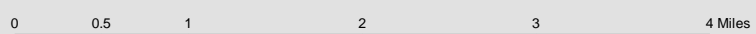
Columbia County, OR
April 2016

Appendix 3

- 40 foot Wide North Mist Transmission Pipeline Corridor
- 40 foot Wide Conduit Corridor
- - - Approved EFSC Site Boundary
- - - Approved North Mist Expansion EFSC Site Boundary
- ▭ North Mist Compressor Station
- ▭ Miller Station
- ▭ State Boundary



NAD_1927_StatePlane_Oregon_North_FIPS_3601



Data Source: NW Natural North Mist Expansion Project