

# Agenda Item C (Information Portion)

## **Mist Underground Natural Gas Storage Facility Request for Amendment 13 Public Hearing on Draft Proposed Order**

**Kathleen Sloan, Senior Siting Analyst, Oregon Department of Energy**

**September 19, 2024**

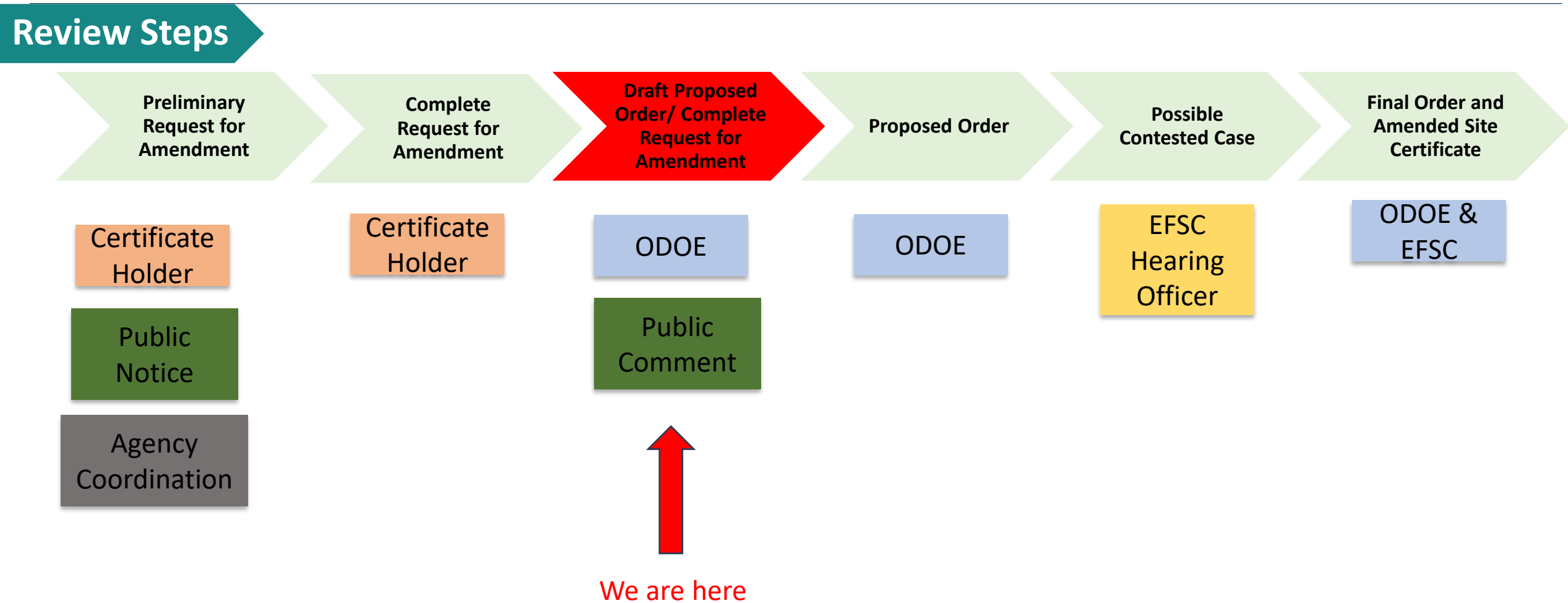


# Mist Facility Request for Amendment 13

## Agenda Item Overview

1. Facility Overview: Department overview of the siting process, approved facility components and location, the amendment request, and Draft Proposed Order.
2. Hearing Overview: EFSC Chair will provide overview of hearing process.
3. Public Hearing: Public, Council and Applicant Comments/Testimony

# Mist Facility Request for Amendment 13



# Mist Facility Request for Amendment 13

## Approved Mist Facility

- EFSC Site Certificate issued on June 19, 1981 and has been amended 12 times. The approved facility includes naturally occurring underground natural gas storage reservoirs, which NWN has retrofitted to allow pipeline quality natural gas injection and underground storage during off-peak periods and withdrawal when market demand exceeds available supplies from other sources.
- Related or supporting surface facilities currently include compressors, pipelines, control equipment, dehydration and auxiliary systems, most of which are located at NWN's Miller Station.
- Other related surface facilities include gathering lines and facilities for maintenance and operations staff.

# Mist: Approved Facility

Certificate Holder

Northwest Natural Gas Company (NWN)

Facility Type

Natural Gas

Capacity

635 million standard cubic feet permitted daily natural gas throughput

Site Boundary

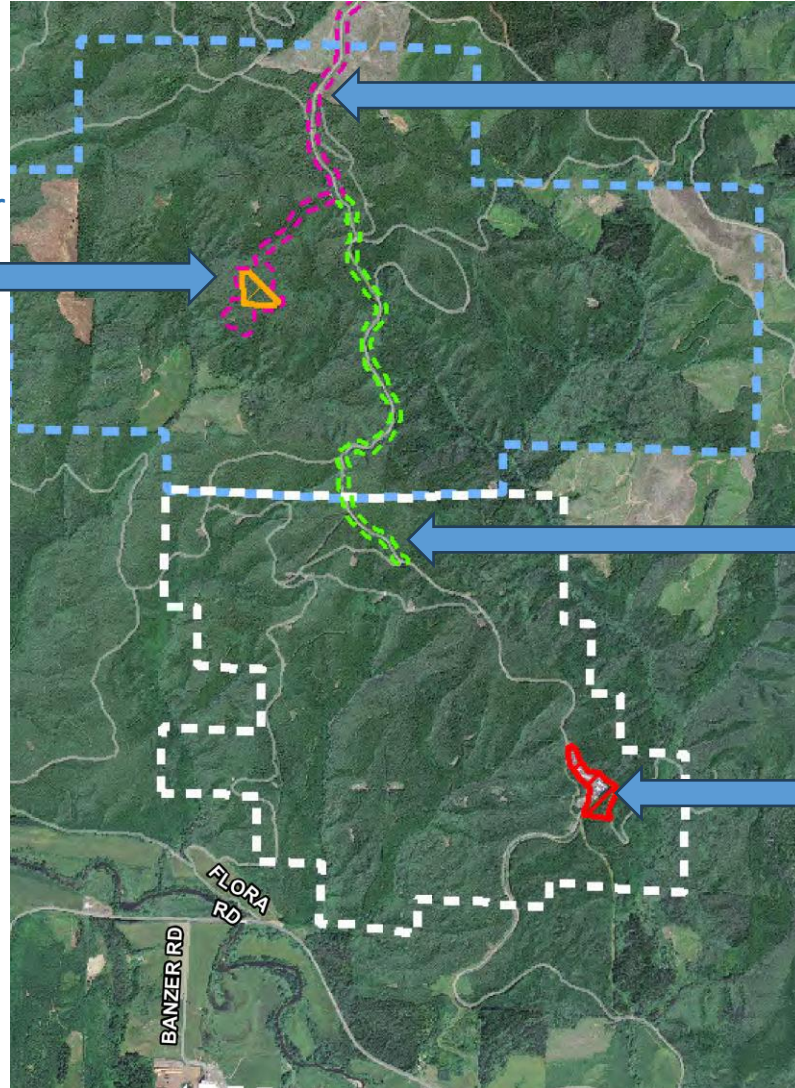
5,472 acres private land in Columbia County, near the town of Mist, Oregon.

North Mist Compressor Station (NMCS)

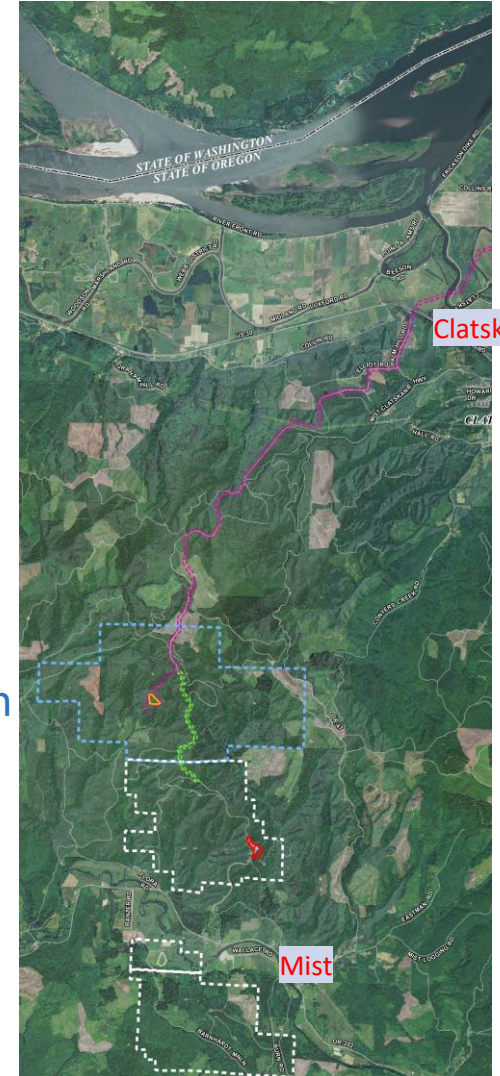
Gas Pipeline

Powerline

Miller Station



## Facility Overview



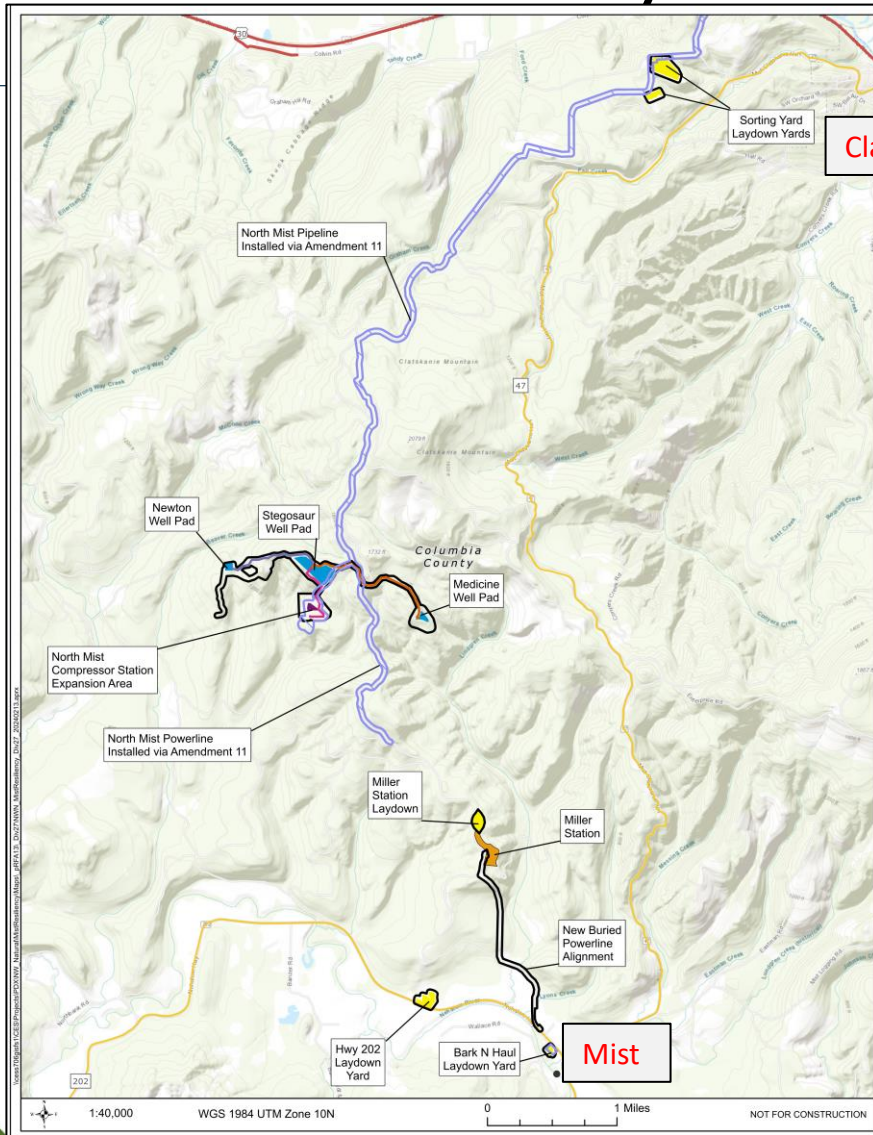
# Mist Facility Request for Amendment 13

## RFA13 Proposed Changes

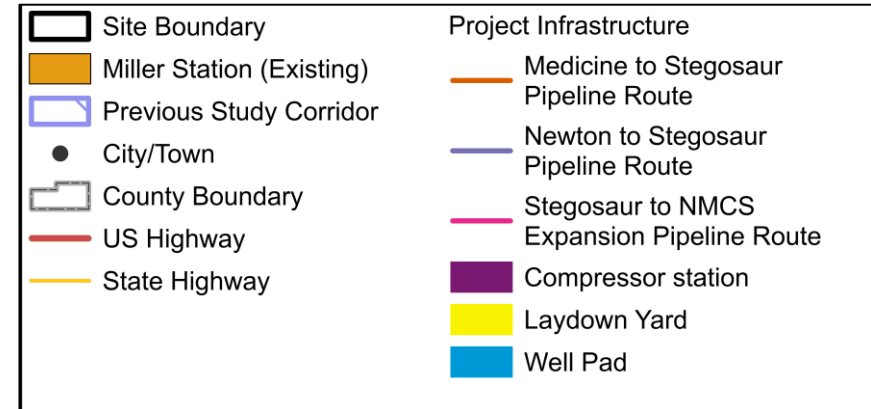
RFA13 changes will increase allowable throughput of natural gas from 635 MMscfd to 835 MMscfd.

Facility Component	Approved Facility	RFA13 Requested Changes
Storage Site Boundary	5,472 acres	No Change in Site Boundary
Daily throughput	635 MMscfd	Increase 200 MMscfd
Installed compression equipment	19,150 BHP	28,700 BHP
Developed storage reservoirs	Bruer, Flora, Calvin Creek, and Adams (existing)	Develop Crater (approved) and add (new), Medicine, Newton and Stegosaur
Electrical feeds	3.1 miles	1.6 miles, replaced
Transmission pipelines	~ 15 miles	Up to an additional 2.6 miles
Temporary laydown/staging areas	N/A	Add 4 new areas - 31 acres

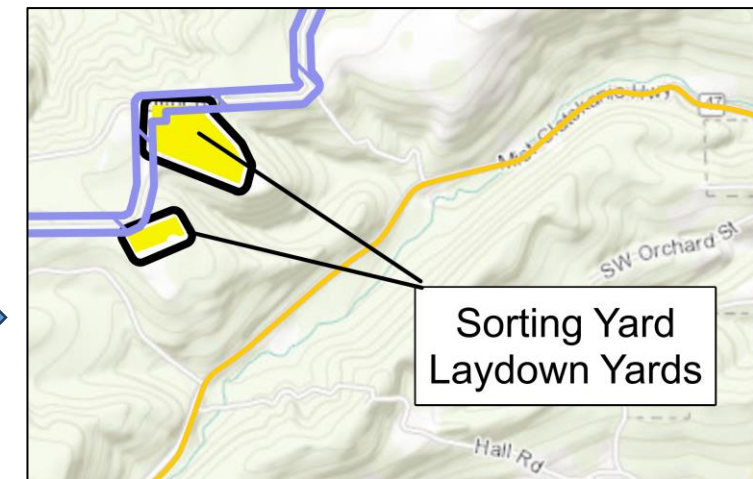
# Mist Facility Request for Amendment 13



Facility Overview with RFA13 Changes



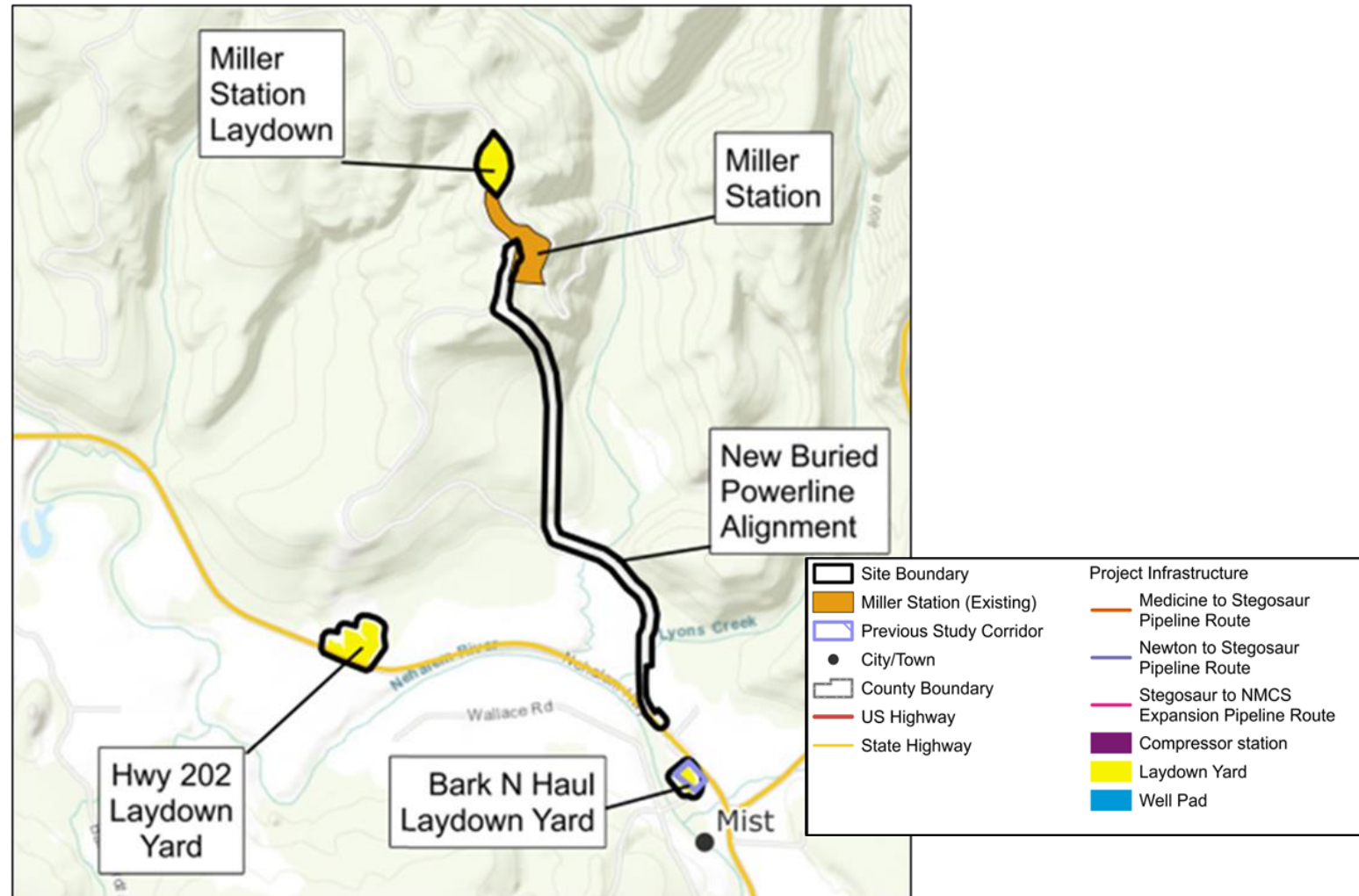
Temporary Laydown Areas



# Mist Facility Request for Amendment 13

## RFA13 Proposed Changes to Miller Station

- Replace two existing (end of life) natural-gas fired turbines;
- Replace 1.6 miles of existing (end of life) underground distribution powerline from Highway 202 to Miller Station; and,
- Increase the fenced boundary of Miller Station by adding approximately 7.52 acres adjacent to the existing station to use as a laydown area and permanent storage yard.

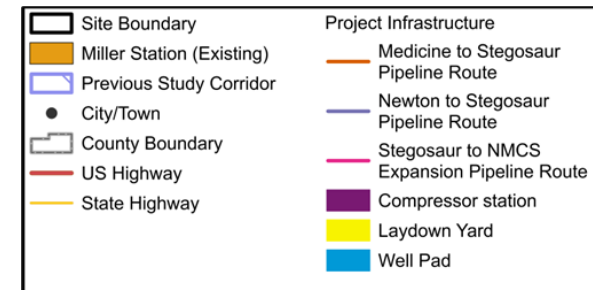
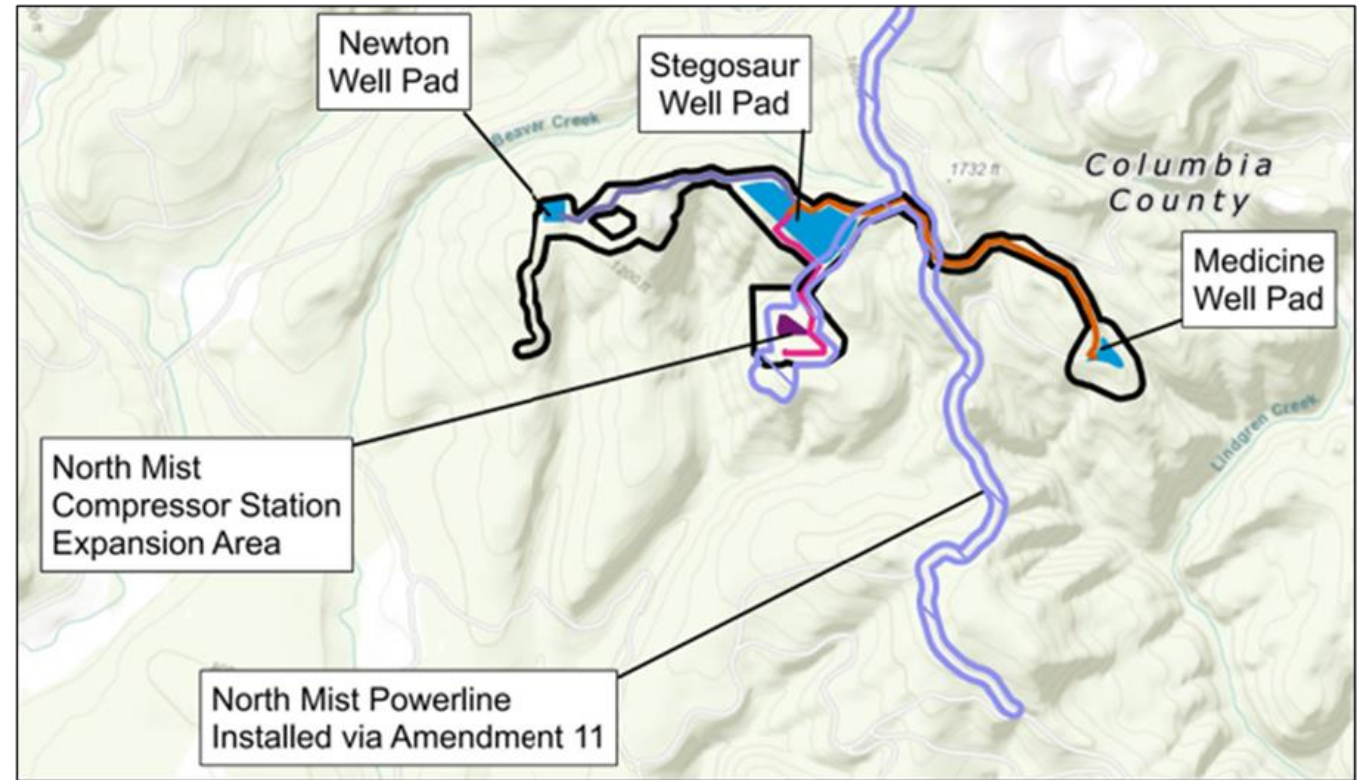




# Mist Facility Request for Amendment 13

## RFA13 Proposed Changes to North Mist Compressor Station (NMCS)

- Install approximately 2.6 miles of underground gas transmission pipelines to connect 3 new storage reservoirs to the NMCS;
- Add three reciprocating gas fired compressors;
- Add two dehydration trains, new air compressor, inlet and outlet coalescing filters, two new back-up power generators, fuel gas heater, skidded fuel gas regulators, and a power transformer;
- Add four new buildings: an O&M control building, a Power Distribution Center, compressor building, dehydration regeneration building, and associated equipment.



# Mist Facility Request for Amendment 13

## Scope of Council's Review

### In

- Everything proposed in Amendment 13

### Out

- Anything previously approved under the original site certificate or the 12 amendments
- Wells - Storage or Injection Withdrawal Wells either Enerfin or of NW Natural (DOGAMI)
- Well Heads (DOGAMI)
- Fracking

# Mist Facility Request for Amendment 13

## Draft Proposed Order

### Council Standards with no recommended new or amended conditions

In the DPO, the Department recommends that the changes proposed in RFA13 would not necessitate new or amended site certificate conditions for the following applicable standards/requirements:

- **Protected Areas** (See DPO, Section III.F, pp: 84-98)
- **Threatened and Endangered Species** (See DPO, Section III.I, pp: 114-122)
- **Scenic Resources** (See DPO, Section III.J, pp: 122-130)
- **Recreational Opportunities** (See DPO, Section III.L, pp: 133-148)
- **Need Standard for Non-generating Facility** (See DPO, Section IV.A, pp: 176-177)
- **Public Health and Safety Standards for Surface Facilities Related to Underground Gas Storage Reservoirs** (See DPO, Section IV.B, pp: 177-178)
- **Siting Standards for Transmission Lines** (See DPO, Section IV.C, pp: 178-179)
- **Noise Control Regulations** (See DPO, Section V.A, pp: 187-193)
- **Water Rights** (See DPO, Section V.C, p: 203)

# Mist Facility Request for Amendment 13

## Draft Proposed Order

### Council Standards with new recommended conditions

In the DPO, the Department recommends that the changes proposed in RFA13 would require new site certificate conditions for the following applicable standards/requirements, but those new conditions are generally standardized requirements for facilities:

- **General Standard of Review** (See DPO, Section III.A, pp: 22-27)
- **Organizational Expertise** (See DPO, Section III.B, pp: 27-31)
- **Structural Standard** (See DPO, Section III.C, pp :31-45)
- **Land Use Standard** (See DPO Section III.E, pp: 55-84)
- **Retirement and Financial Assurance Standard** (DPO Section III.G, pp. 98-103)
- **Historic, Cultural and Archaeological Resources** (See DPO, Section III.K, pp: 130-133)

The following slides will cover a selection of standards with recommended new conditions that are intended to address RFA13-specific impacts.

# Mist Facility Request for Amendment 13 Draft Proposed Order

## Soil Protection Standard (DPO Section III.D, pp. 45-55)

### Key findings:

- Construction will include trenching, excavating, horizontal directional drilling (HDD), vegetation removal, grading and levelling work and the use of heavy equipment, laydown areas, and access roads.
- The use of HDD to bypass Lindgren and Lyons Creeks for the powerline replacement requires an approved HDD Inadvertent Return Response Plan.
- Construction is estimated to have 65.1 acres of temporary impacts and 27.7 acres of permanent impacts.

**Recommended Soil Protection Conditions 3 and 4** - require the submittal of, and adherence to, a final HDD Inadvertent Return and Response Plan during the use of HDD for construction.

# Mist Facility Request for Amendment 13

## Draft Proposed Order

### Fish and Wildlife Habitat Standard (DPO Section III.H, pp: 103-114)

#### Key findings:

- RFA13 changes would result in approximately 63.7 acres of temporary disturbance and up to 27.7 acres of permanent habitat impacts to Category 3, 4 and 6 habitat types.
- RFA13 changes will result in approximately 26.90 acres of permanent impacts to Category 3 habitat requiring a 1:1 mitigation ratio.
- Certificate holder proposes to mitigate permanent impacts through a Habitat Mitigation Plan to be implemented at an approved Habitat Mitigation Area.
- Temporary impacts to habitat will be restored upon construction completion. Requires a plan.

**Recommended Fish and Wildlife Conditions 1 and 2** – require final approved Restoration of Temporary Impacts Plan similar to draft in DPO Attachment P-1.

**Recommended Fish and Wildlife Conditions 3 and 4** – require final, approved Habitat Mitigation Area and an approved Habitat Mitigation Plan similar to draft in DPO Attachment P-3.

# Mist Facility Request for Amendment 13

## Draft Proposed Order

### Public Services Standard (DPO Section III.M, pp: 148-155)

#### Key findings:

- For construction: approximately 2 million gallons of water over a 5-year period.
- Water would be obtained from a third-party with an existing water right including Knappa Water Association and Mist Birkenfeld Fire Department.
- For operations: 72,000 gallons of potable water would be used annually obtained from a local municipal water source or an existing well at Miller Station.
- Up to 112 workers during peak construction and 12 new, fulltime workers for operations.
- Columbia County Sheriff's Office is the primary law enforcement agency.
- Clatskanie Rural Fire Protection District (RFPD) and Mist-Birkenfeld RFPD service areas.

**Recommended Public Services Condition 1** – requires the certificate holder to obtain water from permitted source.

**Recommended Public Services Condition 2** – requires an agreement with the Clatskanie RFPD to pay proportionate share of the costs to upgrade pump system at Flemming Pond.

# Mist Facility Request for Amendment 13

## Draft Proposed Order

Wildfire Prevention and Risk Mitigation Standard (DPO Section III.N, pp: 155-174)

### Key findings:

- Overall wildfire risk is moderate to high within the RFA13 site boundary and analysis area.
- Analysis area is primarily forested lands managed for timber harvest. Areas that have higher wildfire risk are the areas where there is existing infrastructure such as the operational facility, roads, residences, agricultural equipment, and community areas.
- Clatskanie Rural Fire Protection District (RFPD) and Mist-Birkenfeld RFPD
- Oregon Department of Forestry (ODF), per Industrial Fire Precaution Level (IFPL) and Fire Season Requirements apply in active timber managed forested lands within analysis area.

**Recommended Wildfire Prevention and Risk Mitigation Conditions 1 and 2** - require Wildfire Mitigation Plans for RFA13 Construction and Operations phases to include applicable ODF requirements, including use of ODF inspection forms, or comparable form as approved by the Department. (See DPO Attachments V-1 and V-2)



# Mist Facility Request for Amendment 13

## Draft Proposed Order

### Waste Minimization Standard (DPO Section III.O, pp: 174-176)

#### Key findings:

- Recyclable materials from construction will be recycled per the NWN Waste Management Plan, including scrap and materials from the removal of equipment to be replaced during RFA13 construction.
- Construction activities are estimated to generate 4,281 cubic yards of non-recyclable waste. Non-recyclable construction-related waste to be disposed of at Coffin Butte Landfill in Corvallis, Oregon.
- Solid waste and recyclable materials generated during operations will be recycled and disposed of per the NWN Waste Management Plan.

**Recommended Waste Minimization Condition 1** – requires the adherence to the NWN Waste Minimization and Recycling Plan during all phases (See DPO Attachment W).

# Mist Facility Request for Amendment 13 Draft Proposed Order

Standard for Non-generating Energy Facility (that emits carbon) (Section IV.D, pp: 179-183)

## Key findings:

- RFA13 changes include construction and operation of 3 new natural-gas fired compressors at the North Mist Compressor Station (NMCS) and replacement of 2 existing turbines at Miller Station.
- CO2 Offset Amount: (Est. CO2) minus (Allowable CO2) = (Required CO2 Reduction 30 yrs)
- NMCS: (713,155 tons – 347,980 tons = 365,175 tons CO2 for 30 years)
- Miller Station: (707,162 tons – 324,781 tons = 382,381 tons CO2 for 30 years)

**Recommended Carbon Dioxide Emissions Condition 1:** Requires proof of final equipment design and final estimated emissions report to the Department, including specifics for the engine-driven compressors and turbines used to calculate total emissions and offset amounts required for RFA13.

# Mist Facility Request for Amendment 13 Draft Proposed Order

## Means of Compliance for Nongenerating Energy Facilities (Section IV.E, pp: 183-187)

### Key findings:

- The monetary path payment required to offset excess emissions, based on a 30-year operational lifetime of the proposed NMCS, is estimated at \$3,386,014\* (\*estimate in DPO - final rate TBD based on new rate)
- NWN has elected to comply by providing the required monetary payment to The Climate Trust.

**Recommended Carbon Dioxide Emissions Condition 2:** Requires written proof of monetary path payment calculations, and before beginning construction of compressors at Miller Station or NMCS, and payment in full to The Climate Trust.

**Recommended Carbon Dioxide Emissions Condition 3:** Requires annual reporting to calculate the actual excess carbon dioxide emissions during each annual carbon dioxide reporting period and subtract those emissions from the offset credit account annually.

# Mist Facility Request for Amendment 13 Draft Proposed Order

## OTHER APPLICABLE REGULATORY REQUIREMENTS: Removal Fill (Section V.B, pp: 193-203)

### Key Findings:

- 19 wetlands and nine other water features were delineated in the RFA13 analysis area
- Based upon the wetland delineation and the RFA13 facility design will have potential impacts to wetlands, requiring either a removal-fill permit or a General Authorization for temporary Impacts from Department of State Lands (DSL).
- Certificate holder proposes RFA13 impacts will be temporary impacts and plans to apply for a General Authorization permit from DSL for RFA13 impacts.

**Recommended Removal Fill Law Condition 1** – requires adherence to HDD Restoration of Temporary Impacts Plan to minimize and avoid impacts to wetlands and waters of state.

**Recommended Removal Fill Law Conditions 2 and 3** – require the certificate holder to obtain and adhere to either a General Authorization or Removal Fill permit for construction.

# Mist Facility Request for Amendment 13 Draft Proposed Order

## Staff Recommendation in Draft Proposed Order on Request for Amendment 13

The Oregon Department of Energy recommends that the Energy Facility Siting Council (Council) find that Northwest Natural Gas Company demonstrates that the preponderance of evidence on the record supports the conclusion that the facility, with the proposed Request for Amendment 13 changes, complies with the applicable laws and Council standards that protect a resource or interest that could be affected by the proposed changes.

# Public Participation at DPO Phase – Type A

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- **Threshold for a contested case for a Type A Amendment:**
  - Council must find that the request raises a significant issue of fact or law that is reasonably likely to affect the Council’s determination whether the facility, with the change proposed by the amendment, meets the applicable laws and Council standards.
- **Council Options on Requests for a Contested Case:**
  - Hold a contested case –properly raised issue(s) could affect the Council’s determination
  - Remand Proposed Order to Department - properly raised issue(s) could be addressed through new findings and/or conditions
  - Deny – request does not include properly raised issue(s)
- **Contested Case Youtube Video** - A ten-minute video describing the Type A Amendment Contested Case threshold is available, and the link was included in the Public Notice.

# Agenda Item C (Hearing Portion)

## **Mist Underground Natural Gas Storage Facility Request for Amendment 13 Public Hearing on Draft Proposed Order**

**Presiding Officer – Kent Howe, Chair, EFSC**

**September 19, 2024**

# Mist Facility Request for Amendment 13

## Draft Proposed Order – Public Hearing

### Consideration of Issues that Justify a Contested Case

A person who intends to raise any issue that may be the basis for a contested case must raise an issue:

- that is within the jurisdiction of the Council;
- in person at the hearing or in a written comment submitted to the Department of Energy before the close of the public hearing;
- with sufficient specificity to afford the Council, the Department of Energy and the certificate holder an adequate opportunity to respond, including a statement of facts that support the person's position on the issue.



# Mist Facility Request for Amendment 13 Draft Proposed Order – Public Hearing

## Order of Oral Testimony and Comments for this Public Hearing

1. Certificate Holder (testimony or additions to record)
  - Members of Council may ask clarifying questions.
2. Members of the Public (will be called on in the following order):
  - Oral in-person testimony
  - Oral testimony via WebEx
  - Oral testimony via phone
3. Members of Council
4. Certificate Holder's Responses to Comments (optional)

# Mist Facility Request for Amendment 13 Draft Proposed Order – Public Hearing

## Testimony

### **Prior to Testifying, state the following:**

- Full name with spelling
- Name of organization or group if you are representing one
- Physical mail or email address if you wish to receive notice of the Proposed Order which includes a description of how to submit a request for contested case

Please Note: If you do not wish to provide your mailing or email address in this format, you may email it to the Department at [kathleen.sloan@energy.oregon.gov](mailto:kathleen.sloan@energy.oregon.gov) or call (971) 701-4913 and provide the information, including spelling, in a voicemail.

# Mist Facility Request for Amendment 13 Draft Proposed Order – Public Hearing

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## **Certificate Holder**

The certificate holder may provide/present on anything in the Draft Proposed Order and/or may submit additional information/evidence to supplement the record.

Presiding Officer or Council Members may ask clarifying questions.

# Mist Underground Natural Gas Storage Resiliency Project



September 19, 2024



# About NW Natural

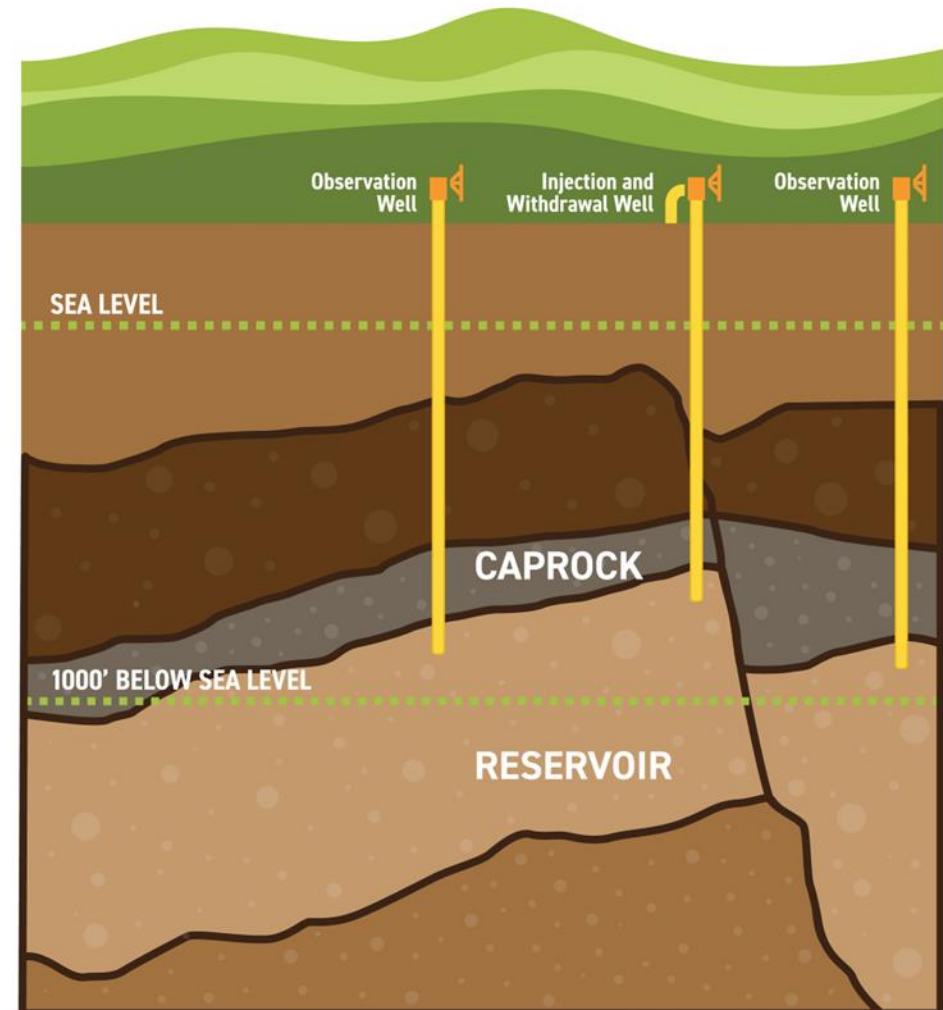
- Largest independent natural gas utility in the Pacific Northwest, founded in 1859
- Serves about 2 million people in Oregon and Southwest Washington
- Nearly 1,200 employees
- Regulated by Oregon Public Utility Commission (OPUC) and Washington Utilities and Transportation Commission (UTC), in addition to multiple other local, state and federal agencies



# Mist Storage Site utilizes existing natural gas reservoirs



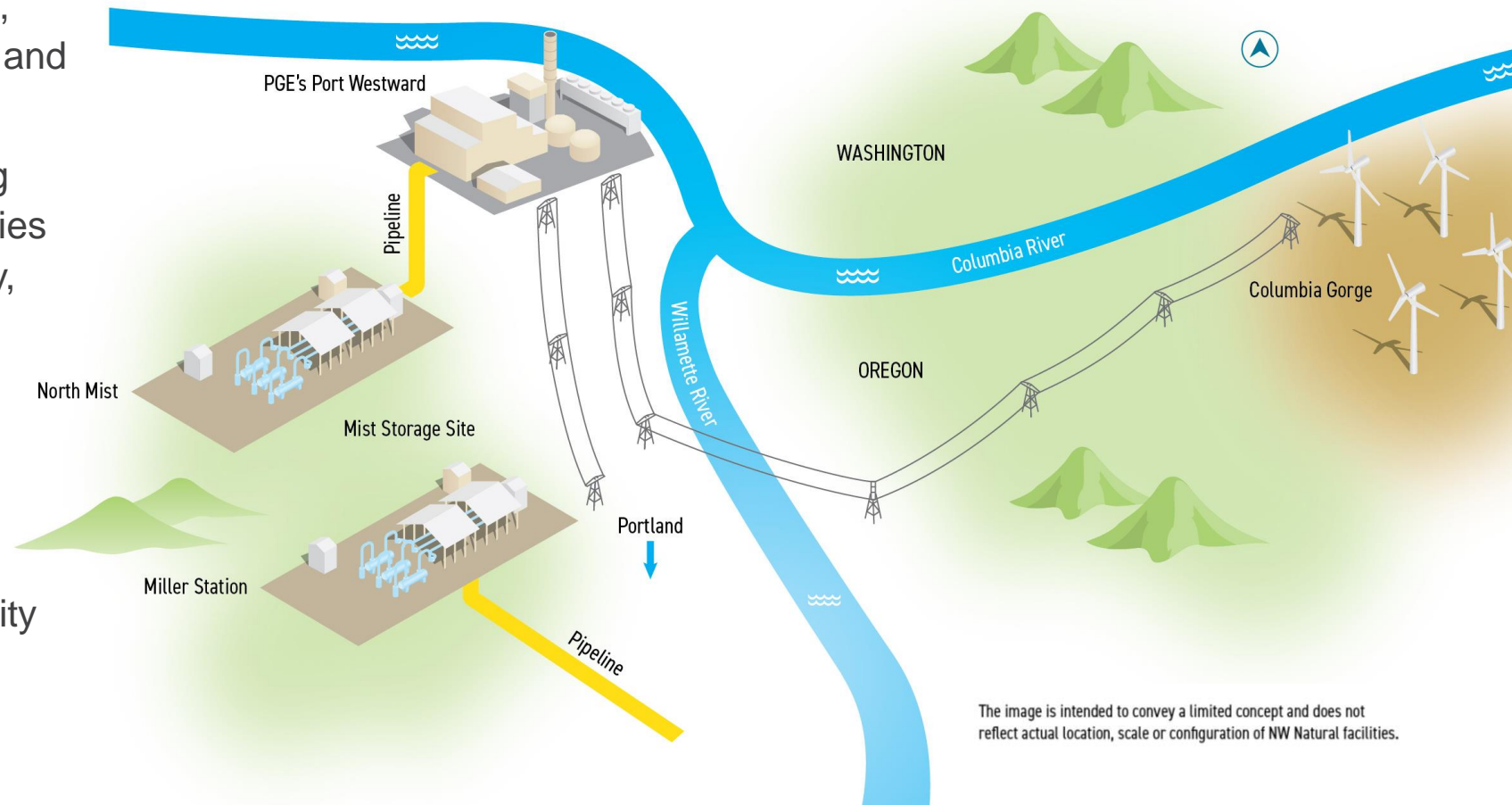
- Ideally located within NW Natural's service territory, allowing for efficient gas delivery with less pipelines
- Geological conditions include sandstone zones of reservoir quality that are used to store gas
- Oregon Department of Geology and Mineral Industries (DOGAMI) permits well construction and gas injection through ORS 520 and OAR 632-010
- Pipeline and Hazardous Materials Safety Administration (PHMSA) regulates underground gas storage through 49 CFR 192.12 and 49 CFR 192.7



The image is intended to convey a limited concept and does not reflect actual location, scale or configuration of NW Natural facilities.

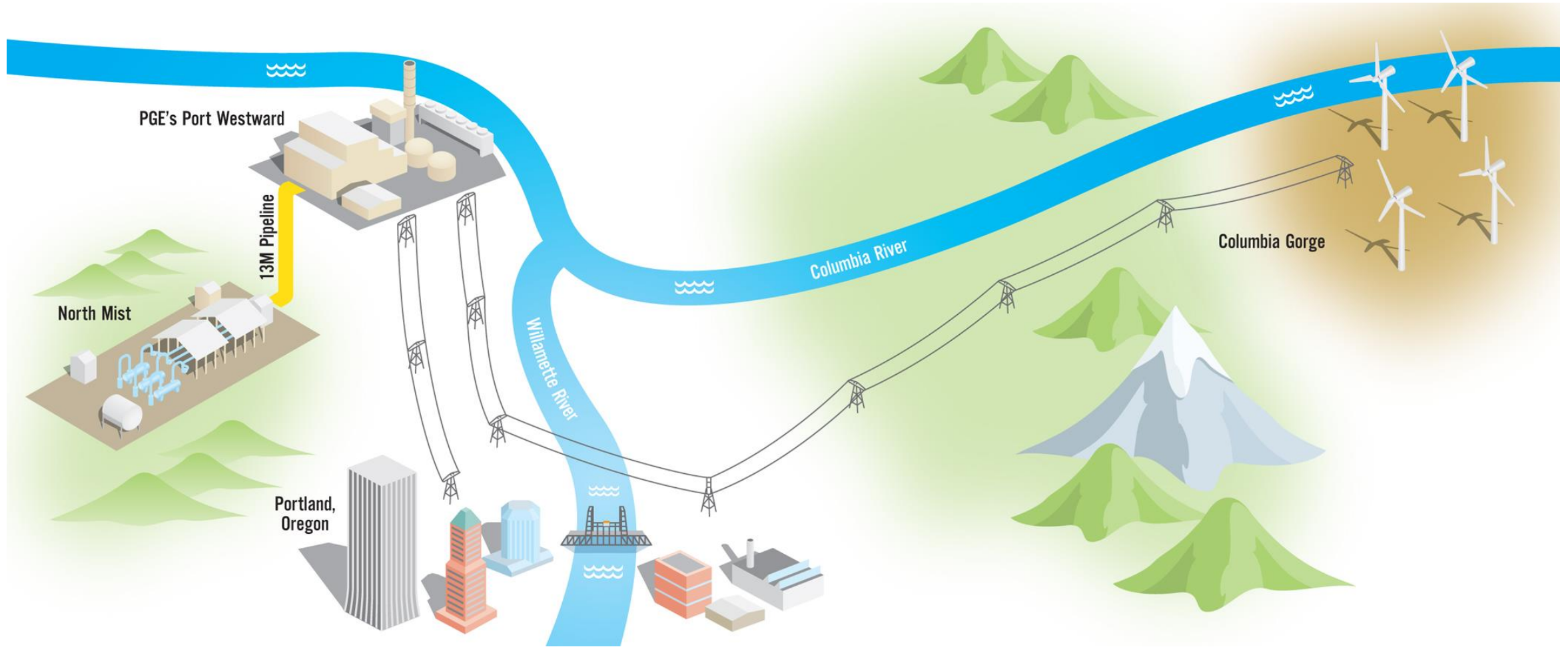
# Mist is an underground Natural Gas Storage Facility

- Consists of underground natural gas storage reservoirs, associated piping, compressor stations, and operations and maintenance facilities
- Provides efficient means of balancing relatively constant pipeline gas supplies with widely fluctuating seasonal, daily, and hourly market requirements
- Current Capacity:
  - 8 Storage Reservoirs in Operation
  - 21.6 Billion Cubic Feet (BCF) Working Gas Capacity
  - 635 MMscfd Max. Daily Deliverability
  - Equivalent to about 6 million MWh of energy



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# North Mist Project is part of the Approved Mist Facilities



**Commenced service - May 24, 2019**

**Storage Capacity - 4 BCF**



# Mist Storage has two compressor stations, one serving core customers and one PGE



## Miller Station

- 17.5 BCF working capacity
- 515 million cubic feet per day (MMSCFD) max withdraw rate
- 15,400 total compression hp
- 7 reservoir pools



## North Mist

- 4.1 BCF working capacity
- 120 MMSCFD max withdraw rate
- 3,750 total compression hp
- 1 reservoir pool

# Miller Station's two turbine compressors are due for replacement

- Compressors are over 20 years old with more than 40,000 hours
- 30,000 hours is the typical end-of-life of the main turbine compressor driver



GC500-Installed late 90's



GC600-Installed early 2000's

# Two studies were conducted to determine the best path to reliable operations



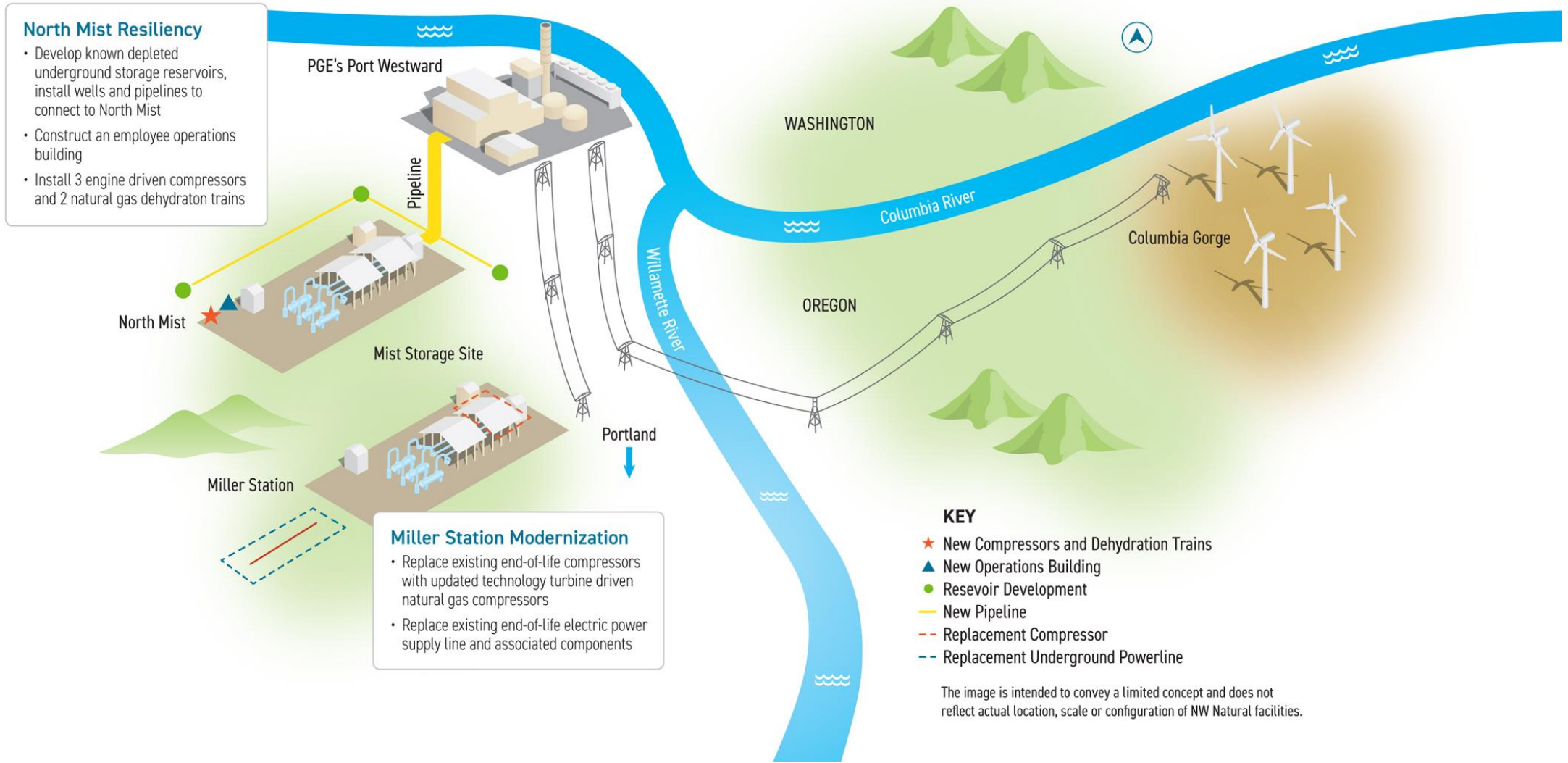
## AECOM STUDY 2020

- Analyzed the operating profile of the facility for optimal compressor configurations
- Implemented recommended actions:
  - Rebuild reciprocating compressors and upgrade supporting equipment
  - Overhaul turbines, identify root cause of failures and resolve them

## BURNS & MCDONNELL STUDY 2020

- Updated analysis of turbine failures and options with more years of operational experience of the equipment at its end-of-life status
- Recommended replacement of the turbines with industrial turbine-based equipment

# Mist Resiliency Project



**North Mist Resiliency**

- Develop known depleted underground storage reservoirs, install wells and pipelines to connect to North Mist
- Construct an employee operations building
- Install 3 engine driven compressors and 2 natural gas dehydration trains

**Miller Station Modernization**

- Replace existing end-of-life compressors with updated technology turbine driven natural gas compressors
- Replace existing end-of-life electric power supply line and associated components

**KEY**

- ★ New Compressors and Dehydration Trains
- ▲ New Operations Building
- Reservoir Development
- New Pipeline
- - Replacement Compressor
- - Replacement Underground Powerline

The image is intended to convey a limited concept and does not reflect actual location, scale or configuration of NW Natural facilities.

Thank You

# Mist Facility Request for Amendment 13 Draft Proposed Order – Public Hearing

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## Written Comments

Written comments on the Request for Amendment 13 and/or the Draft Proposed Order and may be submitted until the close of this Hearing. Written comments may be submitted prior to the close of this hearing:

- Via online siting comment portal: <https://odoe.powerappsportals.us/en-US/SitingPublicComment/>
- Via email: [kathleen.sloan@energy.oregon.gov](mailto:kathleen.sloan@energy.oregon.gov)
- Hand delivery to one of the staff members or by mail to: Oregon Department of Energy; 550 Capitol St. NE; Salem, OR, 97301

# Mist Facility Request for Amendment 13 Draft Proposed Order – Public Hearing

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## **Public Testimony**

Members of the public may comment on the Draft Proposed Order and/or the RFA13.

### **7 Minute Time Limits**

Presiding Officer or Council Members may ask clarifying questions.

# How to Raise Your Hand in Webex:

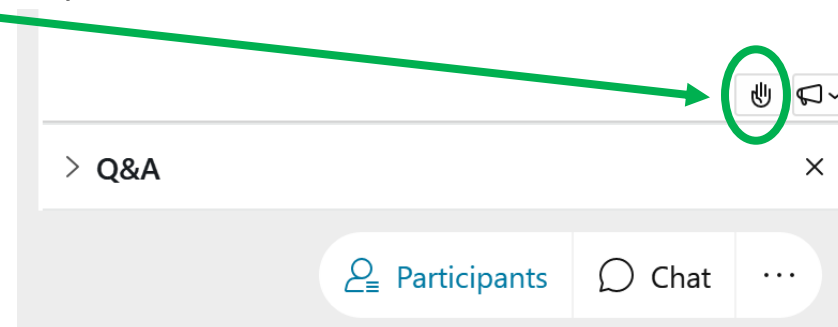
## Webinar Participants

The bottom right of the main window is a set of icons:

Click on “Participants”

The bottom right of the participant window is a hand icon, click on the hand:

Clicking on it again will lower your hand.



## Phone Participants

Press \*3 on your telephone keypad to raise your hand.

Press \*3 again on your telephone keypad to lower your hand.



# Mist Facility Request for Amendment 13 Draft Proposed Order – Public Hearing

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## **Request for 30-day Extension to Comment Deadline**

A written comment was received on August 28, 2024 from Audrey Leonard, Staff Attorney with Columbia Riverkeeper.

Columbia Riverkeeper requested a 30-day comment deadline extension to comment on the Draft Proposed Order.

# Council Options for Motion on 30-day Comment Deadline Extension Request

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## Option 1

**Approve the Request  
for good cause**

## Option 2

**Deny the Request**

# Council Deliberation

# Mist Facility Request for Amendment 13 Draft Proposed Order – Public Hearing

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## **Council**

Council may comment about any concerns they have related to the Draft Proposed Order and/or the RFA13.

# Mist Facility Request for Amendment 13 Draft Proposed Order – Public Hearing

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## **Certificate Holder's Responses to Comments**

The certificate holder may respond to any comments by:

- Providing oral responses
- Submitting additional information/evidence to supplement the record
- Requesting that the Presiding Officer extend the record to submit additional information/evidence to supplement the record

Public Hearing Closed