



**Federal Energy
Regulatory
Commission**

**Office of
Energy Projects**

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November 2022

GTN XPress Project

FINAL ENVIRONMENTAL IMPACT STATEMENT

Gas Transmission Northwest LLC

Docket No. CP22-2-000

Abstract:

The staff of the Federal Energy Regulatory Commission (Commission) prepared a final environmental impact statement (EIS) for the GTN XPress Project (Project) proposed by Gas Transmission Northwest LLC (GTN). GTN proposes to modify three existing compressor stations in Idaho, Washington, and Oregon. This Project would increase the capacity of GTN's existing natural gas transmission system by about 150 million standard cubic feet per day between Idaho and Oregon. Commission staff conclude that construction and operation of the project, with the mitigation measures recommended in the EIS, would result in some adverse environmental impacts; however, with the exception of climate change, those impacts would not be significant. Climate change impacts are not characterized in this EIS as significant or insignificant.

Contact: Office of External Affairs, (866) 208-FERC

Estimate of Staff's Time Spent in the Preparation of this EIS: \$39,478.35. There were no direct contracts or travel costs.

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WASHINGTON, D.C. 20426
OFFICE OF ENERGY PROJECTS

In Reply Refer To:
OEP/DG2E/Gas Branch 3
Gas Transmission Northwest LLC
GTN XPress Project
Docket No. CP22-2-000

TO THE INTERESTED PARTY:

The staff of the Federal Energy Regulatory Commission (FERC or Commission) has prepared a final environmental impact statement (EIS) for the GTN XPress Project (Project), proposed by Gas Transmission Northwest LLC (GTN) in the above-referenced docket. GTN proposes to modify existing compressor stations in Idaho, Washington, and Oregon. This Project would increase the capacity of GTN's existing natural gas transmission system by about 150 million standard cubic feet per day between Idaho and Oregon. According to GTN, the Project is necessary to serve the growing market demand its system is experiencing.

The final EIS assesses the potential environmental effects of modifying and installing new facilities at the existing compressor stations in accordance with the requirements of the National Environmental Policy Act (NEPA). The FERC staff concludes that approval of the proposed Project, with the mitigation measures recommended in the EIS, would result in some adverse environmental impacts, but none that are considered significant. Regarding climate change impacts, the EIS is not characterizing the Project's greenhouse gas emissions as significant or insignificant because the Commission is conducting a generic proceeding to determine whether and how the Commission will conduct significance determinations going forward.¹ The EIS also concludes that no system or other alternative would meet the Project objectives while providing a significant environmental advantage over the Project as proposed.

The U.S. Environmental Protection Agency participated as a cooperating agency in the preparation of the EIS. A cooperating agency has jurisdiction by law or special expertise with respect to resources potentially affected by the proposal and participates in the NEPA analysis.

The final EIS addresses the potential environmental effects of construction and operation of the following Project facilities at GTN's existing compressor stations:

¹ *Consideration of Greenhouse Gas Emissions in Natural Gas Infrastructure Project Reviews*, 178 FERC ¶ 61,108 (2022); 178 FERC ¶ 61,197 (2022).

Athol Compressor Station (Kootenai County, Idaho)

- Uprate an existing Solar Turban Titan 130 gas-fired turbine compressor from 14,300 horsepower (HP) to 23,470 HP via a software upgrade only, no mechanical work or ground disturbance would occur at this location.

Starbuck Compressor Station (Walla Walla County, Washington)

- Uprate an existing Solar Turban Titan 130 gas-fired turbine compressor from 14,300 HP to 23,470 HP; and
- Install a new 23,470 HP Solar Turbine Titan 130 gas-fired turbine compressor, 3 new gas cooling bays, and associated piping.

Kent Compressor Station (Sherman County, Oregon)

- Uprate an existing Solar Turban Titan 130 gas-fired turbine compressor from 14,300 HP to 23,470 HP;
- Install 4 new gas cooling bays and associated piping; and
- Improve an existing access road.

The new Starbuck Compressor Station facilities would be located within the fenced boundaries of the existing site. The new Kent Compressor Station facilities would be located in an expanded and fenced area abutting the existing site.

The Commission mailed a copy of the *Notice of Availability* of the final EIS to federal, state, and local government representatives and agencies; elected officials; environmental and public interest groups; Indian tribes; potentially affected landowners and other interested individuals and groups; and newspapers and libraries in the Project area. The final EIS is only available in electronic format. It may be viewed and downloaded from the FERC's website (www.ferc.gov), on the natural gas environmental documents page (<https://www.ferc.gov/industries-data/natural-gas/environment/environmental-documents>). In addition, the final EIS may be accessed by using the eLibrary link on the FERC's website. Click on the eLibrary link (<https://elibrary.ferc.gov/eLibrary/search>) select "General Search" and enter the docket number in the "Docket Number" field, excluding the last three digits (i.e. CP22-2). Be sure you have selected an appropriate date range. For assistance, please contact FERC Online Support at FercOnlineSupport@ferc.gov or toll free at (866) 208-3676, or for TTY, contact (202) 502-8659.

The EIS is not a decision document. It presents Commission staff's independent analysis of the environmental issues for the Commission to consider when addressing the merits of all issues in this proceeding.

Additional information about the Project is available from the Commission's Office of External Affairs, at **(866) 208-FERC**, or on the FERC website (www.ferc.gov) using the [eLibrary](#) link. The eLibrary link also provides access to the texts of all formal documents issued by the Commission, such as orders, notices, and rulemakings.

In addition, the Commission offers a free service called eSubscription that allows you to keep track of all formal issuances and submittals in specific dockets. This can reduce the amount of time you spend researching proceedings by automatically providing you with notification of these filings, document summaries, and direct links to the documents. Go to <https://www.ferc.gov/ferc-online/overview> to register for eSubscription.

TABLE OF CONTENTS

| | <u>Page</u> |
|---|-------------|
| TO THE INTERESTED PARTY: | 1 |
| TABLE OF CONTENTS | i |
| LIST OF TABLES | ii |
| LIST OF FIGURES | ii |
| LIST OF APPENDICES | iii |
| TECHNICAL ACRONYMS AND ABBREVIATIONS | iii |
| EXECUTIVE SUMMARY | 1 |
| PROPOSED ACTION | 1 |
| PUBLIC INVOLVEMENT | 2 |
| PROJECT IMPACTS AND MITIGATION | 3 |
| Air Quality and Climate Change | 3 |
| MAJOR CONCLUSIONS | 4 |
| 1.0 INTRODUCTION | 1-1 |
| 1.1. PURPOSE AND NEED | 1-1 |
| 1.2. PURPOSE AND SCOPE OF THIS EIS | 1-2 |
| 1.3. PUBLIC REVIEW AND COMMENT | 1-3 |
| Summary of Submitted Alternatives, Information, and Analyses | 1-4 |
| 1.4. PERMITS, APPROVALS, AND CONSULTATIONS | 1-6 |
| 2.0 DESCRIPTION OF THE PROPOSED ACTION | 2-1 |
| 2.1 PROPOSED FACILITIES AND LOCATIONS | 2-1 |
| 2.2 LAND REQUIREMENTS | 2-2 |
| 2.3 CONSTRUCTION WORKFORCE, SCHEDULE, AND PROCEDURES | 2-2 |
| Construction Procedures | 2-6 |
| 2.4 ENVIRONMENTAL COMPLIANCE AND MONITORING | 2-6 |
| Post-Construction Monitoring | 2-7 |
| 2.5 OPERATION AND MAINTENANCE | 2-7 |
| 3.0 ALTERNATIVES | 3-1 |
| No-Action Alternative | 3-1 |
| Alternatives Evaluation Process | 3-2 |
| 4.0 ENVIRONMENTAL ANALYSIS | 4-1 |
| 4.1 GEOLOGY | 4-4 |
| 4.2 SOILS | 4-7 |
| 4.3 GROUNDWATER | 4-8 |
| 4.4 VEGETATION | 4-11 |
| 4.5 WILDLIFE AND PROTECTED SPECIES | 4-11 |
| 4.6 CULTURAL RESOURCES | 4-15 |
| 4.7 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE | 4-19 |
| 4.8 LAND USE | 4-33 |
| 4.9 AIR QUALITY AND CLIMATE CHANGE | 4-34 |
| 4.10 NOISE | 4-51 |
| 4.11 SAFETY AND RELIABILITY | 4-54 |

| | | |
|------|--|------|
| 4.12 | CUMULATIVE IMPACTS | 4-56 |
| 5.0 | CONCLUSIONS AND RECOMMENDATIONS..... | 5-1 |
| 5.1 | SUMMARY OF THE ENVIRONMENTAL ANALYSIS..... | 5-1 |
| 5.2 | FERC STAFF’S RECOMMENDED MITIGATION..... | 5-1 |

LIST OF TABLES

| | | |
|--------------|--|------|
| Table 1.4-1 | Permits, Approvals, and Consultations..... | 1-6 |
| Table 3.0-1 | Electric Compressor Emissions Comparison..... | 3-6 |
| Table 4.5-1 | Habitat Types Crossed by the Project and Examples of Typical Wildlife..... | 4-12 |
| Table 4.7-1 | Minority Populations by Race and Ethnicity and Low-Income Populations in the Project Area..... | 4-25 |
| Table 4.9-1 | Construction Emissions..... | 4-38 |
| Table 4.9-2 | Existing Compressor Station Operations Emissions..... | 4-39 |
| Table 4.9-3 | Athol Compressor Station Modeling Results..... | 4-42 |
| Table 4.9-4 | Starbuck Compressor Station Modeling Results..... | 4-43 |
| Table 4.9-5 | Kent Compressor Station Modeling Results..... | 4-43 |
| Table 4.10-1 | Operational Noise Analysis..... | 4-53 |
| Table 4.12-1 | Geographic Scope by Resource for Cumulative Impacts Associated with the GTN XPRESS Project..... | 4-57 |

LIST OF FIGURES

| | | |
|--------------|---|------|
| Figure 2.1-1 | GTN Xpress Project Area – Idaho..... | 2-3 |
| Figure 2.1-2 | GTN Xpress Project Area – Washington..... | 2-4 |
| Figure 2.1-3 | GTN Xpress Project Area – Oregon..... | 2-5 |
| Figure 4.7-1 | Athol Compressor Station..... | 4-28 |
| Figure 4.7-2 | Starbuck Compressor Station..... | 4-29 |

LIST OF APPENDICES

- APPENDIX A COMMENTS RECEIVED IN RESPONSE TO THE NOTICE OF SCOPING
- APPENDIX B DISTRIBUTION LIST FOR THE NOTICE OF AVAILABILITY OF THE FINAL ENVIRONMENTAL IMPACT STATEMENT
- APPENDIX C REFERENCES
- APPENDIX D LIST OF PREPARERS
- APPENDIX E COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT AND RESPONSES

TECHNICAL ACRONYMS AND ABBREVIATIONS

| | |
|------------------------------------|--|
| ACHP | Advisory Council on Historic Preservation |
| APE | area of potential effect |
| ATWS | additional temporary workspace |
| AVERT | Avoided Emissions and Generation Tool |
| BCC | Birds of Conservation Concern |
| BGEPA | Bald and Golden Eagle Protection Act |
| BIA | Bureau of Indian Affairs |
| BMP | Best Management Practice |
| CAA | Clean Air Act |
| CEQ | Council on Environmental Quality |
| CEQ Environmental Justice Guidance | CEQ's Environmental Justice Guidance Under the National Environmental Policy Act |
| Certificate | Certificate of Public Convenience and Necessity |
| CFR | Code of Federal Regulations |
| CO | carbon monoxide |
| CO ₂ | carbon dioxide |
| CO _{2e} | carbon dioxide equivalents |
| COE | U.S. Army Corps of Engineers |
| CWA | Clean Water Act |
| dB | decibels |
| dBA | decibels on the A-weighted scale |
| DOT | Department of Transportation |

| | |
|--------------------|--|
| Director of OEP | Director of the Office of Energy Projects |
| EA | Environmental Assessment |
| ECS | Environmental Construction Standards |
| EDR | Environmental Data Resources |
| EI | Environmental Inspector |
| EIS | Environmental Impact Statement |
| EPA | U.S. Environmental Protection Agency |
| ESA | Endangered Species Act |
| °F | Degrees Fahrenheit |
| FERC or Commission | Federal Energy Regulatory Commission |
| FR | Federal Register |
| FWS | U.S. Fish and Wildlife Service |
| g | gravity |
| GHG | greenhouse gasses |
| GTN | Gas Transmission Northwest LLC |
| GWP | global warming potential |
| HAP | hazardous air pollutants |
| HP | horsepower |
| IPCC | Intergovernmental Panel on Climate Change |
| IF | isolated find |
| KW | kilowatt |
| lb | pound |
| L _{dn} | day-night sound level |
| MBTA | Migratory Bird Treaty Act |
| MCL | maximum contaminant level |
| MLV | mainline valve |
| MP | milepost |
| MW | Megawatts |
| MWh | Megawatt hour |
| NGPL | Natural Gas Pipeline of America |
| N ₂ O | nitrous oxide |
| NAAQS | National Ambient Air Quality Standards |
| NEPA | National Environmental Policy Act |
| NGA | Natural Gas Act |
| NHPA | National Historic Preservation Act |
| NO _x | nitrogen oxides |
| NO ₂ | nitrogen dioxide |
| NOA | Notice of Application and Establishing Intervention Deadline Notice of Intent to Prepare an Environmental Impact Statement for the Proposed GTN Xpress Project, Request for Comments on Environmental Issues, and Schedule for Environmental Review |
| NOI | |

| | |
|---------------------|--|
| NPS | National Park Service |
| NRHP | National Register of Historic Places |
| NRCS | Natural Resources Conservation Service |
| NSA | noise sensitive area |
| OEP | Office of Energy Projects |
| OPP | Office of Public Participation |
| PGA | peak horizontal ground acceleration |
| PHMSA | Pipeline and Hazardous Materials Safety Administration |
| Plateau | Plateau Archaeological Investigations LLC |
| PM ₁₀ | particles 10 micrometers in diameter and smaller |
| PM _{2.5} | particles 2.5 micrometers in diameter and smaller |
| Project | GTN XPress Project |
| Promising Practices | Promising Practices for EJ Methodologies in NEPA Reviews |
| SHPO | State Historic Preservation Officer |
| SSA | sole source aquifer |
| SO ₂ | sulfur dioxide |
| SPCC Plan | Spill Prevention Control and Countermeasures Plan |
| THPO | Tribal Historic Preservation Officer |
| tpy | tons per year |
| UDP | Unanticipated Discovery Plan |
| ug/m ³ | Microgram per cubic meter |
| USACE | U.S. Army Corps of Engineers |
| USC | United States Code |
| USGCRP | U.S. Global Change Research Program |
| VOCs | volatile organic compounds |
| WDFW | Washington Department of Fish and Wildlife |

EXECUTIVE SUMMARY

On October 4, 2021, Gas Transmission Northwest LLC (GTN) filed an application with the Federal Energy Regulatory Commission (FERC or Commission) pursuant to section 7(c) of the Natural Gas Act (NGA) in FERC docket no. CP22-2-000. GTN is seeking a Certificate of Public Convenience and Necessity to modify a total of three existing compressor stations in Idaho, Washington, and Oregon. This proposed project is referred to as the GTN XPress Project (Project).

The Commission's environmental staff has prepared this final Environmental Impact Statement (EIS) to fulfill requirements of the National Environmental Policy Act of 1969 (NEPA) and the Commission's implementing regulations under Title 18 of the Code of Federal Regulations Part 380 (18 Code of Federal Regulations [CFR] 380). The purposes of this EIS are to: assess the potential environmental impacts on the environment resulting from construction and operation of the Project; and to inform decision-makers, affected landowners, the public, permitting agencies, and other interested parties about the potential environmental impacts of the Project, alternatives, and mitigation measures we are recommending to reduce adverse impacts on the environment. Our¹ analysis is based on information provided in GTN's application and supplemental filings, its responses to our requests for additional information; public comments; literature research; and correspondence with federal, state, and local regulatory agencies. Per the NGA, the FERC is the federal agency responsible for authorizing interstate natural gas transmission facilities and is the lead federal agency responsible for the NEPA review. The U.S. Environmental Protection Agency (EPA) participated as a cooperating agency and provided FERC environmental staff with assistance preparing the EIS because they have special expertise with respect to environmental resources and impacts associated with the Project.

PROPOSED ACTION

GTN proposes to modify three existing compressor stations along its existing pipeline transmission system in Idaho, Washington, and Oregon. GTN would uprate existing compressor units at each station and install a new compressor unit at its Starbuck Compressor Station. These modifications would result in a total increase of 50,980 horsepower (hp) along GTN's system and increase capacity by 150 million standard cubic feet per day. GTN would also install additional cooling bays and associated piping at the Starbuck Compressor Station in Washington and Kent Compressor Station in Oregon.

No physical work or ground disturbance would occur at the Athol Compressor Station in Idaho (software upgrade only). At the Starbuck Compressor Station, the proposed facilities (new compressor, cooling bays, and piping) would be located within the fenced boundaries of the existing site. At the Kent Compressor Station, the proposed

¹ The pronouns "we," "us," and "our" refers to environmental and engineering staff of the Office of Energy Projects.

facilities (cooling bays and piping) would be located in an expanded and fenced area abutting the existing site.

PUBLIC INVOLVEMENT

On October 19, 2021, the Commission issued a *Notice of Application and Establishing Intervention Deadline* for the Project. This notice described ways to become involved in the Commission's review of the Project, including filing comments with the Commission and becoming an intervenor, or party to the proceeding. On January 21, 2022, the Commission issued a *Notice of Intent to Prepare an Environmental Impact Statement for the Proposed GTN XPress Project, Request for Comments on Environmental Issues, and Schedule for Environmental Review*. The notices were mailed or emailed to over 100 entities, including affected landowners (as defined in the Commission's regulations); federal, state, and local officials; Indian tribes; agency representatives; environmental and public interest groups; and local libraries and newspapers. In response to the notices, the Commission received comment letters from local government representatives, businesses, associations, labor union members, concerned citizens, the National Park Service, the EPA, Columbia River Keeper, Rouge Climate, and the Idaho Governor's Office. The comments concerned EIS preparation, geology and soils, water resources, threatened and endangered species, environmental justice, land use, cultural resources, air quality and noise, climate change, reliability and safety, and alternatives.

On June 30, 2022, the Commission issued a *Notice of Availability of the Draft Environmental Impact Statement for the Proposed GTN XPress Project* (NOA). The NOA was published in the Federal Register and established a closing date of August 22, 2022, for receiving comments on the draft EIS. In response to the draft EIS, we received written comments from the EPA, the States of Washington, Oregon, and California, Crag Law Center, Rogue Climate, Wild Idaho Rising Tide, Earth Ministry, Columbia Riverkeeper, Oregon Physicians for Social Responsibility, Washington Physicians for Social Responsibility, 350 Eugene, 350 Deschutes, 350 PDX, 350 Seattle, Rogue Riverkeeper, Oregon Just Transition Alliance, Southern Oregon Climate Action Now, Ministry/Washington Interfaith Power and Light, Red Earth Descendants, Oregon Women's Land Trust, Breach Collective, Southern Oregon Pachamama Alliance, Siskiyou Rising Tide, Climate Solutions, Beyond Toxics, Columbia River Inter-Tribal Fish Commission, the Pipelines Local 798, and 9 individuals expressing concerns for environmental justice communities, sensitive species, climate change and greenhouse gas emissions, the purpose and need for the Project, and cumulative impacts in the Project area. All substantive comments received are addressed in the relevant resource sections of the EIS and in appendix E.

PROJECT IMPACTS AND MITIGATION

Based on our review of the Project; specifically, the proposed Project facilities, the locations of the existing compressor stations sites, surrounding land uses, existing environmental resources, and proximity to local residences and communities, we have determined that several environmental resources would not be affected including waterbodies, wetlands, aquatic resources, and visual resources; therefore, these resources are not addressed in the environmental analysis. Additionally, several resources including geology, soils, vegetation, wildlife, protected species, socioeconomics, and land use would experience only minimal impacts. Therefore, the discussions of these resources and the impacts on them are commensurate to the scope of the Project and its potential impact on the environment. Lastly, the proposed software upgrade at the existing Athol Compressor Station would not require any physical work or ground disturbance; therefore, potential impacts on the environment resulting from this component of the Project are only discussed in the Air Quality, Climate Change, and Noise sections of this EIS.

We have determined, based on public review and scoping comments received, agency consultations, and our analyses, the potential impacts on the environment of most concern are impacts on air quality, climate change, and noise. Our analyses of these specific issues are summarized below. Additionally, in section 4.0 of this EIS, we address these issues in greater detail as well as other environmental issues raised and considered. Section 5.0 of this EIS summarizes our recommendations to further avoid, reduce, and minimize potential impacts on the environment, which can be found in the appropriate resource discussions in Section 4.0 of this EIS.

Air Quality and Climate Change

Modifying and installing the Project facilities would not result in a significant impact on local air quality. During the modification and installation processes, the use of construction vehicles and equipment would result in a temporary reduction in ambient air quality due to criteria pollutant emissions and fugitive dust; however, based on the size of the work crews and associated vehicles (50 workers per crew), these emissions would be minor, temporary, and localized. Emissions from gasoline and diesel engines would comply with applicable EPA mobile source emissions regulations (40 CFR 85) by using equipment manufactured to meet these specifications. The combustion and fugitive dust emissions that would occur during construction would be largely limited to the immediate vicinity of the Project. Furthermore, based on an air quality dispersion modeling analysis conducted by GTN at our request, we have determined that the emissions and ambient pollutant concentrations that would result from operating the modified compressor stations would not lead to a violation of any ambient air quality standard or exceedance of any other air quality impact criterion.

Climate change is the variation in the Earth's climate over time and is driven by the accumulation of greenhouse gasses (GHGs) in the atmosphere. Modifying and installing the

Project facilities would increase the atmospheric concentration of GHGs in combination with past, current, and future emissions from all other sources globally and contribute incrementally to future climate change impacts. Construction activities are estimated to result in emissions of 6,941 metric tons of carbon dioxide equivalents (CO_{2e}); in subsequent years, Project operations and downstream emissions could result in emissions of 1.9 million metric tons of CO_{2e}. This EIS does not characterize the Project's GHG emissions as significant or insignificant because the Commission is conducting a generic proceeding to determine whether and how the Commission will conduct significance determinations going forward.²

Noise

Modifying and installing new compressor station equipment and facilities would temporarily and permanently increase noise emitted at each station. This increased noise could impact noise sensitive areas (NSAs) and nearby communities. At the Athol Compressor Station, there would be no construction noise. Operating the modified station would permanently increase noise emitted from the station and measured at nearby NSAs by about 0.2 decibel (dB). At the Starbuck Compressor Station, uprating and installing the proposed facilities would increase noise at the closest NSA (a single residence, 0.5 mile from the station) and operating the modified station would permanently increase noise at the nearest NSA by about 2.0 dB. At the Kent Compressor Station, uprating and installing the proposed facilities would increase noise at the closest NSA (a single residence, 1.1 miles from the station) and operating the modified station would permanently increase noise at the nearest NSA by about 0.3 dB. For reference, the human ear's threshold of perception for noise change is considered to be 3 dB; 6 dB is clearly noticeable to the human ear, and 10 dB is perceived as a doubling of noise. Based on our noise analysis, the noise level increase associated with operations at NSAs are estimated to be less than 55 decibels on the A-weighted scale day-night sound level. Therefore, given the small changes in noise at each station, we conclude that the Project would not significantly increase noise affecting the environment.

MAJOR CONCLUSIONS

We conclude that modifying and installing the Project facilities would result in some adverse impacts on the environment. However, based on the scope of the Project and GTN's proposed construction procedures and impact minimization measures, we also conclude that most of these impacts would be minor, temporary, and localized. To ensure impacts on the environment are avoided, reduced, and minimized to the extent practical, we are recommending that GTN implement additional mitigation measures. These

² Consideration of Greenhouse Gas Emissions in Natural Gas Infrastructure Project Reviews, 178 FERC ¶ 61,108 (2022); 178 FERC ¶ 61,197 (2022).

recommendations are summarized in section 5.0. We also recommend that these mitigation measures be attached as conditions to any authorization issued by the Commission. Therefore, with the exception of climate change impacts that are not characterized in this EIS as significant or insignificant, we conclude that Project impacts on the environment would not be significant.

1.0 INTRODUCTION

On October 4, 2021, Gas Transmission Northwest LLC (GTN) filed an application with the Federal Energy Regulatory Commission (FERC or Commission) pursuant to section 7(c) of the Natural Gas Act (NGA) in FERC docket no. CP22-2-00. GTN is seeking a Certificate of Public Convenience and Necessity (Certificate) to modify a total of three existing compressor stations in Idaho, Washington, and Oregon. This proposed project is referred to as the GTN XPress Project (Project).

In accordance with the NGA (Title 15 United States Code [USC] § 717), the Commission is responsible for regulating the siting, construction, and operation of interstate natural gas transmission facilities. The FERC is also the lead federal agency responsible for complying with the requirements of the National Environmental Policy Act (NEPA).

Commission staff has prepared this Environmental Impact Statement (EIS) to assess the potential impacts on the natural and human environment resulting from construction and operation of GTN's Project. The U.S. Environmental Protection Agency (EPA), an independent federal agency responsible for protecting human health and safeguarding the natural environment, is a cooperating agency that is assisting in the preparation of the EIS due to its special expertise with respect to environmental resources potentially affected by GTN's proposal. Cooperating agencies play a role in the environmental analyses of a proposed project. They participate in the NEPA process by reviewing the application and related materials, and by reviewing administrative drafts of the overall EIS or the specific portions related to agency permitting or special expertise.

The vertical line in the margin identifies text that is new or modified in the final EIS and differs materially from corresponding text in the draft EIS. Changes were made to address comments from agencies and other stakeholders on the draft EIS.

1.1. PURPOSE AND NEED

The Council on Environmental Quality's (CEQ) regulations concerning NEPA recommend that an EIS should briefly address the underlying purpose and need for a project. As described in its application, the Project would increase the capacity of GTN's existing natural gas transmission system by about 150 million standard cubic feet per day between its Kingsgate Meter Station in Idaho and its Malin Meter Station in Oregon. According to GTN, the Project is necessary to serve the growing market demand its system is experiencing. To address this market need, GTN offered potential shippers an opportunity to purchase Project capacity through an open season in 2019. As a result, the entirety of the Project capacity was awarded to three shippers, who have each executed a

precedent agreement with GTN for a minimum of 30 years of long-term firm transportation service of their respective Project capacity.

Under section 7(c) of the NGA, the Commission determines whether interstate natural gas transportation facilities are in the public convenience and necessity and, if so, grants a Certificate to construct and operate them. The Commission bases its decisions on both economic issues, including need, and environmental impacts.

The Commission will consider the findings contained herein, as well as non-environmental issues, in its review of GTN's application. The identification of environmental impacts related to the construction and operation of the Project, and the mitigation of those impacts, as disclosed in this EIS, would be components of the Commission's decision-making process. The Commission would issue its decision in an Order. If the Project is approved, the Commission would issue a Certificate to GTN. The Commission may accept GTN's application in whole or in part and can attach conditions to the Order that would be enforceable actions to assure that the proper mitigation measures are implemented.

1.2. PURPOSE AND SCOPE OF THIS EIS

This EIS has been prepared in compliance with NEPA requirements (NEPA, 42 USC § 4321 et seq.) which require the Commission to consider the environmental impacts of a proposed action prior to making a decision. This EIS has also been prepared in compliance with CEQ regulations implementing NEPA (Title 40 of the Code of Federal Regulations (CFR), Parts 1500-1508 [40 CFR 1500-1508]), and with the Commission's implementing regulations under 18 CFR Part 380. Our¹ principal purposes in preparing this EIS are to:

- identify and assess the potential impacts on the natural and human environment that would result from constructing and operating the Project;
- describe and evaluate reasonable alternatives to the Project that would avoid or minimize adverse impacts on environmental resources;
- recommend mitigation measures, as necessary, that could be implemented by GTN to reduce impacts on specific environmental resources; and
- encourage and facilitate involvement by the public and interested agencies in the environmental review process.

¹ The pronouns "we," "us," and "our" refers to environmental and engineering staff of the Office of Energy Projects.

This EIS addresses topics including geology, soils; groundwater, vegetation; wildlife and protected species; land use; environmental justice; cultural resources; air quality and noise; climate change; and reliability and safety. This EIS describes the affected environment as it currently exists, addresses the environmental consequences of the Project, and compares the Project’s potential impacts to those of various alternatives. Lastly, this EIS presents our conclusions and recommended mitigation measures.

1.3. PUBLIC REVIEW AND COMMENT

In response to GTN’s filing of an application in October 2021, the Commission issued a *Notice of Application and Establishing Intervention Deadline* (NOA) for the Project on October 19, 2021, and the notice appeared in the Federal Register on October 25, 2021. In response to the NOA, the Commission received 34 comments from local government representatives, businesses, associations, labor union members, and concerned citizens, all of which were in support of the Project.

On January 21, 2022, the Commission issued a *Notice of Intent to Prepare an Environmental Impact Statement for the Proposed GTN XPress Project, Request for Comments on Environmental Issues, and Schedule for Environmental Review* (NOI). The NOI was mailed and/or emailed to approximately 138 entities, including affected landowners; federal, state, and local officials; Indian tribes; regulatory agency representatives; environmental and public interest groups; and local libraries and newspapers. In response to the NOI, the Commission received comments from the National Park Service (NPS), the EPA, the Columbia River Keeper, Rogue Climate, and the Idaho Governor’s Office. As of June 2022, the Commission received a total of 39 comment letters on the Project.²

The comments provided by the NPS appear to be misfiled as they refer to facilities not associated with the Project. Specifically, the comments address facilities located in Morrow County, Oregon. The unrelated GTN Coyote Springs Compressor Station Project is located in Morrow County; therefore, we are not addressing these comments further in this EIS. Appendix A summarizes the environmental issues and concerns identified in the comment letters received during the scoping period and identifies the EIS sections where each issue is addressed.

On June 30, 2022, the Commission issued a *Notice of Availability of the Draft Environmental Impact Statement for the Proposed GTN XPress Project* (NOA). The NOA was published in the Federal Register and established a closing date of August 22, 2022, for receiving comments on the draft EIS. The NOA was mailed to federal, state, and local

² The Columbia River Keeper’s comments included over 1,000 submissions derived from an internet-based petition. <https://www.columbiariverkeeper.org/news/2022/1/inside-scoop-latest-fracked-gas-threat>.

government agencies; elected officials; Native American Tribes; affected landowners; local libraries and newspapers; intervenors in the FERC's proceeding; and other interested parties (i.e., individuals who provided scoping comments or asked to be on the mailing list). The draft EIS was also filed with the EPA, and the NOA was published in the Federal Register on July 7, 2022 (87 FR 40516).

Written comments on the draft EIS were filed from the EPA, the States of Washington, Oregon, and California, Crag Law Center, Rogue Climate, Wild Idaho Rising Tide, Earth Ministry, Columbia Riverkeeper, Oregon Physicians for Social Responsibility, Washington Physicians for Social Responsibility, 350 Eugene, 350 Deschutes, 350 PDX, 350 Seattle, Rogue Riverkeeper, Oregon Just Transition Alliance, Southern Oregon Climate Action Now, Ministry/Washington Interfaith Power and Light, Red Earth Descendants, Oregon Women's Land Trust, Breach Collective, Southern Oregon Pachamama Alliance, Siskiyou Rising Tide, Climate Solutions, Beyond Toxics, Columbia River Inter-Tribal Fish Commission, the Pipelines Local 798, and 9 individuals expressing concerns for environmental justice communities, sensitive species, climate change and greenhouse gas emissions, the purpose and need for the Project, and cumulative impacts in the Project area. All substantive comments received are addressed in the relevant resource sections of the EIS and in appendix E.

The Commission mailed a copy of the Notice of Availability of the *Final Environmental Impact Statement for the GTN XPress Project* to agencies, individuals, organizations, and other parties identified in the distribution list provided as appendix A. Additionally, the final EIS was filed with the USEPA for issuance of a Notice of Availability in the Federal Register.

Summary of Submitted Alternatives, Information, and Analyses

NEPA regulations at 40 CFR § 1502.17 state that a draft and final EIS shall include a summary that identifies all alternatives, information, and analyses submitted by State, Tribal, and local governments and other public commenters during the scoping process for consideration by the lead and cooperating agencies in developing the EIS. During scoping we received comments concerning EIS preparation, cumulative impacts, public health impacts, purpose and need, geology and soils, water resources, threatened and endangered species, land use, cultural resources, environmental justice, noise, air quality, greenhouse emissions, climate change, reliability and safety, waste management, and alternatives. As appropriate, these comments are addressed in the Environmental Analysis section of this EIS.

In its comments submitted, the EPA made numerous recommendations concerning issues that should be included or considered in the EIS including how the public's need for energy services (e.g., electricity generation and building heating) would be met with and without the Project; the extent to which existing renewable and fossil fuel energy facilities at current production levels are able to supply regional users' current and future needs; the

inclusion of contracts that demonstrate the need for the compressor stations' proposed modifications, and an explanation of how gathering system compressor stations are scaled up in response to more wells being drilled upstream, increasing demand for compression. The Commission's decision, in its Order, would review the need for the Project, rather than staff's NEPA analysis. We note the Commission does not have a program to direct the development of the natural gas industry's infrastructure, either on a broad regional basis or in the design of specific projects, and does not engage in regional energy planning exercises. Therefore, these issues are outside the scope of this EIS (see Purpose and Scope of this EIS above) and are not considered further in this analysis.

In comments submitted on the Project, during scoping and on the draft EIS, commenters suggest that GTN's Coyote Springs Compressor Station Project (FERC docket no. CP21-29-000) is a connected action and should be considered in this EIS. In March 2022, we issued a Supplemental Environmental Assessment (EA) for the Coyote Springs Compressor Station Project. In the EA, we describe GTN's project purpose which it states that as a result of existing design pressure requirements and operational fluctuations, it is operationally constrained on its mainline. Therefore, in order to alleviate delivery pressure concerns, GTN proposes to install, own and operate the Coyote Springs Compressor Station on the Coyote Springs Lateral. The Coyote Springs Project would provide operational reliability and flexibility and allow GTN to meet its mainline certificated design capacity and design pressure requirements. The Coyote Springs Compressor Station Project would not result in an increase in incremental capacity, whereas the Project would increase the capacity of GTN's existing system. The Project does not involve activities at the Coyote Springs Compressor Station and we find the project purposes are independent of one another.

In other comments submitted on the Project, commenters stated that the EIS should consider the public health and safety risks of increasing reliance on fracked gas and how the Project could prolong the region's reliance on fossil fuels; that information related to how the gas that will be transported by the proposed project will ultimately be used and why the project is needed to serve those uses; and information regarding the expected utilization rate of the proposed project must be provided and assessed. These issues are also outside the scope of this EIS and are not considered further in this analysis.

In comments during scoping and on the draft EIS the Columbia River Keeper's comments included submissions from concerned citizens expressing: general opposition to the Project; opposition to "fracked gas" projects; applicability of state and local policy efforts; consideration of the no-action alternative; climate change impacts, cumulative impacts; and impacts on the transition to renewable energy. As appropriate, these comments are addressed in this EIS. General opposition and opposition to "fracked gas" do not inform the assessment of impacts from the proposed Project on the natural and human environment and are not addressed in subsequent analyses. Additionally, impacts on the transition to renewable energy is outside the scope of this EIS. The no-action alternative is described in section 3.0. Climate change impacts and cumulative impacts are addressed in section 4.0.

1.4. PERMITS, APPROVALS, AND CONSULTATIONS

In addition to a FERC Certificate, numerous other permits, approvals, and regulatory requirements (including consultations) must be obtained/met by GTN. Table 1.4-1 below identifies the major federal and state permits, approvals, and consultations required to construct and operate the Project. The table also provides the dates, or anticipated dates, when GTN commenced, anticipates commencing, or has completed the required permitting and consultation. GTN would be responsible for obtaining all permits and approvals required to construct and operate the Project, regardless of whether or not they appear in this table.

| TABLE 1.4-1 Permits, Approvals, and Consultations | | | |
|--|--|--------------------------------|-----------------------------------|
| Permitting/Approval Agency | Permit, Approval, or Consultation | File Date (Anticipated) | Receipt Date (Anticipated) |
| FEDERAL | | | |
| Federal Energy Regulatory Commission | Certificate of Public Convenience and Necessity | October 2021 | Pending |
| U.S. Fish and Wildlife Service - Oregon | Endangered Species Act, section 7 consultation; Migratory Bird Treaty Act consultation | September 2021 | September 2021 |
| U.S. Fish and Wildlife Service-Washington | Endangered Species Act, section 7 consultation; Migratory Bird Treaty Act consultation | September 2021 | September 2021 |
| STATE AGENCIES | | | |
| Idaho | | | |
| Idaho Department of Environmental Quality | Tier 1 Operating Permit | June 2020 | January 2021 |
| | Permit to Construct P-2019.0045 | June 202 | January 2021 |
| Idaho State Historical Society | Section 106, National Historic Preservation Act Consultation | April 2022 | May 2022 |
| Washington | | | |
| Washington Department of Ecology | Waste Discharge Permit, Construction Stormwater General Permit | (September/October 2022) | (October/November 2022) |
| | State Environmental Policy Act | (September/October 2022) | (October/November 2022) |
| | Air Quality Program Approval Order No. 21AQ-E009 | May 2020 | January 2021 |
| | State Waste Discharge Permit | (September/October 2022) | (October/November 2022) |

**TABLE 1.4-1
Permits, Approvals, and Consultations**

| Permitting/Approval Agency | Permit, Approval, or Consultation | File Date (Anticipated) | Receipt Date (Anticipated) |
|--|--|--------------------------------|-----------------------------------|
| | Final Renewal Air Operating Permit and Statement of basis 21AQ-E048 | May 2020 | March 2021 |
| Washington Department of Fish and Wildlife | State Threatened and Endangered Species Consultation | September 2021 | September 2021 |
| Washington Department of Archaeology and Historic Preservation | Section 106, National Historic Preservation Act Consultation | May 2020 | May, 2020 |
| Oregon | | | |
| | Title V Operating Permit 28-007-CS-01 | May 2020 | January 2021 |
| Oregon Department of Environmental Quality | Water Pollution Control Facilities General Permit and Construction Stormwater Permit | (August 2022) | (September 2022) |
| | Air Contaminant Discharge Permit | May 2020 | January 2021 |
| Oregon Department of Fish and Wildlife | State Threatened and Endangered Species Consultation | September 2021 | September 2021 |
| Oregon Heritage/State Historic Preservation Office | Section 106, National Historic Preservation Act Consultation | May 2020 | June 2020 |

2.0 DESCRIPTION OF THE PROPOSED ACTION

2.1 PROPOSED FACILITIES AND LOCATIONS

GTN proposes to modify the existing Athol Compressor Station in Kootenai County, Idaho; the existing Starbuck Compressor Station in Walla Walla County, Washington; and the existing Kent Compressor Station in Sherman County, Oregon. Specifically, GTN proposes to complete the activities described below.

Athol Compressor Station

- Uprate an existing Solar Turban Titan 130 gas-fired turbine compressor from 14,300 horsepower (HP) to 23,470 HP via a software upgrade only, no mechanical work or ground disturbance would occur at this location.

Starbuck Compressor Station

- Uprate an existing Solar Turban Titan 130 gas-fired turbine compressor from 14,300 HP to 23,470 HP; and
- Install a new 23,470 HP Solar Turbine Titan 130 gas-fired turbine compressor and associated piping⁵, and 3 new gas cooling bays⁶ and associated piping.

Kent Compressor Station

- Uprate an existing Solar Turban Titan 130 gas-fired turbine compressor from 14,300 HP to 23,470 HP;
- Install 4 new gas cooling bays and associated piping; and
- Improve an existing access road.

The new Starbuck Compressor Station facilities would be located within the fenced boundaries of the existing site. The new Kent Compressor Station Facilities would be located in an expanded and fenced area abutting the existing site. The Project would result in a total increase of 50,980 hp along GTN's natural gas transmission system.

⁵ "Associated piping" refers to the piping necessary to connect the new facilities within existing facilities.

⁶ GTN describes a cooling bay or more commonly a "fin-fan aerial cooler" or just "air cooler", as a type of heat exchanger that moves air over finned tubes through which hot gas flows.

Figure 2.1-1 through 2.1-3 below depict the locations of the existing compressor stations and the proposed facilities. Additional project mapping is available in GTN’s application (FERC Accession No. 20211004-5100)⁷.

2.2 LAND REQUIREMENTS

Modifying the existing compressor stations (and installing the proposed facilities) would require the temporary use of about 46.9 acres of land. Lands would be temporarily disturbed for workspace, staging, and equipment/materials laydown. GTN would permanently maintain about 1.2 acres of land to operate the Project facilities. Lands would be permanently affected to accommodate the expanded aboveground facilities at the Kent Compressor Station, permanent easement, and a modified permanent access road. Specifically, modifying the Starbuck Compressor Station would require the temporary use of about 25.8 acres of land⁸; and modifying the Kent Compressor Station would require the temporary and permanent use of 21.1 and 1.2 acres of land, respectively. The software upgrade occurring at the Athol Compressor Station would not require the temporary or permanent use of lands.

2.3 CONSTRUCTION WORKFORCE, SCHEDULE, AND PROCEDURES

According to GTN, installing the Project facilities would require a peak workforce of about 100 individuals divided into two work crews (about 50 individuals each) generally working six days a week between the hours of 7:00 am and 7:00 pm for approximately seven to eight months. Additionally, overnight work and work on Sundays may be undertaken depending on specific construction activity needs (x-ray testing, hydrostatic testing, and indoor electrical work). Construction activities would commence upon receipt of all applicable permits and authorizations, satisfaction of the pre-construction conditions that are incorporated in a potential Commission order, and receipt of a notice to proceed from the Commission.

GTN would be required to construct the Project facilities in accordance with all applicable federal permits, consultations, regulations, and guidance. Specifically, GTN would adhere to the Department of Transportation (DOT) regulations under 49 CFR 192 (Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards). DOT regulations specify minimum design requirements; protection from internal, external, and atmospheric corrosion; and qualification procedures for welders and operations personnel, in addition to other design standards. GTN would also be required

⁷ A “General Search” of the Commission’s eLibrary can be used to access information by accession number. From the FERC website at www.ferc.gov, click on the eLibrary link, select a “General Search”, and then using the drop-down arrow in the first field, switch to “Accession”, and enter the accession number “20211004-5100”.

⁸ No new land outside of the existing boundaries of the Starbuck Compressor Station would be required for operation of the proposed facilities.

Figure 2.1-1 GTN Xpress Project Area – Idaho

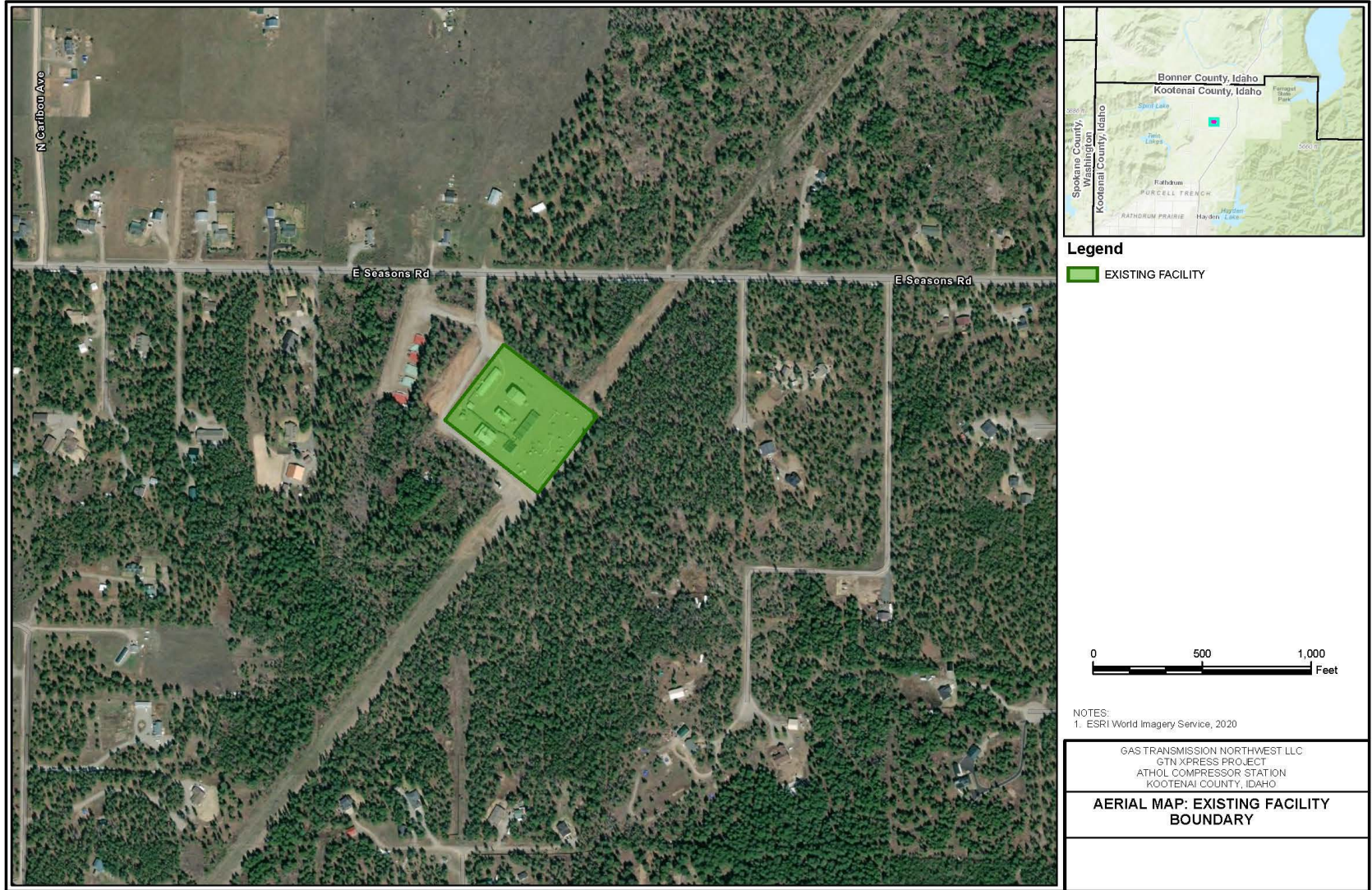


Figure 2.1-2 GTN Xpress Project Area – Washington

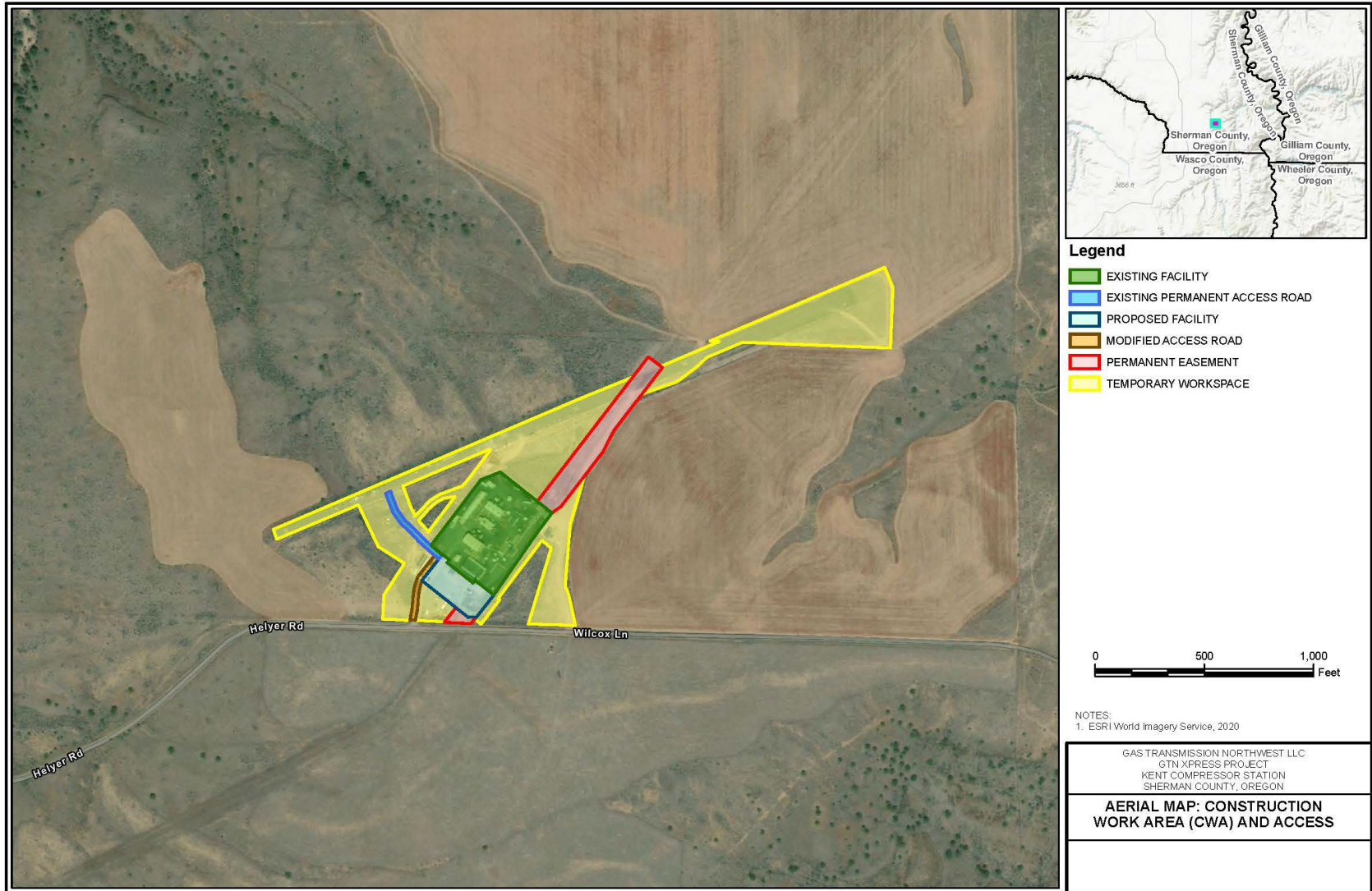
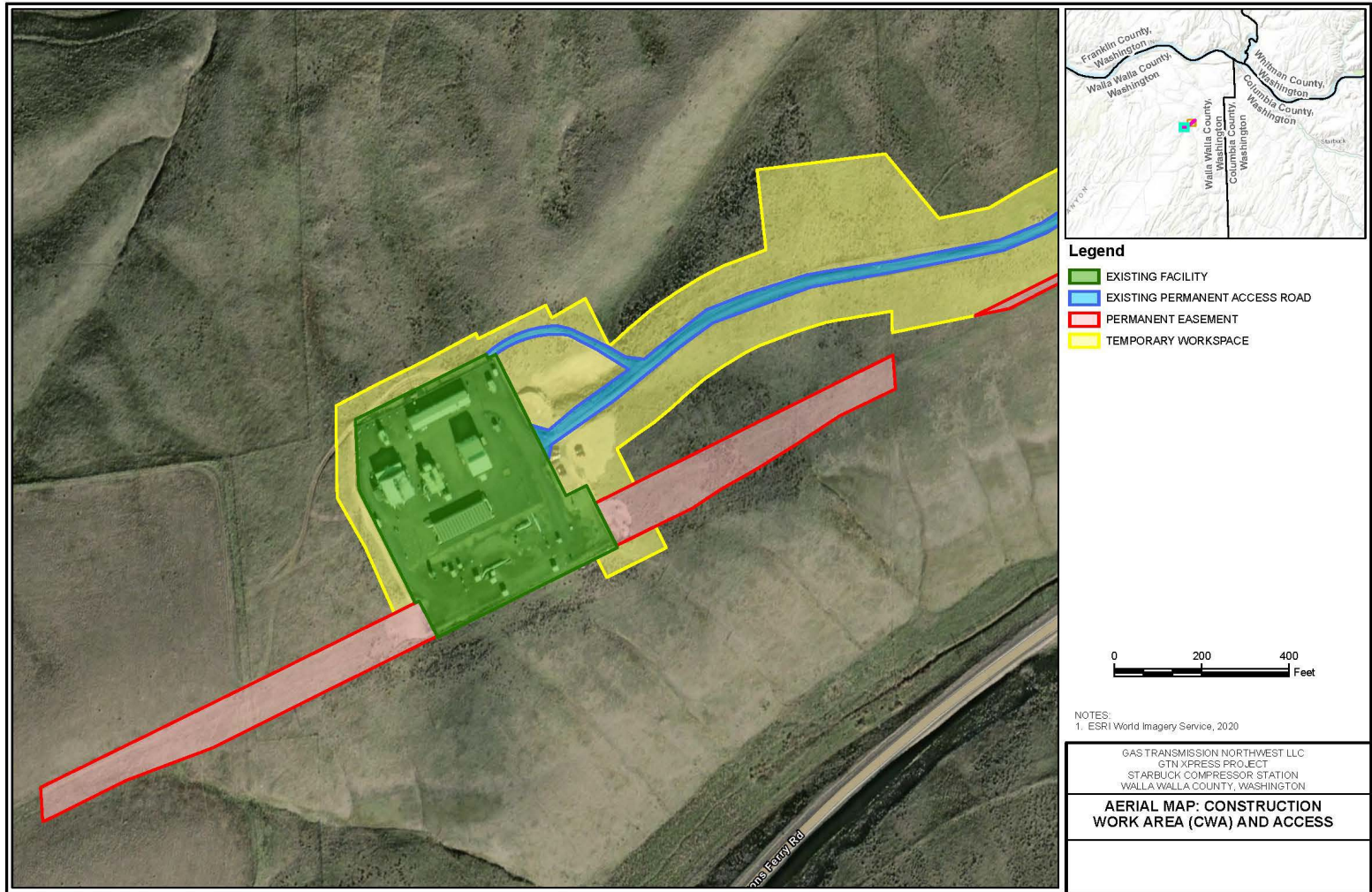


Figure 2.1-3 GTN Xpress Project Area – Oregon



to construct the Project in accordance with applicable state and local permits and conditions.

To minimize and reduce potential impacts on the environment, GTN would implement measures identified in its Environmental Construction Standards (ECS). GTN's ECS incorporates and is consistent with the FERC *Upland Erosion Control, Revegetation, and Maintenance Plan* (FERC, 2013a [Plan]) and *Wetland and Waterbody Construction and Mitigation Procedures* (FERC, 2013b [Procedures]). Additionally, GTN has prepared a Spill Prevention, Control, and Countermeasures Plan (SPCC Plan). Commission environmental staff has reviewed the ECS and SPCC Plan and has determined that they are acceptable. This EIS refers to the ECS and SPCC Plan throughout the Environmental Analysis section.

Construction Procedures

Prior to conducting any ground disturbing activities, GTN contractors would contact and coordinate with state one-call systems to ensure any potentially affected utilities (overhead electric utility lines) are not disrupted. GTN contractors would then clear and grade the necessary workspaces. As appropriate, erosion control devices would be installed. The new turbines, cooling bays, and associated piping would then be constructed, installed, and tested⁹. Following construction, affected lands would be stabilized and incorporated into the existing compressor station sites.

In its comments on the Project, the EPA states that a hazardous and solid waste material handling, storage, management, and disposal plan should be developed. In section 4.1 of its ECS, GTN addresses waste management. Specifically, GTN states that while construction work is on-going, workspaces would be kept clean of all rubbish and debris resulting from the work. Excess construction materials and debris would be collected, contained, and disposed of at regular intervals. The frequency of disposal would vary, but typically containers would be disposed of when they are filled. A supply of excess debris/waste storage containers would be available on-site to ensure there are no unmanaged waste piles. Hazardous waste shall be handled separately from non-hazardous waste and disposed of in accordance with company policies and federal, state, and local regulations.

2.4 ENVIRONMENTAL COMPLIANCE AND MONITORING

GTN has committed to comply with applicable permits and approvals. GTN would train company and contractor personnel to familiarize them with environmental requirements and other conditions and provide at least one Environmental Inspector (EI)

⁹ Some facilities may require hydrostatic testing. Hydrostatic testing involves the pressurizing of pipes and equipment with water to ensure material integrity and would be conducted in accordance with the requirements of DOT pipeline safety regulations.

to monitor compliance during construction. GTN would also require contractors to designate an Environmental Foreman. Environmental Foremen would be responsible for the contractor's efforts to correctly install and maintain environmental controls as well as implementing specific controls for construction in environmentally sensitive areas. Environmental Foremen would be available at all times during the duration of the Project and have a sufficient number of employees and equipment to implement the Project's compliance standards.

GTN personnel would be responsible for the implementation of environmental requirements and would file with the Commission environmental compliance training and inspection information prior to construction of the Project. During construction, if the construction contractor does not comply with environmental requirements, GTN would direct the contractor to comply and may take other corrective actions as necessary, including issuing site specific stop-work orders, until the contractor meets the environmental requirements. Lastly, GTN would incorporate relevant environmental requirements and project-specific environmental mitigation plans into the construction documents for the Project and would include copies of relevant environmental permits and approvals in the construction bid packages and contracts.

In addition to GTN's efforts to ensure environmental compliance, FERC staff or its representatives would monitor construction activities and may conduct periodic inspections to ensure GTN's compliance with its commitments and any conditions of a Commission order. FERC environmental staff would also monitor regularly filed inspection reports, address compliance issues, and would have the authority to stop any activity that violates an environmental condition of a FERC Certificate.

Post-Construction Monitoring

After construction, GTN would conduct follow-up inspections of all disturbed lands and would continue monitoring areas until revegetation thresholds are met, temporary erosion control devices are removed, and restoration is deemed successful, based on the criteria defined in Section VII of the FERC Plan and Section VI.D of the FERC Procedures. If it is determined that the success of any of the restoration activities are not adequate at the end of the respective timeframes, GTN would be required to extend their post-construction monitoring programs and implement corrective actions as deemed necessary.

2.5 OPERATION AND MAINTENANCE

As described previously, GTN would operate and maintain the Project facilities in compliance with DOT regulations provided in 49 CFR Part 192, the Commission's guidance in 18 CFR § 380.15, and maintenance provisions of its ECS.

3.0 ALTERNATIVES

As required by NEPA and Commission policy, we identified and evaluated reasonable alternatives to the Project to determine whether the implementation of an alternative would be environmentally preferable to the proposed action. A reasonable alternative would meet the Project's purpose and would be technically and economically feasible and practical. Specifically, we describe and evaluate system alternatives and design alternatives in the following analyses. We also evaluate the no-action alternative as required by NEPA. We did not identify or evaluate alternatives to compressor uprating and cooling, facility siting, or layout alternatives because the Project facilities are proposed within or abutting existing compressor station sites and selecting an alternative site for facilities that complement existing facilities is not a feasible and practical alternative.

No-Action Alternative

NEPA requires the Commission to consider and evaluate the no-action alternative. According to CEQ guidance, in instances involving federal decisions on proposals for projects, no-action would mean the proposed activity would not take place and the resulting environmental effects from taking no-action would be compared with the effects of permitting the proposed activity. Further, the no-action alternative provides a benchmark for decisionmakers to compare the magnitude of environmental effects of the proposed activity and alternatives.

In comments received on the Project, commenters stated that the No-Action Alternative should consider and evaluate non-gas energy alternatives as well as other non-project related alternatives that satisfy the ultimate need for the project. Specifically, commenters request that alternative energy services that would be provided by the delivered fuel should be considered and the FERC should review market studies that project volumetric or peak day load growth. Commentors further suggest that GTN should submit contracts that demonstrate the need for the proposed modifications and that FERC should consider whether the proposal is, in fact, a response to more wells being drilled upstream, increasing demand for compression.

As described previously, the purpose of this EIS is to assess the impacts on the natural and human environment resulting from construction and operation of the proposed Project facilities and to assess reasonable alternatives to the proposed action (see Purpose and Scope of this EIS in section 1.2). The purpose of this Project is to increase the capacity of GTN's existing natural gas transmission system. An alternative that does not increase the capacity of GTN's natural gas transmission system is not a reasonable alternative because it does not meet the purpose of the Project; and is therefore, not considered in this EIS. Additionally, a review of market studies and GTN's contracts would not inform the assessment of potential Project impacts on the natural and human environment action (see Purpose and Scope of this EIS in section 1.2). Furthermore, determining the need for the Project or assessing the effects of upstream wells as they relate to the need for the Project

are outside the scope of this EIS. The Commission will determine the need for the Project in any subsequent Order it may issue.

Here, under the no-action alternative, the environmental impacts associated with the proposed activity, as described in the Environmental Analysis section of this EIS, would not occur. We have prepared this EIS to inform the Commission and stakeholders about the expected impacts that would occur if the Project facilities are constructed and operated. The Commission will ultimately determine the Project need and could choose the no-action alternative.

Alternatives Evaluation Process

To ensure a consistent environmental comparison among alternatives and to normalize the comparison factors of alternatives and the proposed action, we generally use desktop sources of information (e.g., publicly available data, geographic information system data, aerial imagery) and where appropriate, we also use site-specific information (e.g., field surveys or detailed designs). Our environmental evaluation of alternatives considers quantitative data and uses common comparative factors such as land requirements and resources amounts affected. Our evaluation of the identified alternatives is also based on Project-specific information provided by the applicant; publicly available information; and our expertise and experience regarding the siting, construction, and operation of natural gas transmission facilities and their potential impact on the environment. Furthermore, our evaluation considers impacts on both the natural and human environments and in recognition of the competing interests and the different nature of impacts that sometimes exist (i.e., impacts on the natural environment versus impacts on the human environment), we also consider other factors that are relevant to a particular alternative and discount or eliminate factors that are not relevant or may have less weight or significance.

We would generally consider an alternative to be preferable to a proposed action if three evaluation criteria are met, as discussed in greater detail below. These criteria include:

1. the alternative meets the stated purpose of the project;
2. is technically and economically feasible and practical; and
3. offers a significant environmental advantage over a proposed action.

The alternatives discussed below were reviewed against the evaluation criteria in the sequence presented above. The first consideration for including an alternative in our analysis is whether or not it could satisfy the stated purpose of the Project. A preferable alternative must meet the stated purpose of the Project, which is to increase the capacity of GTN's existing natural gas transmission system by about 150 million standard cubic feet per day between its Kingsgate Meter Station in Idaho and its Malin Meter Station in Oregon.

It is important to recognize that not all conceivable alternatives can meet the Project's purpose and an alternative that does not meet the Project's purpose cannot be considered a reasonable alternative. Many alternatives are technically and economically feasible but not practical. Technically practical alternatives, with exceptions, would generally use industry-standard construction methods and techniques. An alternative that would require the use of new, unique, or experimental construction method(s) or equipment may not be practical because the required technology is not available, unproven or not cost effective. Economically practical alternatives would result in an action that generally maintains the price competitive nature of the proposed action. Generally, we do not consider the cost of an alternative as a critical factor unless the added cost to design, permit, and construct the alternative would render a project economically impractical. Alternatives that do not meet the Project's purpose or are not technically/economically feasible or practical were not brought forward to the next level of review.

In comments received on the Project, it was recommended that the EIS should compare the costs and benefits of each of the alternatives, including the costs for required mitigation measures. As stated above, our alternatives analysis focuses on a comparison of resource impacts and we generally only consider costs as consequential if they could render a project economically impractical.

Determining if an alternative provides a significant environmental advantage requires a comparison of the impacts on each resource as well as an analysis of impacts on resources that are not common to the alternatives being considered. Alternatives that initially resulted in less than or similar levels of environmental impact were reviewed in greater detail. An alternatives determination must balance the overall impacts and all other relevant considerations. In comparing the impact between resources, we also considered the degree of impact anticipated on each resource. Ultimately, an alternative that results in equal or minor advantages in terms of environmental impact would not compel us to shift the impacts from the current set of landowners to a new set of landowners.

The following discussion addresses alternatives that warranted further review and provide sufficient detail to explain why they were eliminated from further consideration or are recommended for adoption into the Project.

System Alternatives

System alternatives would use existing, modified, or proposed natural gas transmission pipeline systems to meet the purpose of the Project. Although modifications or additions to existing or proposed pipeline systems may be required, implementation of a system alternative would deem it unnecessary to construct all or part of the Project.

Based on a review of DOT's National Pipeline Mapping System, there are no pipeline systems other than GTN's pipeline system that originate at or near GTN's Kingsgate Meter Station and terminate at or near GTN's Malin Meter Station. Numerous

pipeline systems interconnect with GTN's system between these two points, primarily in Washington, but to transport additional natural gas between Idaho and Oregon using other systems would involve at least two other natural gas pipeline systems and the movement of gas across several hundred additional miles. It is likely additional compression would also be necessary in order to move the gas across the greater distances required. Additional pipeline may also be required to connect pieces of existing infrastructure. Any additional facility construction required would result in a net increase in the footprint for the alternative when compared with the proposed facilities because the permanent footprint for the Project is only 1.2 acres.

We did not identify any proposed natural gas transmission pipelines that could be considered as a system alternative. Therefore, we conclude that a system alternative is not technically and economically practical and do not consider it further.

Design Alternatives

Design alternatives would use GTN's existing pipeline system in a manner different than proposed to meet the purpose of the Project. Design alternatives would also evaluate facility/equipment alternatives. Implementation of a design alternative may reduce Project-related impacts.

Pipeline Looping Alternative

As an alternative to increased compression along its existing system and in response to a request for additional information issued by staff, GTN provided an assessment of new pipeline looping segments that if constructed would result in additional capacity similar to that of the Project. To create additional capacity equal to that of the Project, GTN would need to construct three pipeline loops: Loop 1 – 15 miles of pipeline upstream of the Athol Compressor Station; Loop 2 – 30 miles of pipeline upstream of the Starbuck Compressor Station; and Loop 3 – 30 miles of pipeline upstream of the Kent Compressor Station. A total of 75 miles of pipeline looping would need to be constructed to replace the capacity provided by the Project. Constructing these pipeline loops using industry standard techniques and assuming a 100-foot-wide construction right-of-way, this alternative would impact at least 900 acres of land. When compared to the 46.9 acres of land required to construct the Project facilities, this would result in a significant increase in impacts on the environment. Additionally, at least 38 waterbody crossings would be required, and at least 11 acres of wetland would be affected. Lastly, 39.3 acres of federally-managed lands and 10 acres of state-managed would be affected. Therefore, we conclude that this alternative does not offer a significant environmental advantage over the proposed action.

Electrical Compression Alternative

In its comments on the Project, the EPA recommends that the EIS assess an alternative that investigates the use of electric compressors instead of natural gas compressors. The EPA goes on to state that electric compressors are better suited to

provide sustained pressure to meet new demands, have several long-term cost advantages, minimize environmental impacts, and require reduced maintenance and labor.

In its application, GTN states that it evaluated the use of an electric motor-driven compressor at the Starbuck Compressor Station as an alternative to a gas-fired, turbine compressor. The new compressor proposed at the Starbuck Compressor Station is the only new compressor proposed as part of this Project. GTN reported that in order to utilize an electric compressor, a 38-mile-long, high-voltage (115 kilovolt) transmission line and electric substation, constructed by the electric utility, would need to be installed in order to supply the electricity necessary to operate the compressor. Installing a 38-mile-long, high-voltage transmission line and substation would impact at least 375 acres of land and require the crossing of at least 23 waterbodies. When compared to the 25.8 acres of land required to construct and install Project facilities at the Starbuck Compressor Station site, this would result in a substantial increase in impacts on the environment.

The use of electric compressors would shift the emissions impacts from the compressor station site to the electrical power generation site(s). In order to assess this shift and disclose it so that concerned stakeholders and decisionmakers are better informed, we instructed GTN to use EPA's Emissions & Generation Resource Integrated Database and its Avoided Emissions and Generation Tool (AVERT) and provide us with a generic estimate of emissions (carbon dioxide, nitrogen dioxide, particulate matter 2.5, and sulfur dioxide) that would result from the installation of an electric compressor unit at the Starbuck Compressor Station; and discuss the comparative emissions to those of the proposed natural gas compressor unit.

As reported by GTN, the proposed addition of 23,470 hp at the Starbuck Compressor Station equates to 17,501 kilowatts (KW) or 17.51 megawatt hours/hour (MW-h/h). EPA's AVERT software assumes a grid-powered compression non-baseline condition. An addition of 17.51 MW-h/h of demand at the Starbuck Compressor Station was modeled in AVERT to show the impact of adding the Project-related electrical load to the grid, as summarized in the table below. Then, using vendor emissions data for the proposed gas turbine, specific emissions due to the gas turbine were compared to demonstrate the net effect of using gas power versus electric grid power. Positive numbers indicate an increase in the pollutant when grid power is used. The results indicate that use of an electric compressor reliant on grid-based power would result in a net increase in emissions for the noted criteria pollutants. This increase in emissions is likely due to the fuel sources employed at regional power generation facilities containing greater amounts of carbon than that contained within the natural gas which be used to fuel the proposed compressor unit. We note that comparisons between gas-fired compressor emissions and electric grid-sourced emissions are complicated and would change over time due to differences in the contributing generating stations configurations, emission control and scrubber systems. Considering these factors, we cannot with certainty determine whether electric-driven compressors would represent a significant environmental advantage in terms of greenhouse gasses (GHG) emissions.

**Table 3.0-1
Electric Compressor Emissions Comparison**

| Pollutant | Annual Emissions based on Avert | Annual Emissions from the Proposed Natural Gas Compressor | Annual Emissions Change |
|------------------------|--|--|--------------------------------|
| SO ₂ (lb) | 78,950 | 1,176 | +77,774 |
| NO _x (lb) | 142,760 | 89,055 | +53,705 |
| CO ₂ (tons) | 120,680 | 96,318 | +24,362 |
| PM _{2.5} (lb) | 12,440 | 10,869 | +1,571 |

Furthermore, in a response to EPA’s comments, GTN states that an electric compressor would be considered cost and schedule prohibitive relative to the proposed gas-fired, turbine. The combined purchase and installation cost of the unit, as well as the facilities necessary to supply electricity to the that unit would approximately double the cost of the station facilities, as compared to the cost of the proposed gas-fired compressor. The anticipated lead time to permit and construct the 38-mile-long, high-voltage transmission line and electric substation needed to power the unit is estimated to be approximately 32 to 36 months from engineering kickoff to in-service date, which is inconsistent with GTN’s plans to place the Project facilities in-service by late 2023. An electric unit would also require a consistent electrical energy source, which may not always be available in remote areas, such as the Starbuck Compressor Station. In the event of a power outage on the electric grid, an electric compressor would stop operating until the outage was resolved or a backup power source was engaged, whereas a gas-fired compressor would continue working regardless of local power outages. Although emergency generators are in place at Starbuck Compressor Station and available to provide power for station auxiliary equipment, those generators are not of sufficient capacity to power an electric compressor in the event of a power outage.

Based on the increased environmental impacts associated with the installation of the 38-mile-long, high-voltage electrical transmission line necessary to operate an electric compressor and our evaluation of grid sourced emissions versus gas-fired compressor emissions, we conclude that this alternative does not offer a significant environmental advantage over the proposed action.

Alternatives Conclusion

As described above, we considered alternatives to GTN's proposal and conclude that no system or design alternatives would satisfy our evaluation criteria. Therefore, we conclude that the Project, with our recommended mitigation measures, is the preferred alternative to meet the Project objectives.

4.0 ENVIRONMENTAL ANALYSIS

The following sections describe the Project's potential impacts on the natural and human environment. Our description of the affected environment is based on a combination of information sources, including GTN's application and its responses to our requests for environmental information, scientific literature, regulatory agency reports, and stakeholder comments.

For the purposes of this analysis, we discuss four impact durations: temporary, short-term, long-term, and permanent. A temporary impact generally occurs during construction with an affected resource returning to a condition similar to that prior to construction almost immediately afterward. A short-term impact could continue for up to three years following construction. An impact is considered long-term if the resource would require more than three years to recover. A permanent impact would occur if an activity modifies a resource to the extent that it would not be restored during the life of the Project. For example, constructing and operating aboveground facilities would cause permanent impacts as the land use and visual character would not return to pre-construction (or similar) conditions. Permanent impacts may also extend beyond the life of a project. When determining the significance of an impact, we consider the duration of the impact; the geographic, biological, and/or social context in which the impact would occur; and the magnitude and intensity of the impact. The duration, context, and magnitude of impacts vary by resource and therefore significance would vary accordingly.

In its comments on the Project, the EPA recommends that this EIS include temporary and permanent as well as direct, indirect, and cumulative impacts. Specifically, EPA recommends the EIS assess the additive and synergistic impacts of climate change upon local natural resources, such as seasonal water patterns and wildfires; the cumulative impacts of hazardous and solid waste; and the cumulative impacts of increased air emissions. Our analysis considers direct and indirect impacts on resources collectively, as well as impact duration, consistent with the CEQ's July 16, 2020 final rule, *Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act* (2020 Final Rule, 85 FR 43,304) that was in effect throughout the development of the draft EIS. The CEQ issued another final rule amending its NEPA regulations, *National Environmental Policy Act Implementing Regulations Revisions* (2022 Final Rule, 87 FR 23453), reinstating the definition of cumulative effects consistent with CEQ's pre-2020 NEPA regulations. The 2022 Final Rule was effective as of May 20, 2022 and is reflected in the final EIS.

In other comments on the EA, the EPA makes several recommendations concerning the identification of geological resources and the assessment of these resources. As described in section 2.0, the Project involves the modification of existing facilities and the installation of one new compressor, several gas cooling bays, and associated enclosures/structures and piping. These are relatively minor facilities that would be incorporated into existing facility sites, operating with similar equipment, and which do

not require significant excavation. Aside from land leveling and grading and the installation of minor facility foundations, no actions would occur affecting geological resources. Therefore, as described above we have determined that these resources would not be affected and are not addressed further.

The EPA also makes several recommendations concerning the Project's potential impacts on water resources. No surface waters or wetlands would be affected by the modification and installation of equipment at the existing facility sites. Water necessary to conduct hydrostatic testing of the new facilities would be trucked in from a municipal source. Therefore, we have determined water resources would not be affected by the Project and do not address them further.

As described previously, the analysis contained in this EIS is based upon information contained in GTN's application and supplemental filings and our experience with the construction and operation of natural gas infrastructure. However, if the Project is approved and proceeds to the construction phase, it is not uncommon for a project proponent to require modifications (e.g., minor changes in workspace configurations). These changes are often identified by a company once on-the-ground implementation work is initiated. Any Project modifications would be subject to review and approval from the Director of FERC's Office of Energy Projects (OEP), or his/her designee, and any other permitting/authorizing agencies with jurisdiction.

Based on our review of the Project; specifically, the proposed Project facilities, the locations of the existing compressor stations sites, surrounding land uses, existing environmental resources, and proximity to local residences and communities, we have determined that several environmental resources would not be affected including geology, waterbodies, wetlands, aquatic resources, and visual resources. As such, we do not address these resources further in this analysis. Additionally, several resources including soils, vegetation, wildlife, protected species, socioeconomics, and land use would experience only minimal impacts. Therefore, the discussions of these resources and the impacts on them are commensurate to the scope of the Project and its potential impact on the environment. Lastly, the proposed software upgrade at the existing Athol Compressor Station would not require any physical work or ground disturbance; therefore, potential impacts on the environment resulting from this component of the Project are only discussed in the Air Quality, Climate Change, and Noise sections of the following analysis.

Environmental Trends and Planned Activities

The Project facilities would be located in the Northwestern United States. Both the Kent and Starbuck Compressor Stations lie within the Level III Ecoregion defined as the

North American Deserts – Cold Deserts - Columbia Plateau.¹⁰ This Ecoregion is made up entirely of lowlands with an arid climate, cool winters, and hot summers. It is characterized by sagebrush steppe and grasslands with extensive areas of agriculture, surrounded on all sides by mountainous ecoregions (U.S. Geological Survey [USGS], 2012). According to the Fourth National Climate Assessment, the Northwest is expected to experience strong climate variability, owing in part to the year-to-year and decade-to-decade climate variability associated with the Pacific Ocean. Periods of prolonged drought are projected to be interspersed with years featuring heavy rainfall driven by powerful atmospheric rivers and strong El Niño winters associated with storm surge, large waves, and coastal erosion.

The Athol Compressor Station is located in Kootenai County in an area of the state known as the Idaho panhandle, about 75 miles south of the Canadian border. Kootenai County is 1,310 square miles in size, consisting of 70 square miles of water, and 245,000 acres of national forest and 33,000 acres of state timberland. Managed public lands account for about 43 percent of county lands. The Idaho panhandle is considered a destination location for regional, national and international outdoor tourism and recreation. The area surrounding the Athol Compressor Station is considered primarily rural residential with some timber and agricultural activities. With a 20 percent growth in population between 2010 and 2020, it appears that the area will continue to experience growth due to population influx, but otherwise, given the amount of public lands in the region, rural residential and outdoor recreation will likely continue to remain the defining characteristics of the area.

The Starbuck Compressor Station is located in Walla Walla County in southeast Washington, about 40 miles north of the Oregon border. This facility is located in a part of the state that is rural in nature with sparse agriculture and relatively little industrial or residential development. Almost all of the development in the region is associated with the Columbia and Snake Rivers, which are located 5 miles to the north and 40 miles to the southwest, respectively. Based on the remote location of the station and the general lack of development, we expect the area to remain in a similar condition for the foreseeable future.

The Kent Compressor Station is located in Sherman County in north central Oregon. Similar to the Starbuck Compressor Station which is located about 150 miles to the northeast, this facility is located in a rural and mountainous part of the state with sparse agriculture and relatively little industrial and residential development. Based on the remote location of the station and the general lack of development, we expect the area to remain in a similar condition for the foreseeable future.

¹⁰ The EPA recognizes a hierarchy of ecoregions that denote areas where ecosystems are generally similar. These designations are based on analysis of geology, physiography, vegetation, climate, soil, wildlife, and hydrology and can be used for ecosystem management within the same geographic areas (USEPA, 2018a).

Lastly, we did not identify any planned activities in any of the Project areas.

4.1 Geology

Physiographic Settings and Geologic Conditions

The Starbuck and Kent Compressor Stations are located within the Columbia Plateau Physiographic Province, which has topography primarily made up of geologically young lava flows from the last 17 million years (National Park Service, 2017). Elevations associated with the Project range from 850 to 1,070 feet above mean sea level (ft-amsl) at the Starbuck Compressor Station in Walla Walla County, Washington; and 2,670 to 2,710 ft-amsl at the Kent Compressor Station in Sherman County, Oregon (United States Geological Service [USGS], 2020b; USGS 2020a).

The bedrock at the Starbuck compressor station is Miocene Volcanic Rocks and Quaternary Nonmarine Deposits (USGS, 2021e). The Miocene Volcanic Rocks are comprised of dense, aphanitic basalt flows that exhibit columnar or platy jointing. The Quaternary Nonmarine Deposits are comprised of unconsolidated, periglacial, eolian and fluvial loess sediments that are likely early Pleistocene in age. The bedrock at the Kent compressor station is Wanapum Basalt Formation (USGS, 2021a), which is comprised of medium-grained, porphyritic basalt flows that exhibit blocky to platy jointing.

Mineral Resources

GTN reviewed publicly available records for the presence of oil and gas wells, and mining facilities in the vicinity of the Project (Oregon Department of Geology and Mineral Industries [ODGMI], 2021a; Washington Department of Natural Resources [WDNR], 2021). No oil or gas well, or surface or underground mines were identified within 0.25 mile of the Project. Based on absence of nearby wells or mines, we conclude the Project would not significantly impact mineral resources.

Geologic Hazards

Geologic hazards are natural, physical conditions that can result in damage to land and/or structures and injury to people. Such hazards typically are seismic-related, including earthquakes, surface faulting, and soil liquefaction. Other potential hazards include landslides, flooding, and ground subsidence (including karst terrain). These hazards are discussed below.

Seismic Hazards

Earthquake severity can be expressed in terms of intensity and magnitude. Intensity is based on observed effects of ground shaking, while magnitude describes seismic energy released at the earthquake source. Additionally, peak horizontal ground acceleration (PGA; expressed in terms of acceleration as a percent of gravity [g]) is a measure of the effect of an earthquake at a certain distance from the source and based on geological

conditions. Based on USGS seismic hazard probability mapping at the Starbuck compressor station, there is a 2 percent probability of an earthquake with an effective PGA of 14 percent g being exceeded in 50 years, and a 10 percent probability of an earthquake with an effective PGA of 5 percent g being exceeded in 50 years. Based on USGS seismic hazard probability mapping at the Kent compressor station, there is a 2 percent probability of an earthquake with an effective PGA of 14 percent g being exceeded in 50 years, and a 10 percent probability of an earthquake with an effective PGA of 7 percent g being exceeded in 50 years.

According to the USGS (2021b), the Project is not located near any mapped quaternary faults. The nearest fault systems to the Starbuck compressor station are the Central Ferry fault, which is approximately 20 miles to the east of the Project, and Hite fault system, which is approximately 20 miles to the southeast of the Project. The nearest fault systems to the Kent compressor station are unnamed faults northwest of Condon, approximately 15 miles to the northeast of the Project, and the Warm Springs fault zone, which is approximately 40 miles to the southwest of the Project. No earthquakes are recorded in association with these faults (USGS, 2021b). Given the distance to these mapped faults and the absence of recorded earthquake events associated with the faults we conclude the risk of a significant earthquake damaging any Project facility is low and the risk of seismic ground faulting to occur is also low.

Soil Liquefaction

Soil liquefaction is a phenomenon often associated with seismic activity in which saturated, non-cohesive soils temporarily lose their strength and liquefy (i.e., behave like viscous liquid) when subjected to forces such as intense and prolonged ground shaking. All three of these conditions (non-cohesive soils, near-surface saturation, and seismicity) are necessary for soil liquefaction to occur.

According to the WDNR (2021), an approximately 800-footlong segment of the Starbuck compressor station access road, starting at the access road entrance, is in area of low to moderate liquefaction susceptibility, but all other parts of the Starbuck compressor station portion of the Project are in an area of low liquefaction susceptibility. According to the OGDMI (2021c), the Kent compressor station workspace is not in an area of earthquake liquefaction hazard. Appropriate best management practices identified in GTN's ECS would be implemented to prevent erosion and sedimentation. Soil liquefaction is not expected to affect the Project.

GTN would install foundations at the Starbuck and Kent compressor stations (gas cooling bays). Ground improvements during the construction of deep foundations can affect unconsolidated sediments that are susceptible to soil liquefaction. However, given the absence of soil conditions susceptible to liquefaction at the proposed gas cooling bays at the Starbuck and Kent compressor stations, we conclude that risks from soil liquefaction are low.

Landslides

Landslides involve the downslope mass movement of soil, rock, or a combination of materials on an unstable slope. Most Project activities would occur on previously disturbed lands. In addition, based on a review of topographic maps and available elevation data for each facility, the workspaces at the Starbuck and Kent compressor stations are flat to gently sloping. At the Starbuck compressor station, about 11.8 acres of the facility are classified as steeply sloping; however, construction of the gas cooling bays and other modifications to the facility would not take place in the steeply sloping portions of the compressor station site. As such, we conclude the potential for landslides to occur during modification and installation of the Project facilities is negligible.

Subsidence

Ground subsidence is a lowering of the land-surface elevation that results from changes that take place underground. Subsidence can range from small, localized areas of collapse to a broad, regional lowering of the ground surface. Common causes of land subsidence include karst formation due to carbonate-rock dissolution (limestone, dolomite, or gypsum) and the collapse of underground mines. Subsidence can also be caused by sediment compaction due to pumping groundwater, oil, and gas from underground reservoirs. As noted above, there are no oil and/or gas wells or subsurface mines within 0.25 mile of the Project. There are no rock formations near the ground surface that are susceptible to dissolution (USGS, 2021c). Further, the Project components do not overlie major unconsolidated aquifer systems susceptible to subsidence from excessive groundwater pumping (USGS, 2021d).

Flooding

According to available data from the Federal Emergency Management Agency, the proposed modification sites are not within designated 100-year floodplains (FEMA 1984, 1983). Therefore, we conclude that the Project facilities would not discernably alter the flood storage capacity of impacted floodplains.

Blasting

No blasting is proposed as part of the Project.

Based on the geological resources present, the Project's potential impacts on them, and the potential for geological hazards to affect Project facilities as described above, we conclude that no operational impacts on geologic resources would occur. We also conclude that impacts on geologic resources, including impacts from geologic hazards, would not be significant.

Paleontological Resources

Paleontological resources are the fossilized remains of prehistoric plants and animals, as well as the impressions left in rock or other materials. GTN reviewed the Paleobiology Database (2021) for fossils in the vicinity of the Project. No fossils were identified within 0.25 mile. There are no federal laws or regulations that protect paleontological resources on private lands. Further, the Project involves modifications that would occur at existing compressor stations within mostly previously disturbed areas. Therefore, we conclude that modification and installation of the Project facilities are unlikely to encounter significant fossils. In the event that fossils are discovered during Project activities, GTN would stop work where the resource was found and would notify the appropriate state agency and would follow the measures described in the Unanticipated Discovery Plan for Cultural Resources. Based on this assessment and GTN's proposed measures, we conclude the Project would not significantly impact paleontological resources.

4.2 Soils

Modifying and installing the Project facilities would affect a variety of sandy and silty loam soils occurring within and abutting the fenced boundaries of the Starbuck and Kent Compressor Stations. These soils are generally derived from loess alluvium, loess and basalt alluvium over glacial outwash, and loess over fractured basalt parent materials. Additionally, these well-drained soils have been identified as having permeability rates ranging from moderately high to high. No prime farmland, soils of statewide importance, or hydric soils would be affected by the Project.

In its comments on the Project, the EPA recommends that soils assessments should be detailed enough for appropriate geotechnical evaluations to be conducted to support the geohazards analysis and that the EIS should include site-specific geological analysis to ensure the integrity of the site soils where new facilities (e.g., the new cooling bays) will be constructed at the compressor stations. The Project involves the modification of existing facilities, the installation of one compressor unit, and the construction of ancillary facilities. All of these facilities would be conducted within the fenced-boundaries of existing stations or abutting to an existing station. We do not consider the required work to be substantial and thus are not requiring or including the assessments and evaluations suggested by the EPA. Additionally, as described previously, our analyses in this section are commensurate to the Project's potential impacts on the environment.

As described previously, the Project would require the temporary use of 46.9 acres of land to install and modify the Project facilities; and the permanent use of 1.2 acres of land to operate the expanded Kent Compressor Station. The use of access roads and workspaces to modify and install the Project facilities could compact soils and increase rates of potential erosion (primarily related to wind erosion). Additionally, the soil disturbance necessary to erect the new aboveground facilities and install associated piping

would impact soil structure, increase rates of potential erosion, and could impact other soil characteristics including revegetation potential and drainage. Lastly, an inadvertent equipment fluid spill could adversely affect soils.

To reduce and mitigate potential impacts on soils, GTN would implement numerous measures as described in its ECS. These measures include installing erosion control devices, avoiding work during adverse weather conditions, compaction testing, reseeding of affected lands, and implementing spill prevention and control measures as described in its SPCC Plan.

In comments on the Project, the EPA stated that soil compaction due to earth-moving, soil stockpiling, equipment staging, or construction should be analyzed for impacts to soil productivity and plant re-growth rates which may be reduced and that areas that have low revegetation potential should be considered and mitigations applied as appropriate to encourage regrowth. The EPA also stated that mitigations such as using only low-ground-pressure construction equipment and stopping work when soils are wet and most susceptible to compactive forces would be most beneficial. As described in this section and sections 4.4 Vegetation and 4.8 Land Use, we address the Project's impacts on soils, vegetation, and land use and conclude that based on the scope of the Project and GTN's implementation of impact avoidance, minimization, and mitigation as described in its ECS that impacts on these resources would not be significant.

Based on the scope of the Project including the location of the proposed facilities within and abutting the fenced boundaries of existing industrial sites, affected soils characteristics, current land use, the minimal amount of soil that would be disturbed to install new aboveground facilities and piping, GTN's implementation of impact minimization measures, and the amount of soils permanently affected (1.2 acres), we conclude that the Project would not significantly impact this resource.

4.3 Groundwater

Groundwater resources underlying both the Starbuck and Kent Compressor Stations are within the Columbia Plateau basaltic-rock aquifers, which occur over an area of about 42,000 square miles in Washington, Idaho, and Oregon.

GTN would install foundations at the Starbuck and Kent Compressor Stations as part of construction of proposed gas cooling bays. Ground improvements during the construction of deep foundations can affect shallow groundwater quality and flow regimes. However, these effects are typically temporary and return to pre-construction conditions shortly after construction activities are completed. We conclude that any impacts on groundwater resulting from foundation construction would be temporary and minor.

Surface drainage and groundwater recharge patterns can be temporarily altered by clearing, grading, foundation construction, and soil stock-piling activities, potentially causing minor fluctuations in groundwater levels and/or increased turbidity, particularly in

shallow surficial aquifers. We expect that there would not be any resulting changes in water levels and/or turbidity in groundwater, but should any occur they would be localized and temporary because water levels quickly re-establish equilibrium, and turbidity levels rapidly subside once disturbance has ceased. Additionally, soil compaction could reduce the ability of the soil to absorb water, thereby reducing groundwater recharge.

An inadvertent spill of fuel or hazardous materials during refueling or maintenance of construction equipment could also affect groundwater if not contained and cleaned up appropriately. We do not expect an inadvertent spill to occur, but we do recognize that a spill could occur. Also, contaminated soils could continue to leach contaminants into groundwater long after a spill has occurred.

To minimize the risk of potential fuel or hazardous materials spills, GTN would implement measures contained in its SPCC Plan. The SPCC Plan includes spill prevention measures as well as containment and clean-up measures. Specifically, GTN's SPCC Plan requires spill prevention and response training, equipment inspection and maintenance, prohibits refueling and storage of hazardous materials near water supply wells and other sensitive resources, and the onsite storage of spill response equipment including absorbents, containment and collection tools, and storage containers. Further, and as described previously, GTN would implement its ECS to minimize the potential for soil erosion and downgradient sedimentation from stormwater runoff. If GTN encounters contaminated groundwater during construction, it would follow the procedures in its Unanticipated Discovery of Contaminated Environmental Media Plan. Work in the area of contamination would be halted until the appropriate remedial activities have been completed.

With implementation of the mitigation measures described above, and adherence to its ECS and SPCC Plan, we conclude that the Project would not result in significant impacts on groundwater resources.

Sole Source Aquifers

The EPA defines a sole source aquifer as one that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer and for which there are no reasonably available alternative drinking water sources should the aquifer become contaminated. In the Project areas the groundwater resources are not classified as Sole Source Aquifers (SSA). The nearest SSA to the Starbuck compressor station is the Lewiston Basin Aquifer Source Area about 38 miles to the east (USEPA, 2021a). The nearest SSA to the Kent compressor station is the Troutdale Aquifer System Area about 91 miles to the west (USEPA, 2021a).

State-Designated Aquifers and Aquifer Protection Areas

Individual states may enact regulations protecting significant aquifer recharge areas, critical areas where excessive use of groundwater poses a threat to the long-term integrity of a water supply source, or preservation areas to protect natural resources including public water supply sources. There are no public water supply wells or wellhead protection areas within 1 mile of the Kent compressor station.

Water Supply Wells and Springs

GTN assessed publicly available data and conducted site surveys to determine if public or private groundwater wells or springs were within 150 feet of Project workspaces. One water supply well, owned by Pacific Gas & Electric is located within 1 mile of the Starbuck compressor station (Environmental Data Resources [EDR], 2021a). Another private groundwater well owned by GTN is located within 150 feet of the Starbuck compressor station and multiple resource protection wells are located within the Starbuck compressor station. One private groundwater well owned by GTN is located within the Kent Compressor Station site. No spring or seeps were identified within the Starbuck and Kent compressor stations work areas. Given that the only excavation activities at the Starbuck and Kent Compressor Stations would be shallow trenching and grading to construct foundations for the proposed gas cooling bays, the onsite groundwater wells owned by GTN would not be significantly affected. GTN would further minimize the potential for impacts to the groundwater and wells by adhering to measures contained in its ECS and SPCC Plan.

Aside from the three wells owned by GTN at the Starbuck and Kent compressor stations, no other drinking water wells or springs have been identified within 150 feet of any construction activities. If drinking water wells or springs are identified within 150 feet of any construction workspace, GTN would offer pre-construction and post-construction evaluations of water quality and yield to affected landowners.

Contaminated Groundwater

GTN searched publicly available data resources to identify any potential sources of groundwater contamination in the vicinities of Project facilities. The Starbuck Compressor Station is listed as a site of interest to the Washington State Department of Ecology and the Kent Compressor Station is identified as a federal conditionally exempt small quantity generator. No additional sources of potential groundwater contamination were identified within 1 mile of the Starbuck and Kent Compressor Stations (EDR, 2021a,b).

4.4 Vegetation

Lands affected by the Project facilities have been classified as grass lands or unvegetated. Grass lands consists of commonly found plant species such as yellow rabbitbrush (*Chrysothamnus viscidiflorus*), bluebunch wheatgrass (*Pseudoroegneria spicata*), Idaho fescue (*Festuca idahoensis*), Indian ricegrass (*Achanatherum hymenoides*), needle and thread grass (*Hesperostipa comata*), and Sandberg bluegrass (*Poa secunda*). Unvegetated lands are industrial/maintained in nature; graveled, paved, or otherwise disturbed. No sensitive vegetation was identified during surveys of the Project areas, and thus, sensitive vegetation would not be affected by the Project.

Modifying and installing the Project facilities would impact a total of 28.4 acres of grass land and 18.5 acres of unvegetated lands. Vegetation may be cleared or trampled. Vegetation that is disturbed could be temporarily lost and as a result associated benefits; soil stability and structure, evapotranspiration, and habitat functions could be precluded. However, these impacts would likely be short-term as affected lands would be stabilized and seeded to improve restoration success. Additionally, loss of vegetation and ground disturbance would increase the potential for the introduction and/or spread of invasive/noxious plant species.¹¹ No noxious and invasive species were noted during surveys of Project areas; therefore, in the absence of a known seed source, we conclude that any possible impacts would be minor.

Based on the type of vegetation occurring on lands that would be affected by the Project, the generally small scope of the Project, and the minor impacts that would occur to vegetation, we conclude that modifying and installing the Project facilities would not result in a significant impact on vegetation.

4.5 Wildlife and Protected Species

Wildlife

The grass lands and unvegetated lands described above provide habitats for a variety of commonly occurring wildlife. Furthermore, given the existing nature of these facilities, the wildlife occupying the affected areas that could be affected by the Project are already accustomed to human disturbance and the presence/operation of industrial facilities. No

¹¹ Noxious weeds are plants designated by the Secretary of Agriculture, Secretary of the Interior, or by state law or regulation, that generally possess one or more of the characteristics of being aggressive and difficult to manage, parasitic, a carrier or host of deleterious insects or disease, and being non-native, new to, or not common to the U.S. An invasive species are those species whose introduction causes or is likely to cause economic or environmental harm or harm to human health (NRCS, 2016). Under Executive Order 13112, a federal agency shall not authorize, fund, or carry out actions likely to cause or promote the introduction or spread of invasive species in the U.S.

sensitive wildlife or wildlife habitat would be affected by the Project. Protected wildlife are addressed in the following sub-section.

Typical wildlife found in the two habitat types crossed by the proposed Project is provided in Table 4.5-1 below.

| Habitat | Mammals | Aves | Reptiles | Amphibians |
|--|--|---|---|---|
| Unvegetated Land | Coyote (<i>Canis latrans</i>), ground squirrel (<i>Spermophilus beecheyi</i>), marmot (<i>Marmota flaviventris</i>) | California quail (<i>Callipepla californica</i>), northern flicker (<i>Colaptes auratus</i>), hummingbirds (<i>Archilochus sp.</i>), ferruginous hawk (<i>Buteo regalis</i>), rock pigeon (<i>Columbia livia</i>) | Racer (<i>Coluber constrictor</i>), garter snake (<i>Thamnophis atratus</i>), desert horned lizard (<i>Phrynosoma platyrhinos</i>) | Western toad (<i>bufo boreas</i>), Woodhouse's toad (<i>Bufo woodhouseii</i>) |
| Open Land | Mule deer (<i>Odocoileus hemionus</i>), pronghorn antelope (<i>Antilocapra americana</i>), Elk (<i>Cervus canadensis</i>), bighorn sheep (<i>Ovis canadensis</i>), Belding's ground squirrel (<i>Urocitellus beldingi</i>); black-tailed jackrabbit (<i>Lepus californicus</i>); coyote (<i>Canis latrans</i>) | Common nighthawk (<i>Chordeiles minor</i>), ferruginous hawk, grasshopper sparrow (<i>Ammodramus savannarum</i>), Swainson's Hawk | Northern sagebrush lizard (<i>Sceloporus graciosus</i>); western rattlesnake (<i>Crotalus viridis</i>), gopher snake (<i>Pituophis catenifer</i>) | Western toad (<i>bufo boreas</i>) |
| ^a Obtained from USFWS (USFWS, 2018). ^b Obtained from ODFW (ODFW, 2021b) ^c Obtained from iNaturalist (iNaturalist, 2021) | | | | |

Modifying and installing the Project facilities would temporarily increase human presence at the Starbuck and Kent Compressor Stations. Additionally, Project-related activities (equipment use and facility installation) would also temporarily increase the amount of general disturbance associated with these facilities. Together, these actions may cause wildlife to avoid the Project areas and could cause changes to wildlife behaviors (primarily foraging and resting). Wildlife avoidance and behavior changes could impact rates of predation. Collectively, project activities including construction work and increased traffic to and from the Project sites and their impacts would likely increase the rates of stress, injury, and mortality experience by wildlife. However, these impacts would be temporary and minor. In addition, only minor operational noise increases are expected at each of the three Project locations (see section 4.10 for additional information). Therefore, based on the scope of the Project, the vegetation and habitat present, and the impacts on these resources, we conclude that modifying and installing the Project facilities would not significantly impact wildlife.

Protected Species

Protected species and special status species are afforded protection by law, regulation, or policy by federal and state agencies. Special status species include federally-listed threatened and endangered species that are protected under the ESA, migratory birds, bald and golden eagles, and state protected species.

Federally-listed Threatened and Endangered Species

The Commission is required by Section 7 of the Endangered Species Act (ESA) to ensure that the Project would not jeopardize the continued existence of a federally-listed threatened or endangered species or result in the destruction or adverse modification of the designated critical habitat of a federally-listed species (16 USC § 1536(a)(2)). In its comments on the Project, the EPA recommended that our analysis consider nesting habitat, breeding seasons, noise impacts, increased vehicle traffic, and changes to surrounding land cover.

Based on information obtained by GTN representatives from the FWS' IPaC system, two federally-listed species occur or could occur in the vicinities of the Project facilities. These species are: bull trout (*Salvelinus confluentus*) and yellow-billed cuckoo (*Coccyzus americanus*), both of which were identified as potentially occurring near the Starbuck Compressor Station. No species were identified in the vicinity of the Athol or Kent Compressor Stations and no designated critical habitat was identified near any of the Project facilities.

According to the FWS, the federally-threatened bull trout requires cold water to survive, so they are seldom found in waters where temperatures exceed 59 to 64 degrees Fahrenheit. They also require stable stream channels, clean spawning and rearing gravel, complex and diverse cover, and unblocked migratory corridors.¹² Modifying the Starbuck Compressor Station would not impact surface waters; therefore, based on the lack of habitat, the distance to the nearest potential habitat, the amount of land disturbed, and the scope of the Project and its impacts on the environment as described in this EIS, we have determined the Project would result in *no effect* on this species. The federally-threatened yellow-billed cuckoo use wooded habitat with dense cover and water nearby, including woodlands with low, scrubby, vegetation, overgrown orchards, abandoned farmland, and dense thickets along streams and marshes.¹³ The Starbuck Compressor Station does not contain and would not affect suitable habitat for this species nor does any suitable habitat occur nearby; therefore, we have determined based on the lack of habitat, the amount of land disturbed, and the scope of the Project and its impacts on the environment as described in this EIS that the Project would result in *no effect* on this species. Furthermore, increased

¹² <https://ecos.fws.gov/ecp/species/8212>

¹³ <https://ecos.fws.gov/ecp/species/3911#lifeHistory>

vehicle traffic would not affect these species and as described in the noise section of this analysis, increased noise would be minimal as would change to land use in the area.

As described in its application, GTN sent correspondence to the two FWS field offices in September 2021. Neither office expressed any opposition or concerns. Because we have determined the Project would result in *no effect* on federally-listed threatened and endangered species, our obligations under section 7 of the ESA have been met and no additional action is required.

Migratory Birds

Migratory birds are species that nest in the U.S. and Canada during the summer and then migrate to and from the tropical regions of Mexico, Central and South America, and the Caribbean for the non-breeding season. Migratory birds are protected under the Migratory Bird Treaty Act (MBTA [Title 16 of the USC, sections 703-711]). The MBTA, as amended, prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, was enacted in 2001 to, among other things, ensure that environmental analyses of federal actions evaluate the impacts of actions on migratory birds. EO 13186 directs federal agencies to identify where unintentional take is likely to have a measurable negative effect on migratory bird populations and avoid, minimize, or mitigate adverse impacts on migratory birds through enhanced collaboration with the FWS, and states that emphasis should be placed on species of concern, priority habitats, and key risk factors, with particular focus given to population-level impacts.

On March 30, 2011, the FWS and FERC entered into a Memorandum of Understanding regarding implementation of EO 13186, that focuses on birds of conservation concern and strengthening migratory bird conservation through enhanced collaboration between the two agencies. This memorandum does not waive legal requirements under the MBTA, Bald and Golden Eagle Protection Act, the ESA, or any other statutes, and does not authorize the take of migratory birds.

The Starbuck and Kent Compressor Stations are located within the Pacific Flyway and within the Great Basin Bird Conservation Region. However, due to the existing nature of these facilities, bird habituation to them, and the proposed modifications and resulting minor impacts on the environment including noise and ground (habitat) disturbance, we conclude that the Project would not result in significant population-level impacts on Birds of Conservation Concern or migratory birds.

Bald and Golden Eagles

The bald eagle was officially removed from the endangered species list in 2007 but is still protected under Bald and Golden Eagle Protection Act (BGEPA) as well as the MBTA. The BGEPA prohibits anyone without a permit issued by the Secretary of the Interior from “taking” a bald or golden eagle, including their parts, nests, or eggs (16 USC

§ 668–668c). According to GTN, no eagles or their nests were observed during surveys conducted for the Project. Furthermore, the Project would not require the clearing of trees and no trees or other wooded areas occur in the immediate vicinity of the Project; therefore, we conclude the Project would not impact bald or golden eagles.

State-Listed Species

In response to an inquiry from GTN representatives concerning stated-listed threatened and endangered species, the Oregon Department of Fish and Wildlife responded that it does not forecast any impacts to state-listed species from the Project.¹⁴ In response to a similar inquiry, the Washington Department of Fish and Wildlife (WDFW) notified GTN that the state-endangered ferruginous hawk is known to occur in the area around the Starbuck Compressor Station and that GTN should coordinate with the WDFW regarding the types of grasses and shrubs that would be used to restore affected lands. The WDFW responded to an inquiry by GTN in October 2022 that no nesting pairs of ferruginous hawks are known to exist in the Project area but that nesting pairs may occur in the future. WDFW requested that native grasses and shrubs be used for restoration and GTN would adhere to this request. Therefore, we conclude that the Project would not result in significant impacts on state-listed species.

4.6 Cultural Resources

The National Historic Preservation Act (NHPA) is the cornerstone of the federal government’s historic preservation program. Section 101(d)(6) of the NHPA states that properties of traditional religious and cultural importance to Indian tribes¹⁵ may be determined eligible for the National Register of Historic Places (NRHP). Section 106 of the NHPA requires that FERC take into account the effects of its undertakings¹⁶ (including authorizations under Section 7 of the NGA) on historic properties,¹⁷ and afford the Advisory Council on Historic Preservation (ACHP) an opportunity to comment. GTN, as a non-federal applicant, is assisting FERC staff in meeting our obligations under the NHPA

¹⁴ See GTN application, Ascension No. 20211004-5098.

¹⁵ Indian tribes are defined in 36 CFR Part 800.16(m) as: “an Indian tribe, band, nation, or other organized group or community, including a Native village, Regional Corporation, or Village Corporation, as those terms are defined in Section 3 of the Alaska Native Claims Settlement Act (43 USC 1602), which is recognized as eligible for the special programs and services provided by the United States to Indians because of their special status as Indians.”

¹⁶ “Undertaking means a project activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; those requiring a Federal permit, license or approval; and those subject to state or local regulation administered pursuant to a delegation or approval by a Federal agency,” as defined in Part 800.16(y).

¹⁷ Historic properties include prehistoric or historic sites, districts, buildings, structures, objects, landscapes, or properties of traditional religious or cultural importance listed on or eligible for listing on the NRHP, as defined in Part 800.16(l).

by providing data, analyses, and recommendations in accordance with Title 36 CFR Part 800.2(a)(3) and the FERC's regulations at 18 CFR 380.12(f).

Consultations

In accordance with the implementing regulations for complying with Section 106, at 36 CFR 800, FERC consulted with the State Historic Preservation Offices (SHPO) of Washington and Oregon,¹⁸ and potentially interested Indian tribes, prior to making our determinations of NRHP eligibility and Project effects for all cultural resources¹⁹ identified in the area of potential effect (APE). We sent copies of the NOI to a wide range of stakeholders, including other federal agencies, such as the ACHP, U.S. Department of the Interior Bureau of Indian Affairs (BIA), and NPS; state and local government agencies, such as the SHPOs; affected landowners; and Indian tribes that may have an interest in the Project area. The NOI contained a paragraph about Section 106 of the NHPA, which stated that we use the notice to initiate consultations with the SHPOs, and to solicit the views of other government agencies, interested Indian tribes, and the public on the Project's potential effects on historic properties.

Consultations with the SHPOs

The Oregon, Washington, and Idaho SHPOs did not respond directly with a filing to FERC in response to our NOI. However, the SHPOs did respond to correspondence from GTN and its consultant (Arcadis). In a letter to GTN dated May 12, 2020, the Washington State Archaeologist, representing the SHPO, stated: "We have reviewed the professional cultural resources survey report you provided for the proposed GTN – Fuel Gas Heater / Station 7 – Starbuck Project, Walla Walla County, Washington. We concur with the Determination of No Historic Properties Affected with the stipulation for an unanticipated discovery plan." On June 9, 2020, the Oregon State Archaeologist, representing the SHPO, wrote of the GTN Station 10-Kent Fuel Gas Heater Project, that: "We have reviewed the report and concur that a good faith effort has been implemented and the project will likely have no effect on any significant archaeological objects or sites. Based on the information provided, additional archaeological research is not anticipated for this project." In a letter to Arcadis dated May 17, 2022, the Idaho SHPO stated that

¹⁸ In the State of Washington, the SHPO is housed within the Department of Archaeology and Historic Preservation, while in Oregon the SHPO is within the Parks and Recreation Department.

¹⁹ Cultural resources are locations of human activity, occupation, or use. According to FERC's Office of Energy Projects (OEP) *Guidelines for Reporting on Cultural Resources Investigations for National Gas Projects* (July 2017), "cultural resources include any prehistoric or historic archaeological site, district, object, cultural feature, building or structure, cultural landscape, or traditional cultural property." Although "cultural resources" are not defined in 36 CFR 800, it is a "term-of-art" in the field of historic preservation and archaeological research. Some Indian tribes believe that cultural resources could include natural resources, such as plants and animals of traditional importance to tribes, and topographic features and viewsheds that may be sacred.

no historic properties should be affected by the proposed work at the Athol Compressor Station.

Consultations with Indian Tribes

FERC Staff Consultations

FERC contacted Indian tribes that may attach religious or cultural significance to sites in the region or may be interested in potential Project impacts on cultural resources. We identified Indian tribes that historically used or occupied the Project area through basic ethno-historical sources such as the *Handbook of North American Indians*, communications with the SHPOs, and information provided by the applicant and its cultural resources consultants. We sent our NOI for this Project to 14 federally-recognized Indian tribes. No tribe filed a response in the FERC record.

Communications between the Applicant and Indian Tribe

On August 30, 2021, GTN contacted the Confederated Tribes of the Umatilla Indian Reservation and the Confederated Tribes of the Warm Springs Indian Reservation with information about the Project. On February 17, 2022, GTN contacted the same two tribes with emails. On April 15, 2022, GTN sent copies of its revised Unanticipated Discovery Plan (UDP) and other information about the Project to the Confederated Tribes of the Colville Reservation, Confederated Tribes of the Umatilla Indian Reservation, Confederated Tribes of the Warm Springs Indian Reservation, Confederated Tribes and Bands of the Yakama, Coeur D' Alene Tribes, and Nez Perce Tribe.

On April 21, 2022, the Confederated Tribes of the Colville Reservation sent an email to GTN's consultant raising concerns about rock cairn sites that may not have been recorded in the vicinity of the Starbuck Compressor Station. GTN's consultant responded with an email back to the tribe that in August 2021 the compressor station direct APE was surveyed by Plateau Archaeological Investigations LLC (Plateau) and no sites were found. GTN acknowledged work on the Lower Monumental Transmission Line dating from 2011 to 2014; however, it appears those surveys, that were conducted about one mile from the compressor station, did not record any rock cairns.

The Nez Perce Tribe, in an April 27, 2022 email to GTN's consultant, questioned if there had been any previous surveys that covered the Starbuck Compressor Station. In an email response, filed with the FERC on September 16, 2022, Arcadis informed the Nez Perce Tribal Historic Preservation Officer that the Starbuck Compressor Station had previously been surveyed in April 2020 and August 2021 by Plateau Archaeological Investigations (Plateau) as further discussed below.

Identification of Historic Properties

Area of Potential Effect

We define the direct APE as all areas subject to ground disturbance. The direct APE at the Kent Compressor Station totals 21.06 acres. At the Starbuck Compressor Station, the direct APE totals 25.84 acres. GTN defined the indirect APE as a one-mile circle around each compressor station.

Results of Investigations

Five previous surveys were conducted within one mile of the Starbuck Compressor Station. Three of these previous surveys overlapped a portion of the direct APE (McGuire and Nelson 2001; Sheldon et al 2017; Sackman et al. 2020). Those surveys covered a combined total of about 16.16 acres in and around the compressor station. One historic isolated find (45WW290, agricultural equipment) was previously recorded by Historical Research Associates, Inc. in 2010 within the indirect APE. Plateau conducted an on-the-ground inspection of about 35 acres at the Starbuck Compressor Station in August 2021, including 30 probes. No cultural resources were found (Sackman et al 2022).

GTN stated that seven surveys for cultural resources have been previously conducted within one-mile of the Kent Compressor Station. Of these, six covered portions of the direct APE (Mallory 1961; Combs 1961; Moratto et al. 1990; Silvermoon et al. 1992; Root and Ferguson 2001; Fulgham et al. 2020). These previous surveys examined a combined total of about 25.2 acres in and around the compressor station. Seven cultural resources were previously recorded within one-mile of the Kent Compressor Station. Two of those resources (Isolates PEP-5-ISO-4 and PEP-5-ISO-5 - a piece of farm machinery and a mower) were originally recorded in 1992 and evaluated as not eligible for the NRHP (Silvermoon et al. 1992), and also appear to be within the direct APE. A more recent survey at the Kent Compressor Station did not relocate the previously recorded historic isolated finds (Fulgham et al. 2020).

Unanticipated Discoveries Plan

On April 15, 2022, GTN filed a revised UDP and documentation that the revised UDP was provided to potentially interested Indian tribes. None of the tribes have yet to file comments on the plan in the FERC record for this proceeding. On April 26, 2022, GTN's consultant provided the revised UDP to the Oregon, Washington, and Idaho SHPOs. In an August 8, 2022 email to Arcadis, filed with FERC on September 16, 2022, the Washington SHPO indicated that the UDP was "fine." FERC staff reviewed the revised UDP and found it acceptable.

Compliance with the NHPA

No traditional cultural properties or properties of religious or cultural importance to Indian tribes were identified in the APE by GTN or its consultants, the SHPOs, BIA, NPS, or Indian tribes contacted. Therefore, we have complied with the intent of Section 101(d)(6) of the NHPA. We agree with the SHPOs that the Project would not affect any historic properties. Therefore, the intent of Section 106 of the NHPA is satisfied.

4.7 Socioeconomics and Environmental Justice

Socioeconomics

Introducing 50 workers each into Walla Walla and Sherman Counties for seven to eight months may impact the socioeconomic character of the respective Project areas depending upon the source of the increased labor. Local workers shifting from local projects to the Project would not substantially impact local businesses or county/municipal services. Non-local workers coming to the Project area could impact the socioeconomic characters of the respective project areas. Public road use, local business, housing, and public/community services may experience greater use and demand during the modification and installation of Project facilities. Construction vehicles including personal trucks and heavy equipment use of area roads would increase and may result in additional traffic and associated impacts on public safety. Patronage of local businesses may also increase due to the increased presence of construction workers associated with the Project. Project workers not sourced from the local area would affect housing occupancy rates. However, the resulting pressure on housing availability and cost would be minor and temporary. In general, an increase in population results in a greater demand for public services; utilities, police, fire, and medical. These increases in demand and use of local socioeconomic resources would result in minor and temporary impacts to these resources that would cease following construction. Therefore, we have determined that modifying and installing the Project facilities would not result in a significant impact on socioeconomic resources.

Environmental Justice

According to the EPA, “environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.” Fair treatment means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations or policies (USEPA 2020b). Meaningful involvement means:

1. people have an appropriate opportunity to participate in decisions about a proposed activity that may affect their environment and/or health;
2. the public’s contributions can influence the regulatory agency’s decision;
3. community concerns will be considered in the decision-making process; and
4. decision makers will seek out and facilitate the involvement of those potentially affected (USEPA 2020b).

In conducting NEPA reviews of proposed natural gas projects, the Commission follows the instruction of Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, which directs federal agencies to identify and address the “disproportionately high and adverse human health or environmental effects” of their actions on minority and low-income populations (i.e., environmental justice communities).²⁰ Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad*, also directs agencies to develop “programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related, and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts.”²¹ The term “environmental justice community” includes disadvantaged communities that have been historically marginalized and overburdened by pollution.²² Environmental justice communities include, but may not be limited to minority populations, low-income populations, or indigenous peoples.²³

Commission staff used the Federal Interagency Working Group on Environmental Justice & NEPA Committee’s publication, *Promising Practices for EJ Methodologies in NEPA Reviews (Promising Practices)* (USEPA 2016), which provides methodologies for conducting environmental justice analyses throughout the NEPA process for this Project. Commission staff’s use of these methodologies is described throughout this section.

Commission staff used EJScreen 2.0 as an initial step to gather information regarding minority and/or low-income populations; potential environmental quality issues; environmental and demographic indicators; and other important factors. EPA recommends that screening tools, such as EJScreen 2.0, be used for a “screening-level” look and a useful first step in understanding or highlighting locations that may require further review.

Meaningful Engagement and Public Involvement

The CEQ’s *Environmental Justice Guidance Under the National Environmental Policy Act (CEQ Environmental Justice Guidance)* (CEQ 1997) and *Promising Practices* recommend that Federal agencies provide opportunities for effective community participation in the NEPA process, including identifying potential effects and mitigation measures in consultation with affected communities and improving the accessibility of public meetings, crucial documents, and notices.²⁴ They also recommend using adaptive

²⁰ Exec. Order No. 12,898, 59 Fed. Reg. 7629, at 7629, 7632 (Feb. 11, 1994).

²¹ Exec. Order No. 14,008, 86 Fed. Reg. 7619, at 7629 (Jan. 27, 2021).

²² Id.

²³ See USEPA, *EJ 2020 Glossary* (Aug. 2, 2019), <https://www.epa.gov/environmentaljustice/ej-2020-glossary>.

²⁴ CEQ, *Environmental Justice: Guidance Under the National Environmental Policy Act*, 4 (Dec. 1997) (CEQ’s *Environmental Justice Guidance*), https://www.energy.gov/sites/default/files/nepapub/nepa_documents/RedDont/G-CEQ-EJGuidance.pdf.

approaches to overcome linguistic, institutional, cultural, economic, historical, or other potential barriers to effective participation in the decision-making processes of federal agencies. In addition, Section 8 of Executive Order 13985, *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government*, strongly encourages independent agencies to “consult with members of communities that have been historically underrepresented in the Federal Government and underserved by, or subject to discrimination in, federal policies and programs.”

FERC received several public comments regarding outreach to environmental justice communities. There have been opportunities for public involvement during the Commission’s environmental review processes, though the record does not demonstrate that these opportunities were targeted at engaging environmental justice communities. FERC’s communication and involvement with the surrounding communities began when the NOA was issued in October 2021 and continued with the NOI that was issued in January 2022 and the Notice of Availability for the draft EIS which was issued in June 2022. These notices were mailed to the parties on FERC’s environmental mailing list, which included Federal and state resource agencies; elected officials; environmental groups and non-governmental organizations; Indian Tribes; potentially affected landowners; all residents (including members of environmental justice communities) within ½ mile of the compressor stations, local libraries and newspapers; and other stakeholders who had indicated an interest in the Project. Issuance of the NOI opened a 30-day formal scoping period and the issuance of the draft EIS opened a 45-day comment period.

GTN has complied with the Commission’s regulations pertaining to landowner and public notification requirements and has engaged in consultation with federally recognized Indian tribes as described in the Cultural Resources section of this EIS. GTN plans to continue its current outreach efforts prior to and during the Project construction period. The GTN virtual open house website (<https://www.tcenergyopenhouse.com/gtnxp/>), originally launched in October 2021, remains active. The virtual open house website includes a feedback form for the public, including environmental justice communities, to submit feedback on the project. GTN has not, to-date, received any comments expressing concern through the feedback form. The virtual open house website also addresses TC Energy’s policies in working with indigenous populations and identifies a specific point of contact for GTN. The site also has several resources for indigenous communities to review including a link for indigenous vendors and suppliers.

GTN has conducted environmental justice community outreach activities to-date in the vicinity of the Starbuck Compressor Station. including sending letters to impacted landowners. These outreach activities have built a means for continuing outreach to, and dialogue with, the environmental justice community identified near the Starbuck Compressor Station.

FERC has identified an environmental justice community in the vicinity of the existing Athol Compressor Station; however, the proposed Project work at Athol Station is minimal and does not involve ground disturbance. GTN has made similar outreach efforts to the local environmental justice community including notifying impacted landowners.

During Project construction, GTN's land agents would remain available to address landowner questions and obtain feedback. In addition, GTN would issue courtesy notifications to landowners within 1 mile as well as the county sheriff, when blowdowns are scheduled to occur.

In addition, regarding future engagement and involvement, in 2021, the Commission established the Office of Public Participation (OPP) to support meaningful public engagement and participation in Commission proceedings. OPP provides members of the public, including environmental justice communities, landowners, Tribal citizens, and consumer advocates, with assistance in FERC proceedings—including navigating Commission processes and activities relating to the Project. For assistance with interventions, comments, requests for rehearing, or other filings, and for information about any applicable deadlines for such filings, members of the public are encouraged to contact OPP directly at 202-502-6592 or OPP@ferc.gov for further information.

FERC received several comments from the EPA, the States of Oregon, Washington, California, and several non-government organizations concerning the EIS's environmental justice analysis. Copies of the summaries of the comments received during scoping are included in appendix A and copies of the comments received in response to the draft EIS are included in appendix E. As an illustration, the EPA recommends we: 1) conduct an EJSCREEN analysis and consider EJSCREEN information for the block group(s) which contain the proposed facilities and a one-mile radius around those areas; 2) apply the "Environmental Justice Interagency Working Group Promising Practices for EJ Methodologies in NEPA Reviews" report; 3) include information about the OPP and FERC's process to meaningfully engage with communities affected by the Project, whether such engagement is through the OPP or another process; 4) incorporate Executive Order 13985 on Advancing Racial Equity and Support for Underserved Communities Through the Federal Government; 5) use detailed assessment language; 6) assess potential air pollution impacts associated with the larger compressors or additional "blow down" events that may be necessary during the construction phase of the project on environmental justice communities; 7) consider cumulative impacts of the potentially increased emissions associated with the larger compressor units in conjunction with pre-existing air quality issues in the areas surrounding the compression stations; consider any increase in negative climate related impacts from failure to meet regional and U.S. GHG reduction targets; and 8) evaluate potential rate increases if demand for natural gas falls and ratepayers are left footing the bill for the cost of this project. In its comments, Columbia Riverkeeper/Sierra Club outlines EO 12898 directions, emphasizes meaningful participation, and reiterates

EPA recommendations concerning emissions, air quality impacts, climate change impacts, and potential rate increases. Comments 1 through 4 were addressed in the preceding discussion. “Detailed assessment language” will be used to the extent necessary and practical. Impacts to air quality affecting environmental justice communities are addressed below. Potential rate increases due to decreased demand are outside the scope of this EIS.

Identification of Environmental Justice Communities

According to the CEQ’s *Environmental Justice Guidance* and *Promising Practices*, minority populations are those groups that include populations categorized as: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic. Following the recommendations set forth in *Promising Practices*, FERC uses the **50 percent** and the **meaningfully greater analysis** methods to identify minority populations. Using these methodologies, minority populations exist when either: (a) the aggregate minority population of a block group in the affected area exceeds 50 percent; or (b) the aggregate minority population of a block group in the affected area is 10 percent higher than the aggregate minority population percentage in the county. The aforementioned guidance also directs low-income populations to be identified based on the annual statistical poverty thresholds from the U.S. Census Bureau. Using *Promising Practices*’ **low-income threshold criteria** method, low-income populations exist when the percentage of low-income population in the identified block group is equal to or greater than that of the county.

Table 4.7-1 and Figures 4.7-1 and 4.7-2 below identify the minority populations (by race and ethnicity) and low-income populations (by block group) present within one mile of the respective Project facilities. Additionally, and based on concerns expressed about emissions and impacts on air quality and environmental justice communities, we requested GTN model the radius of impact for any pollutants that exceeded Significant Impact Levels (SILs). The EPA has historically interpreted Clean Air Act section 165(a)(3) and associated regulations to mean that a source must have a “significant impact” on ambient air quality in order to cause or contribute to a violation. Consequently, EPA designated emission levels for criteria pollutants that if exceeded by a source, could cause or contribute to an exceedance of the NAAQS. These levels are conservative to ensure the protection of air quality and, if predicted, would trigger additional analyses to include ambient conditions. The term used for these designated emission concentrations are the significant impact levels, or SILs. The SILs are based on standard deviation confidence intervals to represent the inherent variability in pollutant concentrations, as determined by the national monitoring network. For the purposes of our analysis, an exceedance of a SIL concentration indicates that the impact may be significant; however, we would only conclude significance if further analysis determines that the emissions would lead to an exceedance of the NAAQS. In its response to our request, GTN provided modeling results indicating that many emissions attributable to the Project facilities would not exceed SILs and for those emissions that did exceed SILs (NO_x and SO₂ at the Starbuck Compressor

Station only), they would only do so within 0.25 mile. In addition, based on total facility emissions modeling, the Project's anticipated incremental and cumulative emissions are below the NAAQS for all pollutants.

To ensure we are using the most recent available data, we use the U.S. Census American Community Survey File# B03002 and File# B17017 as the source for race, ethnicity, poverty, and age data for households at the census block group level. According to the current U.S. Census Bureau information and consistent with the 50 percent, meaningfully greater analysis, and low-income threshold criteria described above, three minority and/or low-income populations are present within one mile of Project facilities. Specifically, one minority population (Kootenai County, Idaho - Census Tract 1.01, Block Group 2) and one minority and low-income population (Kootenai County, Idaho - Census Tract 2.03, Block Group 2) are present within one mile of the Athol Compressor Station; and one minority population Walla Walla County, Washington - Census Tract 9200, Block Group 4) is present within one mile of the Starbuck Compressor Station. No minority or low-income populations are present within one mile of the Kent Compressor Station.

Table 4.7-1

Minority Populations by Race and Ethnicity and Low-Income Populations

| State/County/ Census Tract and Block Group | POPULATION COLUMN | RACE AND ETHNICITY COLUMNS | | | | | | | | | | LOW- INCOME COLUMN |
|---|----------------------|--------------------------------|--|--------------|--|---|------------------------------|-----------------------------------|------------------------------|--------------------------|---|--------------------------|
| | Total | White (Not Hispanic) (%) | Black or African American (%) | Asian (%) | American Indian and Alaska Native (%) | Native Hawaiian & Other Pacific Islander (%) | Some Other Race (%) | Two or More Races (%) | Hispanic or Latino (%) | Total Minority (%) | Total Households Below Poverty Level (%) | |
| Athol Compressor Station | | | | | | | | | | | | |
| Idaho | 1,754,367 | 81.4 | 0.6 | 1.3 | 1.1 | 0.1 | 0.2 | 2.6 | 12.7 | 18.6 | | 11.8 |
| Kootenai County | 161,676 | 89.2 | 0.4 | 0.8 | 1.1 | 0.1 | 0.5 | 3.1 | 4.8 | 10.8 | | 10.1 |
| Census Tract 1.01 Block Group 2 | 1,488 | 78.6 | 0 | 0 | 0 | 0 | 11.4 | 3.6 | 6.5 | 21.4 | | 3.1 |
| Census Tract 2.01 Block Group 2 | 1,603 | 98.8 | 0 | 0 | 0 | 0 | 0 | 0 | 1.2 | 1.2 | | 0 |
| Census Tract 2.03 Block Group 2 | 1,389 | 92.9 | 0 | 2.5 | 2.3 | 0.1 | 0 | 1.9 | 0.2 | 7.1 | | 11.2 |

Table 4.7-1

Minority Populations by Race and Ethnicity and Low-Income Populations

| State/County/ Census Tract and Block Group | POPULATION COLUMN | RACE AND ETHNICITY COLUMNS | | | | | | | | | | LOW- INCOME COLUMN |
|---|----------------------|--------------------------------|--|--------------|--|---|------------------------------|-----------------------------------|------------------------------|--------------------------|---|--------------------------|
| | Total | White (Not Hispanic) (%) | Black or African American (%) | Asian (%) | American Indian and Alaska Native (%) | Native Hawaiian & Other Pacific Islander (%) | Some Other Race (%) | Two or More Races (%) | Hispanic or Latino (%) | Total Minority (%) | Total Households Below Poverty Level (%) | |
| Starbuck Compressor Station | | | | | | | | | | | | |
| Washington | 7,512,000 | 67.5 | 3.7 | 8.7 | 1.0 | 0.7 | 0.3 | 5.2 | 12.9 | 32.5 | 9.8 | |
| Walla Walla County | 60,785 | 71.2 | 1.7 | 1.8 | 0.3 | 0.2 | 0.1 | 3.2 | 21.6 | 28.8 | 12.8 | |
| Census Tract 9200 Block Group 4 | 1,559 | 36.3 | 0.4 | 0 | 0 | 0 | 0.8 | 1.2 | 61.3 | 63.7 | 7.9 | |
| Kent Compressor Station | | | | | | | | | | | | |
| Oregon | 4,176,346 | 74.9 | 1.8 | 4.4 | 0.9 | 0.4 | 0.3 | 4.1 | 13.2 | 25.1 | 12.0 | |
| Sherman County | 1,686 | 88.4 | 0.1 | 0 | 0.7 | 1.2 | 0 | 3.2 | 6.5 | 11.6 | 10.9 | |

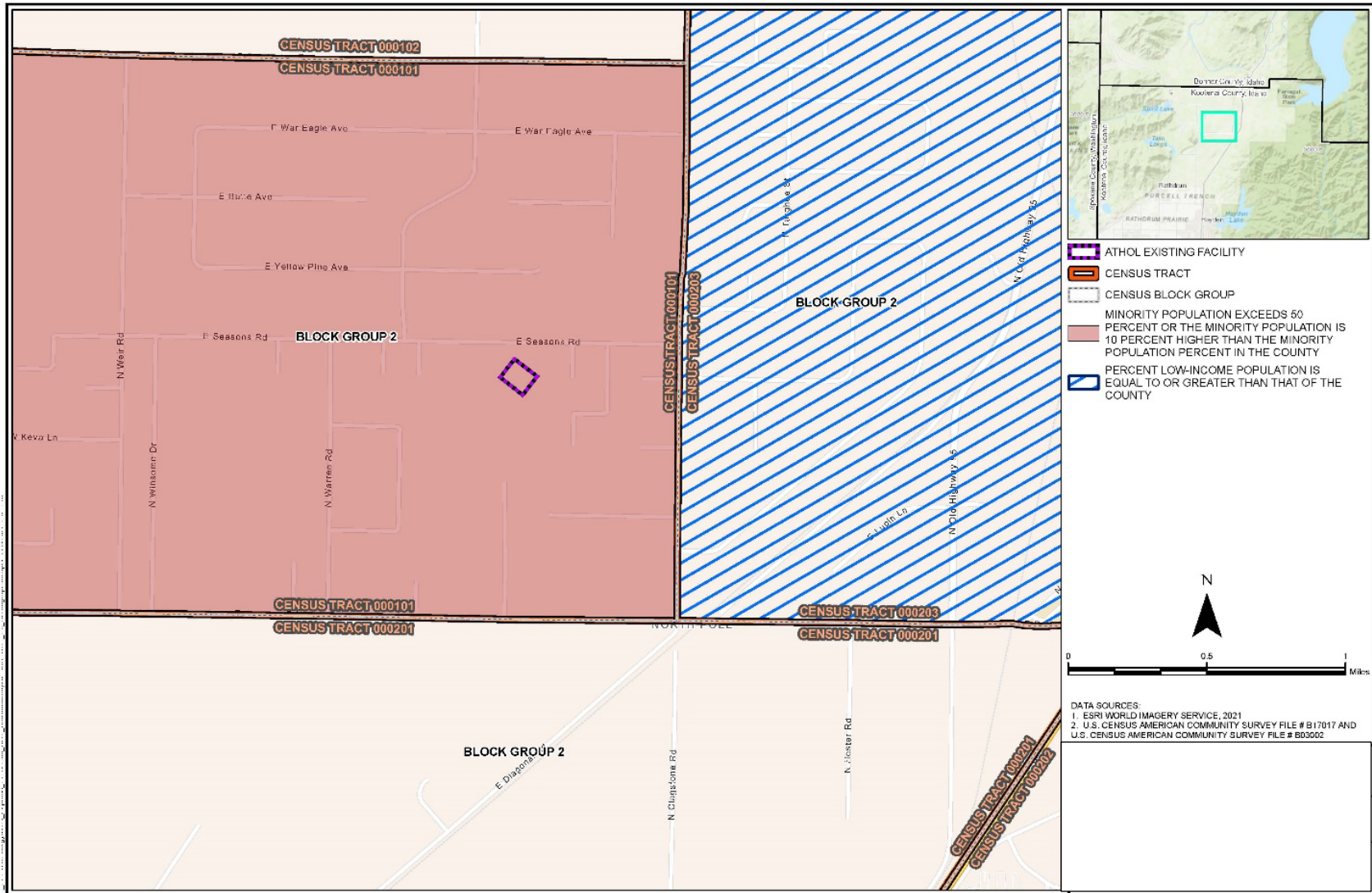
Table 4.7-1

Minority Populations by Race and Ethnicity and Low-Income Populations

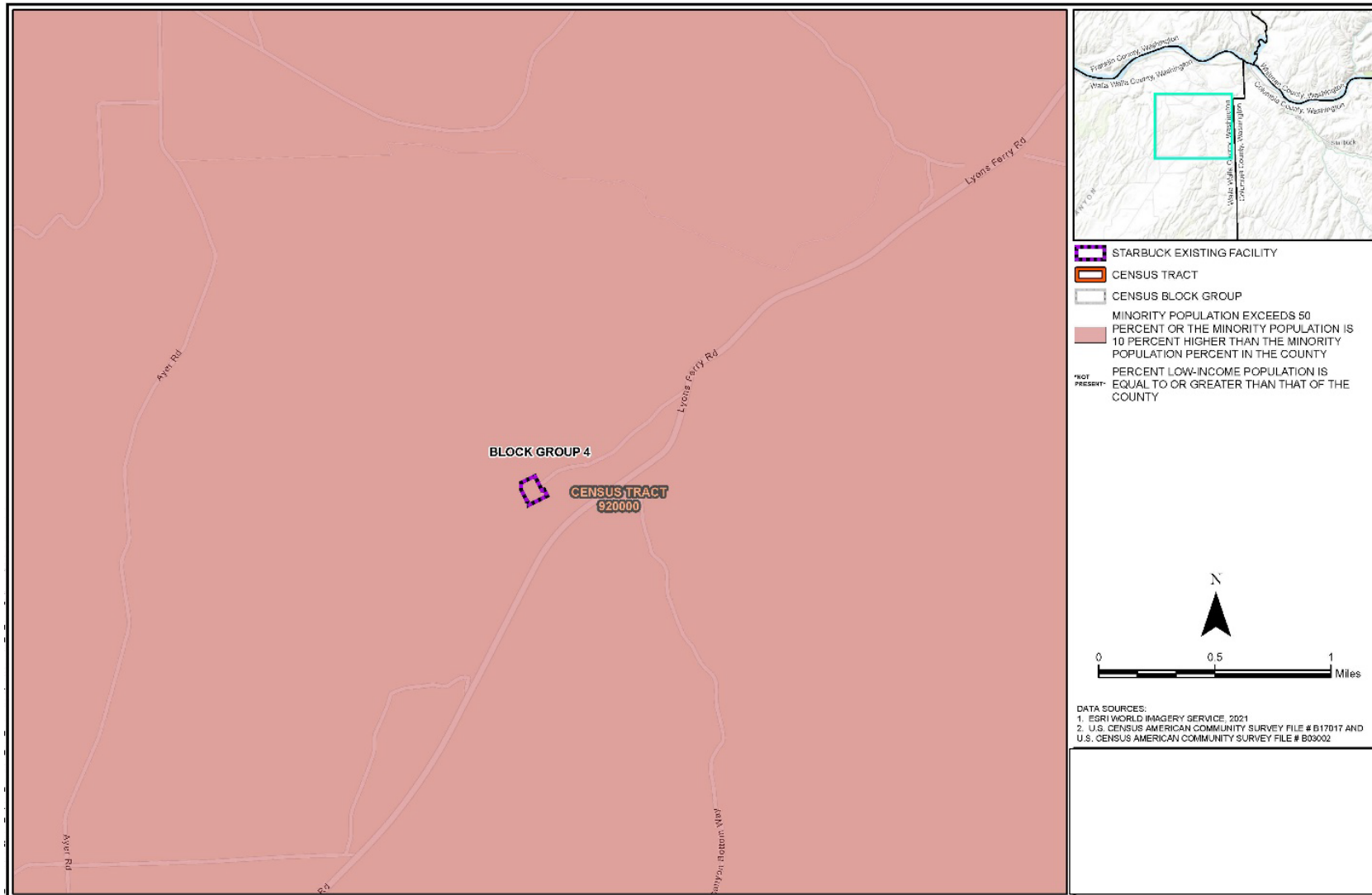
| State/County/ Census Tract and Block Group | POPULATION COLUMN | RACE AND ETHNICITY COLUMNS | | | | | | | | | | LOW- INCOME COLUMN |
|---|----------------------|--------------------------------|--|--------------|--|---|------------------------------|-----------------------------------|------------------------------|--------------------------|---|--------------------------|
| | Total | White (Not Hispanic) (%) | Black or African American (%) | Asian (%) | American Indian and Alaska Native (%) | Native Hawaiian & Other Pacific Islander (%) | Some Other Race (%) | Two or More Races (%) | Hispanic or Latino (%) | Total Minority (%) | Total Households Below Poverty Level (%) | |
| Census Tract 9501 Block Group 1 | 834 | 92.2 | 0.1 | 0 | 0.6 | 2.4 | 0 | 2.5 | 2.2 | 7.8 | 7.9 | |

Note: Highlighted cells indicate populations that exceed 50 percent and meaningfully greater analysis thresholds and low-income threshold criteria.

Athol Compressor Station Figure 4.7-1



Starbuck Compressor Station Figure 4.7-2



Impacts on Environmental Justice Communities

As previously described, *Promising Practices* provides methodologies for conducting environmental justice analyses. Issues considered in the evaluation of environmental justice include human health or environmental hazards; the natural physical environment; and associated social, economic, and cultural factors. Consistent with *Promising Practices* and our understanding of Executive Order 12898, we reviewed the Project to determine if its resulting impacts would be disproportionately high and adverse on minority and low-income populations and also whether impacts would be significant.²⁵

GTN would modify three existing compressor stations in Idaho, Washington, and Oregon. As described above, no minority or low-income populations are present within one mile of the Kent Compressor Station; therefore, this facility is not addressed further in this analysis.

The Athol Compressor Station in Idaho is located in a suburban and residential environment; however, the only activity at this site would be a software upgrade that would result in the uprating of an existing compressor unit. Hence, with the exception of increased noise and air emissions (discussed below), minority and low-income populations near this facility would not be affected as there is no physical work, ground disturbance, or other activities at this site.

The Starbuck Compressor Station is located in a remote part of southeast Washington. Work at the Starbuck Compressor Station would involve installing a new gas-fired compressor unit, three new gas cooling bays, and associated piping at the existing station site; and uprating an existing gas-fired compressor unit. Based on GTNs surveys, a single residence is located about 0.5 mile from the station and the nearest identified sensitive receptors to the Starbuck Compressor Station, a school and playground, are located about 16 miles away.

Impacts on the natural and human environment resulting from the modification and installation of Project facilities are identified and discussed throughout this document. Factors that could affect environmental justice communities include, socioeconomic impacts (including traffic impacts and increased demand for temporary housing and public services), and air and noise impacts (see sections 4.9 and 4.10). Potentially adverse environmental effects on surrounding communities associated with the Project, including environmental justice communities, would be minimized and/or mitigated. In general, the magnitude and intensity of the aforementioned impacts would be greater for individuals and residences closest to the Project's facilities and would diminish with distance. These

²⁵ See *Promising Practices* at 33 (stating that “an agency may determine that impacts are disproportionately high and adverse, but not significant within the meaning of NEPA”).

impacts are addressed in greater detail in the associated sections of this EIS. Environmental justice concerns are not present for other resource areas such as geology, soils, groundwater, surface water, wetlands, wildlife, visual resources²⁶, or cultural resources due to the minimal overall impact the Project would have on these resources.

Socioeconomics

Due to the relatively small workforce (one crew of 50 individuals), the seven-to-eight-month work period, and the concentration of activities at an existing industrial site, impacts on local communities including nearby minority and low-income populations would be minor. Use of local roads, primarily a single county road and the existing compressor station access road (both paved) would increase during construction (no dirt or gravel roads would be traversed). The addition of 50 vehicle round trips per day and occasional materials deliveries would not substantially impact traffic or local use of roads. Any impact on local economies, housing, or demand for municipal services would also be minor given the scope of the Project.

Noise

As described further in section 4.11, modifying and installing new compressor station equipment and facilities would temporarily and permanently increase noise emitted at each station. This increased noise could impact noise sensitive areas (NSA) and nearby communities including minority and low-income populations. For reference, the human ear's threshold of perception for noise change is considered to be 3 decibels (dB); 6 dB is clearly noticeable to the human ear, and 10 dB is perceived as a doubling of noise.

At the Athol Compressor Station, there would be no construction noise. Operating the modified station would permanently increase noise emitted from the station by about 0.2 dB, measured at nearby NSAs. A 0.2 dB increase in noise would not generally be perceptible at the numerous houses located between 800 and 1,500 feet from the station or the surrounding community. Similarly, minority and low-income populations near the existing station would not likely experience an observable increase in noise as a result of the Project.

At the Starbuck Compressor Station, upgrading and installing the Project facilities would result in varying noise levels on the closest NSA (a single residence, 0.5 mile from the station) ranging from 33.7 dB to 43.7 dB. Operating the modified station would permanently increase noise at the nearest NSA by about 2.0 dB. A 2.0 dB increase in noise would not generally be perceptible at the nearest NSA or the surrounding community.

²⁶ No visual impacts would be observable as there is no construction involved for the Athol Compressor Station and the Starbuck Compressor Station would not be visible from any sensitive receptors, and the proposed facilities would be consistent with the visual character of the existing facilities.

Similarly, minority and low-income populations near the existing station would not likely experience an observable increase in noise as a result of the Project.

In both Project areas, construction and operational noise would remain below the FERC's 55 dBA threshold at nearby NSAs. Additionally, a "blow down" event is not expected at the Athol Compressor Station as only a software upgrade would occur. Should a "blow down" event occur at the Starbuck Compressor Station due to modification and installation activities, the resulting noise would not likely be perceptible at the closest NSA, approximately 0.5 mile away. Therefore, we conclude that the Project facilities would result in a permanent, but minor impact on minority and low-income populations.

Air Quality

Construction emissions in the form of particulate matter (e.g., dust) and construction emissions from equipment exhaust would result in short-term, localized impacts in the immediate vicinity of construction work areas. These emissions would occur over seven to eight months and would vary depending on the construction activity. If necessary, dust suppression measures would be implemented to minimize the impacts of fugitive dust on sensitive areas. Construction air emissions from the Project, when considered with current background concentrations, would be below the NAAQS.

Operational emissions at the modified compressor stations would come from two primary sources: direct gas releases associated with operation and maintenance of the stations and fugitive emissions. GTN completed an air quality dispersion modeling analysis for the Athol and Starbuck Compressor Stations, which are located within environmental justice communities. Based on total facility emissions modeling, the Project's anticipated incremental and cumulative emissions are below the NAAQS for all pollutants for both the compressor stations. Additionally, and as stated above, GTN provided modeling results indicating that many emissions attributable to the Project facilities would not exceed SILs and for those emissions that did exceed SILs (NO_x and SO₂ at the Starbuck Compressor Station only), they would only do so within 0.25 mile. The nearest sensitive receptor to the Starbuck Compressor Station is 0.5 mile away; therefore, no receptors would experience emissions above the SIL.

EPA requested that staff assess potential air pollution impacts associated "blow down" events that may be necessary during the construction phase of the project on environmental justice communities. We do not expect a "blow down" event to occur at the Athol Compressor Station; and should a "blow down" event occur at the Starbuck Compressor Station, the emissions, primarily methane, would quickly dissipate into the atmosphere, and we would not expect that the nearest sensitive receptor (0.5 mile away) would experience an adverse impact.

Although the Project and each compressor station would be in compliance with the NAAQS and the NAAQS are designated to protect sensitive populations, we acknowledge

that NAAQS attainment alone may not assure there is no localized harm to such populations due to Project emissions of VOCs, hazardous air pollutants (HAPs) as well as issues, such as the presence of non-Project related pollution sources, local health risk factors, disease prevalence, and access (or lack thereof) to adequate care. Air quality impacts are discussed in more detail in section 4.9.

Determination of Disproportionately High and Adverse Impacts on Environmental Justice Communities

As described throughout this EIS, the Project would have a range of impacts on the environment and individuals living in the vicinity of the Project, including minority and low-income populations. To reduce potential impacts on the environment, GTN would implement measures identified in its ECS and SPCC Plan. GTN would be required to construct the Project facilities in accordance with all applicable federal permits, consultations, regulations, and guidance, including the Department of Transportation regulations under 49 CFR 192 (Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards). GTN would train company and contractor personnel to familiarize them with environmental requirements and other conditions and provide at least one Environmental Inspector to monitor compliance during construction. FERC environmental staff would also monitor regularly filed inspection reports, address compliance issues, and would have the authority to stop any activity that violates an environmental condition of a FERC Certificate. To ensure that the modified compressor stations operate in compliance with our noise requirements, we recommend in section 4.10 that GTN conduct noise surveys after placing each modified compressor station into service and file those with the Commission for our review.

In conclusion, impacts on environmental justice communities associated with the Athol and Starbuck Compressor Stations would be disproportionately high and adverse as they would be predominately borne by environmental justice communities. However, Project impacts associated with socioeconomics (including traffic), noise, and air quality would be less than significant.

4.8 Land Use

All lands within the fenced-boundaries of the Starbuck and Kent Compressor Stations and the access roads leading to them are considered developed/industrial. Developed/industrial lands are generally characterized as graveled or paved, or generally disturbed and maintained, unvegetated or having minimal vegetation, and occupied or adjacent to/associated with aboveground natural gas transmission facilities. Lands outside the fenced-boundaries of the Starbuck Compressor Station, but abutting the station, are considered unmanaged open space or “open lands”. These lands are also considered grass lands (see Vegetation discussion above). No planned residential, commercial, or industrial developments were identified in the vicinity of the Project sites. Additionally, there are no agricultural lands, or state or federally-managed lands or other specially designated or

managed lands within 0.25 mile of either site. The nearest residence to either the Starbuck or Kent Compressor Stations is about 0.5 mile away.

In its comments on the Project, the EPA recommends that the EIS discuss the land use types covering the Kent Compressor Station and its surrounding areas since it is the only facility that will have new construction outside of its existing footprint. The EPA also recommends the EIS describe the impacts to open land use types, indicate if these impacts would be permanent or temporary, and describe any mitigation measures to impacts. Lastly, the EPA recommends the EIS discuss impacts to farmlands and any measures to restore farmlands and compensate landowners for losses incurred because of the proposed action. We have addressed the EPA's comments in this section.

Modifying and installing the Project facilities would temporarily impact about 18.6 acres of developed/industrial lands and 28.3 acres of open space/land. Operating the new facilities would result in the permanent conversion of about 1.2 acres of land from open space/land to developed industrial. This conversion and permanent impact would occur on lands abutting the Kent Compressor Station and these lands would be incorporated into the management operations of the existing facilities/site.

Based on the existing uses of affected lands, the scope of the Project, the temporary nature of impacts on land use, and the minimal permanent impacts on open space/lands due to the installation of the aboveground facilities, we conclude that modifying and installing the Project would not significantly impact land use.

4.9 Air Quality and Climate Change

Air Quality

The term "air quality" refers to the relative concentrations of pollutants in the ambient air. Local and regional air quality in the Project area would be affected by modification and installation of the Project facilities. This section summarizes federal and state air quality regulations that are applicable to the Project facilities. This section also characterizes the existing air quality and describes the potential impacts the modified facilities may have on air quality regionally and locally, as well as the Project's potential impacts on climate change.

Ambient air quality is protected by the Clean Air Act (CAA) of 1970, as amended in 1977 and 1990. The EPA oversees the implementation of the CAA and has established the National Ambient Air Quality Standards (NAAQS) to protect human health and welfare.²⁸ NAAQS have been developed for seven "criteria air pollutants" including

²⁸ The current NAAQS are listed on the USEPA's website at <https://www.epa.gov/criteria-air-pollutants/naaqs-table>.

nitrogen dioxide (NO₂), carbon monoxide (CO), ozone, sulfur dioxide (SO₂), particulate matter less than or equal to 2.5 microns in aerodynamic diameter (PM_{2.5}), particulate matter less than or equal to 10 microns in aerodynamic diameter (PM₁₀), and lead, and includes levels for short-term (acute) and long term (chronic) exposures. Ozone is not directly emitted into the atmosphere from an emission source. Ozone develops as a result of a chemical reaction between nitrogen oxides (NO_x) and Volatile Organic Compounds (VOCs) in the presence of sunlight.

As well as being the reactant to form ozone, VOCs are a subset of organic compounds that are emitted during fossil-fuel combustion and can cause a variety of health effects, from irritation to more serious health impacts. Fossil fuels would be used in construction equipment for the Project and during operation of the modified facilities at the compressor stations. Hazardous Air Pollutants (HAPs) are also emitted during fossil-fuel combustion and contain compounds that are known or suspected of causing serious health effects.

The NAAQS include two standards, primary and secondary. Primary standards establish limits that are considered to be protective of human health and welfare, including sensitive populations such as children, the elderly, and asthmatics. Secondary standards set limits to protect public welfare, including protection against reduced visibility and damage to crops, vegetation, animals, and buildings (USEPA 2021e). Under the CAA, each state prepares a State Implementation Plan to demonstrate the state's air quality management program to attain or maintain the NAAQS. States must adopt standards that are at least as stringent as the NAAQS. At the state level, the States of Idaho, Washington, and Oregon have adopted standards which are equivalent to the NAAQS for CO, ozone, SO₂, PM_{2.5}, PM₁₀, and lead. Kootenai County, Idaho, where the Athol Compressor Station is located, Walla Walla County, Washington where the Starbuck Compressor Station is located and Sherman County, Oregon, where the Kent Compressor Station is located, are considered to be in attainment or unclassified for all criteria pollutants.

The term "greenhouse gases" also referred to as GHGs refers to the gases and aerosols that occur in the atmosphere both naturally and as a result of human activities, such as the burning of fossil fuels. GHGs are non-toxic and non-hazardous at normal ambient concentrations; however, they were identified as pollutants by the EPA due to their impact on the global climate. The primary GHGs that would be emitted by the Project are carbon dioxide (CO₂), methane, and nitrous oxide. The modification, installation, and operation of the Athol, Starbuck, and Kent Compressor Stations would result in GHG emissions.

GHG emissions are typically quantified and regulated in units of carbon dioxide equivalents (CO_{2e}). The CO_{2e} takes into account the global warming potential (GWP) of each GHG. The GWP is the measure of a particular GHG's ability to absorb solar radiation as well as its residence time within the atmosphere. The GWP allows comparison of global

warming impacts between different gases; the higher the GWP, the more that gas contributes to climate change in comparison to CO₂. For comparison, CO₂ has a GWP of 1, methane has a GWP of 25, and nitrous oxide has a GWP of 298 (USEPA 2021f).² There are no applicable ambient standards or emission limits for GHG under the CAA.

Existing Air Quality

The Project areas for this air analysis are located in Kootenai County, Idaho, Walla Walla County, Washington, and Sherman County, Oregon. Based on data obtained from The National Weather Service Meteorological Station in Spokane, Washington (KOTX) which is located 35 miles from Kootenai County, the average maximum daily temperature is 54.8 degrees Fahrenheit (°F) and the average minimum daily temperature is 37.3°F. The average annual precipitation is 15.36 inches. In Walla Walla County the average maximum daily temperature is 65.8 °F and the average minimum daily temperature is 43.6 °F. The average annual precipitation is 7.73 inches. Long-term temperature and precipitation values used the annual and seasonal climate normal - computed for the 30-year period from 1981 to 2010 obtained from the Western Regional Climate Center (2021a). In Sherman County the average maximum daily temperature is 62.1 °F and the average minimum daily temperature is 32.7 °F. The average annual precipitation is 8.64 inches. Long-term temperature and precipitation values used the annual and seasonal climate normal - computed for the period from 1948 to 2016 obtained from the Western Regional Climate Center (2021b).

The EPA and state and local agencies have established a network of ambient air quality monitoring stations to measure concentrations of criteria pollutants across the United States. The data are then averaged over a specific time-period and used by regulatory agencies to determine compliance with the NAAQS and to determine if an area is in attainment (criteria pollutant concentrations are below the NAAQS), nonattainment (criteria pollutant concentrations exceed the NAAQS), or maintenance (area was formerly nonattainment and is currently in attainment). Dispersion modeling was conducted for the Project facilities as part of the respective permitting processes. The modeling demonstrated that the Project would comply with all state and federal air quality standards and was approved by the state authorities.

Regulatory Requirements

The CAA is the basic federal statute governing air pollution in the United States. We have reviewed the following federal requirements and determined their applicability to the proposed Project.

- **Prevention of Significant Deterioration (PSD)** permits, which are required for new major sources or an existing source making a major modification in an

attainment area. The Athol, Starbuck and Kent Compressor Stations area each located in an area of attainment. PSD is intended to keep new air emission sources from causing the existing air quality to deteriorate beyond acceptable levels. The modifications of Athol, Starbuck and Kent Compressor Stations would not trigger any requirements under PSD.

- **Nonattainment and Minor NSR** permits, which are required for new major sources or an existing source making a major modification in a nonattainment area. The proposed Project would not be located in a nonattainment area; therefore, NSR would not be applicable.
- **Title V** of the CAA requires major source of air pollutants to obtain and operate in compliance with a federal enforceable operating permit. Sources subject to the Title V operating permit program are required to certify compliance with the applicable requirements of the permits. The EPA has delegated 40 CFR 70 Operating Permit Program authority to each of the applicable state environmental agencies (i.e., Idaho Department of Environmental Quality, Oregon Department of Environmental Quality, and Washington State Department of Ecology). The Project facilities would be subject to Title V requirements. GTN submitted copies of the applicable permits in their original application filed on October 4, 2021.
- **The National Emissions Standards for Hazardous Air Pollutants (NESHAP)**, codified in 40 CFR 61 and 63, regulate the emissions of hazardous air pollutants (HAPs), from new and existing sources. All project compressor stations would continue to be an area source of HAPs. The applicable regulations included 40 CFR 63 Subpart A and ZZZZ.
- **The New Source Performance Standards (NSPS)** are codified in 40 CFR Part 60. NSPS apply to new, modified, and reconstructed affected facilities in specific source categories. The applicable regulations are included in GTN's current air permits, where are 40 CFR 60 NSPS Subpart A, GG, JJJJ, KKKK and OOOOa.
- **A General Conformity applicability analysis** would be required for any part of the Project occurring in a nonattainment of maintenance areas for criteria pollutants. General conformity regulations in 40 CFR 93, Subpart B, are designed to ensure that actions taken by federal agencies in nonattainment and maintenance areas do not interfere with a state's ability to attain or maintain compliance with the NAAQS. The Project is a federal action because a federal agency would be approving the Project. Because the Project would occur only in areas designated as attainment/unclassified, a general conformity determination is not needed

Construction Emissions Impacts and Mitigation

The modification and installation of the Project facilities would result in a temporary reduction in ambient air quality due to criteria pollutant emissions and fugitive dust generated by construction equipment. The quantity of fugitive dust emissions would depend on the moisture content and texture of the soils that would be disturbed. Fugitive dust and other emissions due to Project-related activities generally do not pose a significant increase in regional pollutant levels; however, local pollutant levels could increase. If necessary, dust suppression measures would be implemented to minimize the impacts of fugitive dust on sensitive areas. Moreover, large equipment that is powered by diesel or gasoline engines are sources of combustion-related emissions including GHGs [reported as CO_{2e}], NO_x, CO, VOC, SO₂, PM₁₀, PM_{2.5} and HAPs. We have determined based on the scope of the Project and the amount of land affected that the Project facilities would result in temporary, localized, and minor impacts on air quality. Additionally, construction equipment emission estimates demonstrate that the Project would not cause or contribute to an exceedance of the NAAQS.

Construction emissions from the Project are shown in table 4.9-1 below. As described previously, no construction activities would occur in Kootenai County, Idaho; therefore, none are reported in table 4.9-1. These construction activities are a substantial component of total emissions for the Project; and as shown below, the construction emissions for the Project are below the General Conformity applicability thresholds for a serious nonattainment area, marginal nonattainment area, and a maintenance area. Therefore, a General Conformity Determination is not required.

| Table 4.9-1 Construction Emissions (tons) | | | | | | | | |
|--|-------------|-----------------------|-------------|------------------------|-------------------------|-----------------------|-------------|------------------------|
| Construction Activity | CO | NO_x | VOC | PM₁₀ | PM_{2.5} | SO₂ | HAP | CO_{2e} |
| Walla Walla County, Washington | | | | | | | | |
| Diesel non-road equipment | 2.99 | 5.35 | 0.72 | 0.91 | 0.91 | 0.45 | 0.11 | 2,739 |
| Diesel and gas on-road equipment | 3.44 | 0.6 | 0.14 | 0.02 | 0.02 | 0.005 | 0.05 | 399 |
| Construction activity fugitive dust | N/A | N/A | N/A | 0.09 | 0.01 | N/A | N/A | N/A |
| Roadway fugitive dust | N/A | N/A | N/A | 0.07 | 0.03 | N/A | N/A | N/A |
| Fugitive Components | N/A | N/A | 0 | N/A | N/A | N/A | N/A | 0 |
| Subtotal | 6.43 | 5.95 | 0.87 | 1.09 | 0.97 | 0.45 | 0.16 | 3,140 |
| Sherman County, Oregon | | | | | | | | |
| Diesel non-road equipment | 2.62 | 6.35 | 0.94 | 1.14 | 1.14 | 0.6 | 0.14 | 3,574 |
| Diesel and gas on-road equipment | 1.75 | 0.44 | 0.09 | 0.02 | 0.02 | 0.003 | 0.03 | 226 |
| Construction activity fugitive dust | N/A | N/A | N/A | 0.47 | 0.05 | N/A | N/A | N/A |
| Roadway fugitive dust | N/A | N/A | N/A | 0.08 | 0.04 | N/A | N/A | N/A |
| Fugitive Components | N/A | N/A | 0 | N/A | N/A | N/A | N/A | 0 |
| Subtotal | 4.37 | 6.79 | 1.03 | 1.71 | 1.26 | 0.6 | 0.17 | 3,800 |
| Totals | 10.8 | 12.74 | 1.9 | 2.8 | 2.23 | 1.05 | 0.33 | 6,940 |

| Table 4.9-1 Construction Emissions (tons) | | | | | | | | |
|--|----|-----------------|-----|------------------|-------------------|-----------------|-----|------------------|
| Construction Activity | CO | NO _x | VOC | PM ₁₀ | PM _{2.5} | SO ₂ | HAP | CO _{2e} |
| N/A - not applicable | | | | | | | | |

In its comments on the Project, the EPA recommends the implementation of best practices to reduce emissions during the construction phase of compressor station upgrades, such as options that explore diesel controls, and cleaner fuel (ultra-low sulfur diesel) and construction practices for on-road and off-road equipment. GTN has committed to use low-sulfur diesel fuel in all construction equipment and vehicles that use diesel fuel.

Operational Emissions Impacts and Mitigation

Operational emissions at the modified compressor stations would come from two primary sources: direct gas releases associated with operation and maintenance of the stations and fugitive emissions (blowdowns and leaks). Emissions of individual pollutants were calculated by multiplying the total fugitive gas emissions from gas releases by the estimated weight percent of each pollutant in the natural gas. Emissions from fugitive components were estimated using design documents to determine the quantity of components and using EPA emission factors for oil and gas facilities. GTN has stated that emissions from the proposed modifications would be minimal, and there would not be any increase in fugitive emissions from the Athol and Kent Compressor Stations. Existing operational emissions from the Project are shown in table 4.9-2 below.

| Table 4.9-2 Compressor Station Operational Emissions (tpy) | | | | | | | |
|---|-----------------|---------------|--------------|-------------------------------------|-----------------|------------------|-------------|
| Emission Units | NO _x | CO | VOC | PM ₁₀ /PM _{2.5} | SO ₂ | CO _{2e} | Total HAPs |
| Athol Compressor Station | | | | | | | |
| Unit 5D Solar Titan 130 Turbine | 41.29 | 128.97 | 6.5 | 4.91 | 0.53 | 87,081 | 0.76 |
| IA - Fuel Gas Heater | 0.43 | 0.36 | 0.02 | 0.03 | 0.003 | 513 | 0.01 |
| IA - Space Heaters | 0.12 | 0.10 | 0.01 | 0.01 | 0.001 | 138 | 0.002 |
| AUX-1 Caterpillar G3512 Emergency Generator | 2.01 | 4.03 | 1.01 | 0.03 | 0.002 | 382 | 0.325 |
| Equipment Leaks (Fugitive Emissions) | N/A | N/A | 15.18 | N/A | N/A | 41,793 | N/A |
| Venting | N/A | N/A | 0.49 | N/A | N/A | 1,339 | N/A |
| Proposed Facility PTE | 43.85 | 133.45 | 14.55 | 4.98 | 0.54 | 107,401 | 1.10 |

**Table 4.9-2
Compressor Station Operational Emissions (tpy)**

| Emission Units | NO_x | CO | VOC | PM₁₀/PM_{2.5} | SO₂ | CO_{2e} | Total HAPs |
|--|-----------------------|---------------|--------------|---|-----------------------|------------------------|-------------------|
| Unit 5C Cooper Coberra 6000 Turbine | 197.03 | 142.79 | 3.07 | 3.01 | 3.81 | 156,885 | 1.38 |
| Lube Oil Tanks | N/A | N/A | 0.001 | N/A | N/A | N/A | N/A |
| Equipment Leaks (Fugitive Emissions) | N/A | N/A | 8.66 | N/A | N/A | 23,845 | N/A |
| Existing Facility PTE | 197.03 | 142.79 | 11.7 | 3.01 | 3.81 | 180,730 | 1.38 |
| Facility Total | 240.88 | 276.25 | 26.28 | 7.99 | 4.35 | 288,131 | 2.48 |
| <i>Title V Threshold</i> | <i>100</i> | <i>100</i> | <i>100</i> | <i>100</i> | <i>100</i> | <i>N/A</i> | <i>25</i> |
| <i>PSD Major Source Threshold</i> | <i>250</i> | <i>250</i> | <i>250</i> | <i>250</i> | <i>250</i> | <i>100,000</i> | <i>N/A</i> |
| Starbuck Compressor Station | | | | | | | |
| Unit 7D Solar Titan 130 Turbine | 44.53 | 48.26 | 5.89 | 5.43 | 0.59 | 96,416 | 0.85 |
| Unit 7E Solar Titan 130 Turbine | 44.53 | 48.26 | 5.89 | 5.43 | 0.59 | 96,416 | 0.85 |
| IA - Fuel Gas Heater | 0.86 | 0.72 | 0.05 | 0.07 | 0.006 | 1,026 | 0.02 |
| IA - Space Heaters | 0.27 | 0.23 | 0.01 | 0.02 | 0.002 | 323 | 0.005 |
| AUX GEN2 Caterpillar G3512 Emergency Generator | 2.01 | 4.03 | 1.01 | 0.03 | 0.002 | 382 | 0.236 |
| Equipment Leaks (Fugitive Emissions) | N/A | N/A | 8.87 | N/A | N/A | 24,431 | N/A |
| Venting | N/A | N/A | 6.83 | N/A | N/A | 18,818 | N/A |
| Proposed Facility PTE | 92.20 | 101.49 | 18.37 | 10.98 | 1.19 | 213,135 | 1.96 |
| Unit 7C Cooper Rolls Coberra RB-211 | 236 | 173 | 5.26 | 3.6 | 4.6 | 142,532 | 1.25 |
| IA - Space Heaters | 0.86 | 0.72 | 0.05 | 0.07 | 0.01 | 1,026 | 0.02 |
| IA - Water Heater | 0.02 | 0.01 | 0.001 | 0 | 0.0001 | 21 | 0.0003 |
| Pipeline Fluids Tank | N/A | N/A | 0.002 | N/A | N/A | N/A | N/A |
| Lube Oil Tanks | N/A | N/A | 0.06 | N/A | N/A | N/A | N/A |
| Equipment Leaks (Fugitive Emissions) | N/A | N/A | 7.48 | N/A | N/A | 20,598 | N/A |
| Venting | N/A | N/A | 1.32 | N/A | N/A | 3,625 | N/A |
| Existing Facility PTE | 236.88 | 173.74 | 14.17 | 3.67 | 4.61 | 167,801 | 1.27 |

**Table 4.9-2
Compressor Station Operational Emissions (tpy)**

| Emission Units | NO_x | CO | VOC | PM₁₀/PM_{2.5} | SO₂ | CO_{2e} | Total HAPs |
|---|-----------------------|---------------|--------------|---|-----------------------|------------------------|-------------------|
| Facility Total | 329.08 | 275.23 | 33.92 | 14.65 | 5.8 | 381,391 | 3.23 |
| <i>Title V Threshold</i> | <i>100</i> | <i>100</i> | <i>100</i> | <i>100</i> | <i>100</i> | <i>N/A</i> | <i>25</i> |
| <i>PSD Major Source Threshold</i> | <i>250</i> | <i>250</i> | <i>250</i> | <i>250</i> | <i>250</i> | <i>100,000</i> | <i>N/A</i> |
| Kent Compressor Station | | | | | | | |
| Unit 10D Solar Titan 130 Turbine | 40.95 | 128.59 | 6.46 | 4.86 | 0.53 | 86,244 | 0.76 |
| IA - Fuel Gas Heater | 0.64 | 0.54 | 0.04 | 0.05 | 0.005 | 769 | 0.01 |
| IA - Space Heaters | 0.32 | 0.27 | 0.02 | 0.02 | 0.002 | 385 | 0.01 |
| AUX-1 Caterpillar G3512 Emergency Generator | 0.12 | 0.1 | 0.01 | 0.01 | 0.001 | 138 | 0.002 |
| Equipment Leaks (Fugitive Emissions) | N/A | N/A | 26.78 | N/A | N/A | 73,758 | N/A |
| Venting | N/A | N/A | 9.84 | N/A | N/A | 27,124 | N/A |
| Proposed Facility PTE | 42.04 | 129.50 | 15.67 | 4.94 | 0.54 | 112,743 | 0.78 |
| Unit 10A Solar Mars | 31.23 | 10.69 | 1 | 3.16 | 1.36 | 53,843 | 0.49 |
| Unit 10C Solar Titan | 34.01 | 21.12 | 1.28 | 4.02 | 1.73 | 68,409 | 0.63 |
| Caterpillar G3516 | 11.61 | 1.58 | 0.34 | 0.03 | 0.002 | 333 | 0.21 |
| Condensate Tank | N/A | N/A | 0.002 | N/A | N/A | N/A | N/A |
| Lube Oil Tanks | N/A | N/A | 0.001 | N/A | N/A | N/A | N/A |
| Equipment Leaks (Fugitive Emissions) | N/A | N/A | 20.26 | N/A | N/A | 17,948 | N/A |
| Venting | N/A | N/A | 7,21 | N/A | N/A | 7,257 | N/A |
| Existing Facility PTE | 76.84 | 33.40 | 30.09 | 7.20 | 3.09 | 198,262 | 1.32 |
| Facility Total | 118.88 | 162.89 | 45.77 | 12.15 | 3.63 | 311,003 | 2.11 |
| <i>Title V Threshold</i> | <i>100</i> | <i>100</i> | <i>100</i> | <i>100</i> | <i>100</i> | <i>N/A</i> | <i>25</i> |
| <i>PSD Major Source Threshold</i> | <i>250</i> | <i>250</i> | <i>250</i> | <i>250</i> | <i>250</i> | <i>100,000</i> | <i>N/A</i> |

The Athol Compressor Station, the Starbuck Compressor Station, and the Kent Compressor Station are all Title V facilities and require Title V permits and must meet all their permit requirements. The compressor stations are also above the PSD major source threshold for CO_{2e}; however, major source thresholds would only be triggered if the compressor stations were an “anyway source” which means triggering PSD for one of the

other regulated PSD pollutants. Even though the compressor stations are above the PSD threshold for CO_{2e}, PSD is not triggered because none of the other pollutants exceed the PSD threshold.

Modeling results for the total facility emissions, inclusive of the proposed Project facility modifications, are provided for the Athol, Starbuck, and Kent Compressor Stations in tables 4.9-3, 4.9-4, and 4.9-5 below. The AERMOD Model version 19191 was used to conduct the modeling. Meteorological data was obtained from the National Oceanic and Atmospheric Administration. The weather data was obtained from airports located closest to the compressor stations. The modeling results demonstrate that the Project's anticipated incremental and cumulative emissions are below the NAAQS for all pollutants

| Table 4.9-3 Athol Compressor Station Modeling Results | | | | | |
|--|-------------------------|--|--------------------------------------|---------------------------------|---------------------------------|
| Pollutant | Averaging Period | Facility Emissions (µg/m³) | Background (µg/m³) | Total (µg/m³) | NAAQS (µg/m³) |
| NO_x | 1-hour | 94.88 | 27.3 | 122.18 | 188 |
| | Annual | 3.62 | 6.4 | 10.02 | 100 |
| CO | 1-hour | 94.84 | 1443 | 1537.84 | 40000 |
| | 8-hour | 37.65 | 1111 | 1148.65 | 10000 |
| PM₁₀ | 24-hour | 0.88 | 94.1 | 94.98 | 150 |
| PM_{2.5} | 24-hour | 0.73 | 20.7 | 21.43 | 35 |
| | Annual | 0.26 | 6.6 | 6.86 | 12 |
| SO₂ | 1-hour | 23.18 | 12.3 | 35.48 | 196 |
| | 3-hour | 21.49 | 16.8 | 38.29 | 1300 |

**Table 4.9-4
Starbuck Compressor Station Modeling Results**

| Pollutant | Averaging Period | Facility Emissions ($\mu\text{g}/\text{m}^3$) | Background ($\mu\text{g}/\text{m}^3$) | Total ($\mu\text{g}/\text{m}^3$) | NAAQS ($\mu\text{g}/\text{m}^3$) |
|-------------------|------------------|---|---|------------------------------------|------------------------------------|
| NO _x | 1-hour | 98.88 | 85.35 | 184.23 | 188 |
| | Annual | 5.73 | 21.21 | 26.95 | 100 |
| CO | 1-hour | 223.28 | 1231.2 | 1454.48 | 40000 |
| | 8-hour | 104.1 | 980.4 | 1084.5 | 10000 |
| PM ₁₀ | 24-hour | 1.39 | 127.4 | 128.79 | 150 |
| PM _{2.5} | 24-hour | 1.15 | 30.4 | 31.55 | 35 |
| | Annual | 0.44 | 7.38 | 7.82 | 12 |
| SO ₂ | 1-hour | 24.6 | 15.72 | 40.32 | 196 |
| | 3-hour | 34.93 | 17.29 | 52.22 | 1300 |

**Table 4.9-5
Kent Compressor Station Modeling Results**

| Pollutant | Averaging Period | Facility Emissions ($\mu\text{g}/\text{m}^3$) | Background ($\mu\text{g}/\text{m}^3$) | Total ($\mu\text{g}/\text{m}^3$) | NAAQS ($\mu\text{g}/\text{m}^3$) |
|-------------------|------------------|---|---|------------------------------------|------------------------------------|
| NO _x | 1-hour | 30 | 67.68 | 97.68 | 188 |
| | Annual | 3.82 | 16.40 | 20.23 | 100 |
| CO | 1-hour | 34.31 | 2188.80 | 2223.11 | 40000 |
| | 8-hour | 21.41 | 1618.8 | 1640.21 | 10000 |
| PM ₁₀ | 24-hour | 1.33 | 66.60 | 67.93 | 150 |
| PM _{2.5} | 24-hour | 1.08 | 22.40 | 23.48 | 35 |
| | Annual | 0.29 | 6.88 | 7.17 | 12 |
| SO ₂ | 1-hour | 19.86 | 8.38 | 28.24 | 196 |
| | 3-hour | 20.72 | 10.95 | 31.68 | 1300 |

In its comments on the Project, the EPA recommends consulting the Natural Gas STAR Program, which provides information on a range of cost-effective technologies and practices that improve operational efficiency and reduce methane emissions. In response to a staff information request concerning the EPA's comments and the measures GTN would implement to reduce methane and fugitive emissions, GTN states that it is focused on modernizing its existing natural gas assets to facilitate a reduction in GHG emissions as well as minimizing GHG emissions during the construction and operation of new natural gas infrastructure. GTN's parent company, TC Energy participates and partners with research organizations such as the Pipeline Research Council International and industry groups, including EPA's Natural Gas STAR program, the ONE Future Coalition, and the

American Petroleum Institute's Environmental Partnership. GTN's methane emissions information is submitted annually to the ONE Future Coalition and would be also reported for the EPA's Methane Challenge Program. TC Energy is further committed to complying with existing and emerging regulatory requirements that are intended to facilitate a reduction in GHGs during construction and operation of its facilities. As such, GTN would maintain compliance with requirements for notifications, reporting, and recordkeeping as specified in New Source Performance Standards Subpart OOOOa.

Downstream Emissions

Regarding downstream GHG, the Project is subscribed for 150,000 Dth/d of natural gas, of that, Cascade Natural Gas Corporation subscribed for 20,000 Dth/d, Intermountain Gas Company subscribed for 79,000 Dth/d, and Tourmaline Marketing Corp (Tourmaline) subscribed for 51,000 Dth/d. Based on information in GTN's application, Cascade Natural Gas Corporation and Intermountain Gas Company are local distribution companies LDCs that provide natural gas service to residential, commercial, and industrial users in Washington, Oregon, and Idaho. However, Tourmaline is a Canadian natural gas producer and it's unclear where the gas would be delivered and for what end-use, aside from general statements about West Coast markets. Therefore, we cannot estimate the nature or location of end use of Tourmaline subscribed capacity, so, we conclude that downstream emissions from Tourmaline's subscribed capacity are not reasonably foreseeable. For the purpose of our calculation, we assume 99,000 Dth/d would be the subscribed capacity with a reasonably foreseeable end-users, we further assume that the natural gas would be completely combusted.

In its comments on the Project, the EPA stated that upstream emissions from production are demonstrably reasonably foreseeable indirect effects of the proposed action and therefore should be considered NEPA. The EPA also stated that GTN should be required to submit information on the foreseeable upstream impacts caused by the project or an explanation as to why there are none. GTN should be required to provide information on the foreseeable induced production demand, disclose any known hydrocarbon accumulations for the region and provide other information necessary to allow for an appropriate regional and local impact analysis.

As the Commission has stated in previous proceedings, the environmental effects resulting from natural gas production are generally neither caused by a proposed natural gas infrastructure project nor are they reasonably foreseeable consequences of our approval of an infrastructure project, as contemplated by CEQ regulations, where the supply source is unknown. Here, the specific source of the additional natural gas to be transported via the GTN Xpress Project is currently unknown and may change throughout the project's operation. Accordingly, we affirm that the GHG emissions associated with upstream production of gas are not a reasonably foreseeable impact of this project. The Commission will continue to determine, on a case-by-case basis, whether GHG emissions from

upstream production activities are a reasonably foreseeable and causally connected result of a proposed project.

Climate Change

Climate change is the variation in the Earth's climate (including temperature, precipitation, humidity, wind, and other meteorological variables) over time. Climate change is driven by accumulation of GHGs in the atmosphere due to the increased consumption of fossil fuels (e.g., coal, petroleum, and natural gas) since the early beginnings of the industrial age and accelerating in the mid- to late-20th century.²⁹ The GHGs produced by fossil-fuel combustion are CO₂, methane, and nitrous oxide.

In comments on the Project, the EPA recommends that the EIS should include a discussion of reasonably foreseeable effects that changes in the climate may have on the proposed project, and what impacts the proposed project will have on climate change consequences. We address this comment in the following discussion.

In 2017 and 2018, the U.S. Global Change research Program (USGCRP)³⁰ issued its *Climate Science Special Report: Fourth National Climate Assessment, Volumes I and II*.³¹ This report and the recently released report by the Intergovernmental Panel on Climate Change, *Climate Change 2021: The Physical Science Basis*, state that climate change has resulted in a wide range of impacts across every region of the country and the globe. Those impacts extend beyond atmospheric climate change alone and include changes to water resources, agriculture, ecosystems, human health, and ocean systems.³² According to the Fourth Assessment Report, the United States and the world are warming; global sea level is rising, and oceans are acidifying; and certain weather events are becoming more frequent

²⁹ Intergovernmental Panel on Climate Change, United Nations, *Summary for Policymakers of Climate Change 2021: The Physical Science Basis*. (Valerie Masson-Delmotte et al., eds.) (2021), https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf (IPCC Report) at SPM-5. Other forces contribute to climate change, such as agriculture, forest clearing, and other anthropogenically driven sources.

³⁰ The U.S. Global Change Research Program is the leading U.S. scientific body on climate change. It comprises representatives from 13 federal departments and agencies and issues reports every 4 years that describe the state of the science relating to climate change and the effects of climate change on different regions of the United States and on various societal and environmental sectors, such as water resources, agriculture, energy use, and human health.

³¹ U.S. Global Change Research Program, *Climate Science Special Report, Fourth National Climate Assessment | Volume I* (Donald J. Wuebbles et al. eds) (2017), https://science2017.globalchange.gov/downloads/CSSR2017_FullReport.pdf (USGCRP Report Volume I); U.S. Global Change Research Program, *Fourth National Climate Assessment, Volume II Impacts, Risks, And Adaptation In The United States* (David Reidmiller et al. eds.) (2018), https://nca2018.globalchange.gov/downloads/NCA4_2018_FullReport.pdf (USGCRP Report Volume II).

³² IPCC Report at SPM-5 to SPM-10.

and more severe.³³ These impacts have accelerated throughout the end of the 20th and into the 21st century.³⁴

GHG emissions do not result in proportional local and immediate impacts; it is the combined concentration in the atmosphere that affects the global climate. These are fundamentally global impacts that feed back to local and regional climate change impacts. Thus, the geographic scope for cumulative analysis of GHG emissions is global rather than local or regional. For example, a project 1 mile away emitting 1 ton of GHGs would contribute to climate change in a similar manner as a project 2,000 miles distant also emitting 1 ton of GHGs.

Climate change is a global concern; however, for this analysis, we will focus on the existing and potential cumulative climate change impacts in the Project area. The EPA recommended that the EIS include an assessment of climate change impacts on the Project area. The USGCRP's Fourth Assessment Report notes the following observations of environmental impacts are attributed to climate change in the Northwest region:

- the region has warmed nearly 2°F since 1900;
- warmer winters have led to reductions in mountain snowpack, resulting in drought, water scarcity, and large wildfires;
- declines in dissolved oxygen in streams and lakes have caused fish kills and loss of aquatic species diversity; and
- moderate to severe spring and summer drought areas have increased 12 percent to 14 percent.

The USGCRP's Fourth Assessment Report notes the following projections of climate change impacts in the Project region with a high or very high level of confidence (USGCRP, 2018):³⁵

³³ USGCRP Report Volume II at 73-75.

³⁴ See, e.g., USGCRP Report Volume II at 99 (describing accelerating flooding rates in Atlantic and Gulf Coast cities).

³⁵ The report authors assessed current scientific understanding of climate change based on available scientific literature. Each "Key Finding" listed in the report is accompanied by a confidence statement indicating the consistency of evidence or the consistency of model projections. A high level of confidence results from "moderate evidence (several sources, some consistency, methods vary and/or documentation limited, etc.), medium consensus." A very high level of confidence results from "strong evidence (established theory, multiple sources, consistent results, well documented and accepted methods, etc.), high consensus."

<https://science2017.globalchange.gov/chapter/frontmatter-guide/>

- increase in stream temperature indicate a 22 percent reduction in salmon habit by the late 20th century;
- more frequent severe winter storms, which may contribute to storm surge, large waves, coastal erosion, and flooding in low-lying coastal areas;
- the warming trend is projected to be accentuated in certain mountain areas in the Northwest in late winter and spring, further exacerbating snowpack loss and increasing the risk for insect infestations and wildfires;
- longer period of time between rainfall events may lead to declines in recharge of groundwater and decreased water availability, and responses to decreased water availability, such as increased groundwater pumping, may lead to stress or depletion of aquifers and strain on surface water source; and
- increase in evaporation and plant water loss rates may alter the balance of runoff and groundwater recharge, which would likely to lead to saltwater intrusion into shallow aquifers.

It should be noted that while the impacts described above taken individually may be manageable for certain communities, the impacts of compound extreme events (such as simultaneous heat and drought, wildfires associated with hot and dry conditions, or flooding associated with high precipitation on top of saturated soils) can be greater than the sum of the parts.³⁶

Modifying and installing the Project facilities would increase the atmospheric concentration of GHGs in combination with past, current, and future emissions from all other sources globally and contribute incrementally to future climate change impacts. To assess impacts on climate change associated with the Project, Commission staff considered whether it could identify discrete physical impacts resulting from the Project's GHG emissions or compare the Project's GHG emissions to established targets designed to combat climate change. To date, Commission staff have not identified a methodology to attribute discrete, quantifiable, physical effects on the environment resulting from the Project's incremental contribution to GHGs. Without the ability to determine discrete resource impacts, Commission staff are unable to assess the Project's contribution to climate change through any objective analysis of physical impact attributable to the Project. Additionally, Commission staff have not been able to find an established threshold for determining the Project's significance when compared to established GHG reduction targets at the state or federal level. Ultimately, this EIS is not characterizing the Project's GHG emissions as significant or insignificant because the Commission is conducting a generic proceeding to determine whether and how the Commission will conduct

³⁶ USGCRP Report Volume II.

significance determinations going forward.³⁷ However, as we have done in prior NEPA analyses and to address EPA’s comment recommending that the EIS should assess the extent to which the proposed project is consistent with U.S. and global policy to limit GHG emissions, we disclose the Project’s GHG emissions in comparison to national and state GHG emission inventories.

In order to provide context of the Project emissions on a national level, we compare the Project’s GHG emissions to the total GHG emissions of the United States as a whole. At a national level, 5,222 million metric tons of CO_{2e} were emitted in 2020 (inclusive of CO_{2e} sources and sinks) (EPA, April 2022). Construction emissions from the Project could potentially increase CO_{2e} emissions based on the national 2020 levels by 0.0001 percent. In subsequent years, the Project’s proposed operational emissions would be 393,065 metric tons of CO_{2e}. The annual downstream emissions, based on the reasonably foreseeable subscribed capacity would be (1.9 million metric tons of CO_{2e}), which could potentially increase emissions by 0.04 percent based on the national 2020 levels.

In order to provide context of the Project emissions on a state level, we compare the Project’s GHG emissions (above) to the state’s emission inventories. The Project’s total downstream emissions were allocated to Washington, Oregon, and Idaho based on the service area of the LDCs that have subscribed capacity.³⁸ At a state level, 19.4 million metric tons of CO_{2e} were emitted in 2020 in the state of Idaho; 68.4 million metric tons of CO_{2e} were emitted in 2020 in the state of Washington; and 37.5 million metric tons of CO_{2e} were emitted in 2020 in the state of Oregon (inclusive of CO_{2e} sources and sinks) (USEIA 2022).

Construction emissions from the Project could potentially increase CO_{2e} emissions based on the state’s 2020 levels by 0.005 percent in Washington; and construction emissions from the Project could potentially increase CO_{2e} emissions based on the state’s 2020 levels by 0.01 percent in Oregon. In subsequent years, Project operations and downstream emissions could potentially increase emissions by 8.4 percent based on the

³⁷ *Consideration of Greenhouse Gas Emissions in Natural Gas Infrastructure Project Reviews*, 178 FERC ¶ 61,108 (2022); 178 FERC ¶ 61,197 (2022).

³⁸ We assume that end use for Intermountain Gas Company’s 79,000 Dth/d of subscribed capacity would occur in Idaho, as that is the service area for this LDC. Cascade Natural Gas Corporation’s 20,000 Dth/d of subscribed capacity could be used in either Washington or Oregon based on the service area for this LDC, and we allocate the total to each state for purposes of our context calculations, as a conservative approach. We cannot determine the end use of the 51,000 Dth/d of subscribed capacity for Tourmaline and therefore the downstream emissions are not reasonably foreseeable, and are not included in our downstream calculations.

state of Idaho 2020 levels; by 0.8 percent based on the based on the state of Washington 2020 levels; and by 1.3 percent based on the based on the state of Oregon 2020 levels.

The state of Idaho does not have statewide GHG emissions goal. The state of Washington has GHG emissions goal of reducing GHG by 95% by 2050 based on 1990 GHG emission levels. In 1990, based on EPA's emissions Inventory, Washington emitted 71.6 million metric tons of GHGs, their reduction goal would be an annual GHG of 29,260,000 metric tons. The Project's operational emission and reasonably foreseeable downstream subscribed emissions would constitute 2.0% of Washington's reduction goals. The state of Oregon has goals to reduce emissions by 75 percent of 1990 levels by 2050. In 1990 based on EPA's emissions Inventory, Oregon emitted 30.8 million metric tons of GHGs as such, their reduction goal would be an annual GHG of 23,100,000 metric tons. The Project's operational emission and reasonably foreseeable downstream subscribed emissions would constitute 2.1% of Oregon's reduction goals.

Climate Resilience

In its comments on the Project, the EPA and other commenters recommend that the EIS should: identify how climate resiliency has been considered in the Proposed Action (and Alternatives); address the potential for changing climatic conditions, that may impact operations and maintenance of the proposed action facilities in the future; and prioritize the consideration of climate adaptation and resilience. Project facilities would be designed and installed in accordance with the DOT standards found in 49 CFR 192, Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards to provide adequate protection from hazards that could cause the facilities to move due to washouts, floods, subsidence, landslides and earthquakes.

Additionally, the existing facilities are located in remote areas that are unforested and not near significant waterbodies; therefore, they would not likely be subject to significant wildfires or floods. GTN also reported that according to the United States Forest Service the Starbuck Compressor Station is in an area classified as having a low and moderate wildfire hazard potential; the Kent Compressor Station is located in an area classified as non-burnable and areas having moderate wildfire hazard potential; and the Athol Compressor Station is located in areas classified as non-burnable and areas having low and moderate wildlife hazard potential. An existing rock apron also surrounds the compressor station facilities for a break in the path of a potential wildlife and GTN Operations maintains an Emergency Response Plan that includes wildfire response measures. This plan is reviewed yearly with local fire departments to ensure alignment in response to wildfires as well as to maintain updated contact information.

As a result, we conclude based on the locations of the Project facilities and potential climate change impacts that could occur in the area that the modification of existing facilities would ensure a greater level of climate resiliency when compared to other reasonable alternatives as described previously.

Social Cost of GHGs

We include a disclosure of the social cost of GHGs (also referred to as the “social cost of carbon” [SCC]) to assess climate impacts generated by each additional metric ton of GHGs emitted by the Project. We note there is pending litigation challenging federal agencies’ use of the Interagency Working Group (IWG) on Social Cost of Greenhouse Gases’ interim values for calculating the social cost of GHGs.³⁹ In addition, the CEQ noted that it is working with representatives on the GHG IWG to develop additional guidance regarding the application of the SCC tool in federal decision-making processes, including in NEPA analyses.⁴⁰ The Commission has not determined which, if any, modifications are needed to render the SCC tool useful for project-level analyses.⁴¹ As both EPA and CEQ participate in the IWG, Commission staff used the methods and values contained in the IWG’s current draft guidance but note that different values will result from the use of other methods.⁴²

To calculate the social cost of GHGs, Commission staff made several assumptions about construction timing and future Project operations. We assume construction emissions would occur entirely in 2023 and that following construction, fugitive emissions during operation and downstream emissions would be at a constant rate throughout the life of the Project. Regarding downstream emissions, we assume downstream combustion of the reasonably foreseeable subscribed Project capacity as stated in GTN’s Project purpose, resulting in 1.9 million metric tons of CO_{2e} per year.

Regarding the duration of Project operations, the long-term operation of a natural gas compressor station could be determined by a variety of factors. The duration of a precedent agreement or contract between the end-user and GTN would be one method to forecast the duration of impacts. GTN has a 30-year precedent agreement. Alternatively, we could assume that natural gas compressor stations have an operational life that spans decades. However, the maximum extent of the social cost of GHG data tables are to the year 2050. Accordingly, Commission staff calculated the social cost of carbon dioxide, nitrous oxide, and methane using the available GHG data tables, which equates to 28 years. For this analysis, staff assumed discount rates of 5 percent, 3 percent, and 2.5

³⁹ *Missouri v. Biden*, 8th Cir. No. 21-3013; *Louisiana v. Biden*, No. 21-cv-1074-JDC-KK (W.D. La). On February 11, 2022, the U.S. District Court for the Western District of Louisiana issued a preliminary injunction limiting federal agencies’ employment of estimates of the social costs of GHGs and use of the IWG’s interim estimates. On March 16, 2022, the U.S. Court of Appeals for the Fifth Circuit issued a stay of the district court’s preliminary injunction, finding among other things that the federal agency defendants’ continued use of the interim estimates was lawful. *Louisiana v. Biden*, No. 22-30087 (5th Cir. Mar. 16, 2022).

⁴⁰ Council on Environmental Quality’s May 27, 2021 Comments filed in Docket No. PL18-1-000, at 2.

⁴¹ See Order Issuing Certificates and Approving Abandonment, 178 FERC ¶ 61,199 (2022) at fn 141.

⁴² *Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990*, Interagency Working Group on Social Cost of Greenhouse Gases, United States Government, February 2021 (IWG Interim Estimates Technical Support Document).

percent.⁴³ Staff also assumed the Project would begin service in 2023 and that the Project’s emissions would be at a constant rate throughout the 28-year period for which Commission staff calculated social cost of GHGs. Subsequently, staff calculated the social cost of GHGs for the 28-year period for which IWG numbers are available (2023-2050).⁴⁴ Noting these assumptions, the emissions from modification, installation, and operation of the Project facilities are calculated to result in a total social cost of GHGs equal to \$739,364,852, \$2,895,307,401, and \$4,414,305,120, respectively (all in 2020 dollars).⁴⁵ Using the 95th percentile of the social cost of GHGs using the 3 percent discount rate,⁴⁶ the total social cost of GHGs from the Project is calculated to be \$8,807,239,545 (in 2020 dollars).

4.10 Noise

The noise currently emitted from the Athol, Starbuck, and Kent Compressor Stations would increase as a result of modifying and installing the Project facilities. Existing noise (ambient/background noise plus ongoing operational noise), particularly magnitude and frequency, vary over the course of the day, throughout the week, and across seasons due to operational demands and changing weather conditions. Two measures to relate the time-varying quality of environmental noise to its known effect on people are the 24-hour equivalent sound level (L_{eq}) and day-night sound level (L_{dn}). The L_{eq} is the level of steady sound with the same total (equivalent) energy as the time-varying sound of interest, averaged over a 24-hour period. The L_{dn} is the L_{eq} plus 10 decibels on the A-weighted scale (dBA) added to account for people’s greater sensitivity to nighttime sound levels during late evening and early morning hours (between the hours of 10:00 p.m. and 7:00 a.m.). The A-weighted scale is used because human hearing is less sensitive to low and high frequencies than mid-range frequencies. The human ear’s threshold of perception for noise change is considered to be 3 dBA; 6 dBA is clearly noticeable to the human ear, and 10 dBA is perceived as a doubling of noise.

⁴³ IWG Interim Estimates Technical Support Document at 24. To quantify the potential damages associated with estimated emissions, the IWG methodology applies consumption discount rates to estimated emissions costs. The IWG’s discount rates are a function of the rate of economic growth where higher growth scenarios lead to higher discount rates. For example, IWG’s method includes the 2.5 percent discount rate to address the concern that interest rates are highly uncertain over time; the 3 percent value to be consistent with OMB circular A-4 (2003) and the real rate of return on 10-year Treasury Securities from the prior 30 years (1973 through 2002); and the 5 percent discount rate to represent the possibility that climate-related damages may be positively correlated with market returns. Thus, higher discount rates further discount future impacts based on estimated economic growth. Values based on lower discount rates are consistent with studies of discounting approaches relevant for intergenerational analysis. *Id.* at 18-19, 23-24.

⁴⁴ The IWG guidance only provides costs for the years 2020 to 2050.

⁴⁵ The IWG draft guidance identifies costs in 2020 dollars. *Id.* at 5 (Table ES-1).

⁴⁶ This value represents “higher-than-expected economic impacts from climate change further out in the tails of the [social cost of CO₂] distribution.” *Id.* at 11. In other words, it represents a higher impact scenario with a lower probability of occurring.

Construction Noise

Noise resulting from the modification and installation of the Project facilities would vary. Construction equipment and worker vehicles generally operate intermittently and may change depending on project activity/phase. Sound level changes would depend on the type of equipment used, the duration of use for each piece of equipment, the number of construction vehicles and machines used simultaneously, and the distance between the sound source and receptor. Nighttime noise due to construction would be limited since construction generally occurs during daylight hours, Monday through Saturday.

GTN has stated that the majority of construction activities would be conducted between the hours of 7 AM and 7 PM. However, extended work on Sundays and holidays and limited night-time construction activities, which may include x-ray testing, hydrostatic testing, inside electrical work, and other work related to commissioning, may occur.

Based on our noise analysis, the noise level associated with Project-related activities at the nearest noise sensitive areas (NSAs) are estimated to be less than 55 dBA L_{dn} and the estimated noise increase over background levels at these NSAs would be less than 10 dBA.

In its comments on the Project, the EPA recommends that the Commission: demonstrate engagement with residents living in the vicinity of the Athol, Kent, and Starbuck compressor stations to inform them of planned construction activities and establish procedures for complaints investigation; establish a noise monitoring program to establish baseline noise before beginning construction; monitoring should be used to assess impacts of noise to workers and adjacent communities in the vicinity of the project, as well as to verify that actual noise levels do not exceed maximum levels predicted by the Commission; and analyze in the EIS the potential increase in noise associated with compressor station upgrades and implement best practices for acoustic shielding (e.g., through strategic positioning of non-noise generating equipment) and other noise reduction techniques. The Athol Compressor Station is located in a rural community; however, no construction would occur at this site. The Starbuck and Kent Compressor Stations are not located in the vicinity of any communities and the nearest noise sensitive area to either site is over one-half mile away. However, in Section 5, we are recommending that any complaints received by GTN concerning the Project be documented and reported to the Commission on a biweekly basis. Therefore, based on this recommendation, the scope of the Project, and the distance to noise receptors, we conclude that additional mitigation as recommended by the EPA is unwarranted.

EPA also notes that compressor stations are associated with low frequency noise (LFN) which may increase the adverse effects of noise exposure and result in additional health effects. EPA recommends that the Commission consider the potential health impacts of LFN in all of its EIS noise analyses. The A-weighted noise metric referenced above takes into account noise from low frequencies.

Operational Noise

Operational noise associated with the Project would generally be produced on a continuous basis at the compressor stations. Below are tables of the sound analysis at the respective NSAs.

| Table 4.10-1 Operational Noise Analysis - Athol Compressor Station | | | | |
|---|----------------------|---|---|--|
| NSAs | Distance | L _{dn} Existing Units at Full Load | Total L _{dn} of Existing Unit + Modifications at Full Load | Potential Increase Above Existing Station Sound Level (dB) |
| Athol Compressor Station | | | | |
| NSA #1 | 800 ft. N-NW to N-NE | 53.1 | 53.3 | 0.2 |
| NSA #2 | 900 ft. E to E-NE | 52.8 | 53.0 | 0.2 |
| NSA #3 | 1,275 ft. E to NE | 48.2 | 48.4 | 0.2 |
| NSA #4 | 1,550 ft. S-SE to S | 45.9 | 46.1 | 0.2 |
| Starbuck Compressor Station | | | | |
| NSA #1 | 2,700 ft. SE | 38.0 | 40.0 | 2 |
| NSA #2 | 5,300 ft. SW | 30.9 | 32.9 | 2 |
| Kent Compressor Station | | | | |
| NSA #1 | 5,800 ft. SE | 35.8 | 36.1 | 0.3 |

Based on our noise analysis, the noise level increase associated with operations at NSAs are estimated to be less than 55 dBA L_{dn}. Given the temporary nature of the construction activities and our analysis of the operations; the Project’s construction and operational noise levels would not result in significant impacts on the existing environment. However, to ensure that the modified compressor stations operate in compliance with our requirements, **we recommend that:**

- **GTN should file a noise survey with the Secretary of the Commission (Secretary) no later than 60 days after placing each modified Compressor Station in service. If a full power load condition noise survey is not possible, GTN should provide an interim survey at maximum possible horsepower load and provide the full load survey within 6 months. If the noise attributable to the operation of the equipment at the Compressor Station under interim or full horsepower load conditions exceeds an L_{dn} of 55 dBA at any nearby NSAs, GTN should file a report on what changes are needed and should install the additional noise controls to meet the level within 1**

year of the in-service date. GTN should confirm compliance with the above requirement by filing a second noise survey with the Secretary no later than 60 days after it installs the additional noise controls.

During the public comment period we also received comments regarding blowdown noise. The compressor stations would be equipped with silencers and the estimated noise at the closest NSA would be below FERC's 55 dBA requirement.

4.11 Safety and Reliability

The pressurization of natural gas at a compressor station involves some incremental risk to the public due to the potential for accidental release of natural gas. The greatest hazard is a fire or explosion following a major pipeline rupture. Methane, the primary component of natural gas, is colorless, odorless, and tasteless. It is not toxic, but is classified as a simple asphyxiate, possessing a slight inhalation hazard. If breathed in high concentration, oxygen deficiency can result in serious injury or death. Methane has an auto-ignition temperature of 1,000 degrees Fahrenheit and is flammable at concentrations between 5.0 and 15.0 percent in air. An unconfined mixture of methane and air is not explosive; however, it may ignite and burn if there is an ignition source. A flammable concentration within an enclosed space in the presence of an ignition source can explode. It is buoyant at atmospheric temperatures and disperses rapidly in air.

In its comments on the Project, EPA made statements and recommendations concerning pipeline operations and safety. As described below, the safety of natural gas transmission pipelines and associated transmission facilities are regulated by the DOT. GTN operates its existing facilities in compliance with these standards and requirements. The modified facilities would be incorporated into GTN's existing operations and would be subject to the same standards and requirements. The EPA also stated that the EIS should describe if operations or an incident would threaten a nearby community or a sensitive ecological area. No sensitive ecological areas are located in the vicinity of the three compressor stations. The existing Athol Compressor Station is located in a rural community. The Starbuck and Kent Compressor Stations are not located in the vicinity of a community. The modifications (software upgrade) to the Athol Compressor Station would not result in new or additional equipment; therefore, we do not anticipate an associated change to public safety.

Safety Standards

DOT is mandated to prescribe minimum safety standards to protect against risks posed by natural gas facilities under Title 49 of the U.S. Code, Chapter 601. The DOT's Pipeline and Hazardous Materials Safety Administration administers the national regulatory program to ensure the safe transportation of natural gas and other hazardous materials by pipeline. It develops safety regulations and other approaches to risk management that ensure safety in the design, construction, testing, operation, maintenance,

and emergency response of natural gas facilities. Many of the regulations are written as performance standards, which set the level of safety to be attained and allow the operator to use various technologies to achieve safety. The Pipeline and Hazardous Materials Safety Administration's safety mission is to ensure that people and the environment are protected from the risk of incidents. This work is shared with state agency partners and others at the federal, state, and local level.

Station Design

The Project facilities would be designed, constructed, operated, and maintained in accordance with the DOT Minimum Federal Safety Standards in 49 CFR 192. The regulations are intended to ensure adequate protection for the public and to prevent natural gas facility accidents and failures. The DOT specifies material selection and qualification; minimum design requirements; and protection from internal, external, and atmospheric corrosion. Federal regulations at 50 Part 192 of 49 CFR establish safety guidelines for the design and construction of compressor stations in addition to pipeline safety standards. Part 192.163 requires the location of each main compressor building of a compressor station be on a property under the control of the operator. The compressor station must also be far enough away from adjacent property, not under control of the operator, to minimize the possibility of fire spreading to the compressor building from structures on adjacent properties. Part 192.163 also requires each building on a compressor station site be made of specific building materials and to have at least two separate and unobstructed exits. The compressor station must be in an enclosed fenced area and must have at least two gates to provide a safe exit during an emergency.

Emergencies

The DOT prescribes the minimum standards for operating and maintaining pipeline and aboveground natural gas facilities, including the requirement to establish a written plan governing these activities. Each operator is required to establish an emergency plan that includes procedures to minimize the hazards of a natural gas emergency. Key elements of the plan include procedures for:

- receiving, identifying, and classifying emergency events, gas leakage, fires, explosions, and natural disasters;
- establishing and maintaining communications with local fire, police, and public officials, and coordinating emergency response;
- emergency system shutdown and safe restoration of service;
- making personnel, equipment, tools, and materials available at the scene of an emergency; and

- protecting people first and then property and making them safe from actual or potential hazards.

The DOT requires that each operator establish and maintain liaison with appropriate fire, police, and public officials to learn the resources and responsibilities of each organization that may respond to a natural gas pipeline or facility emergency, and to coordinate mutual assistance. GTN must also establish a continuing education program to enable customers, the public, government officials, and those engaged in excavation activities to recognize a gas emergency and report it to the appropriate public officials. GTN would provide the appropriate training to local emergency service personnel before the Project is placed in service. With continued compliance with DOT safety standards, operation, and maintenance requirements, the Project facilities would be modified, installed, and operated safely.

As mentioned above, during the public comment period we received comments regarding wildfires. GTN's Emergency Response Plan (Plan) includes measures to address wildfires. GTN's Plan is reviewed yearly with local fire department to ensure alignment in the event of a wildfire, as well as ensure updated contact information in the event of an emergency.

4.12 Cumulative Impacts

In accordance with NEPA and FERC policy, we evaluated the potential for cumulative impacts of the Project when combined with other projects or actions in the area. Cumulative impacts represent the incremental effects of a proposed action when added to impacts associated with past, present, or reasonably foreseeable future projects, regardless of what agency or person undertakes such other actions. Although the individual impact of each separate project may be minor, the additive or synergistic effects of multiple projects could be significant. In the preceding analysis, we consider the impacts of past projects within the region as part of the affected environment (environmental baseline). However, present effects of past actions that are relevant and useful are also considered.

This cumulative impacts analysis uses an approach consistent with the methodology set forth in relevant guidance (CEQ 1997, 2005; USEPA 1999). Under these guidelines, inclusion of actions within the analysis is based on identifying commonalities between the impacts that would result from the Project and the impacts likely to be associated with other potential projects.

The Project-specific impacts of the GTN XPress Project are discussed in detail in other sections of this EIS. The purpose of this section is to identify and describe cumulative impacts that would potentially result from implementation of the proposed Project along with other projects in the vicinity that could affect the same resources

within the same approximate timeframe. To ensure that this analysis focuses on relevant projects and potentially significant impacts, the actions included in the cumulative impact analysis include projects that:

- impact a resource potentially affected by the proposed Project;
- impact that resource within all or part of a common time span; and
- impact that resource within all or part of the same geographic area affected by the proposed Project. The geographic area considered varies depending on the resource being discussed, which is the general area in which the projects could contribute to cumulative impacts on that particular resource (geographic scope of analysis).

Table 4.12-1 summarizes the resource-specific geographic scopes considered in this analysis and the justification for each. Actions occurring outside of the geographical boundaries were not evaluated because as distance from the Project increases, the potential for an action to contribute to a cumulative impact diminishes.

| <u>Table 4.12-1</u> <u>Geographic Scope by Resource for Cumulative Impacts Associated with the GTN XPRESS Project</u> | | |
|--|---|---|
| Resource | Geographic Scope | Justification for Geographic Scope |
| Geology and Soils | Limits of Project disturbance/construction workspaces | Impacts on soils and surficial geology would be highly localized and are not expected to extend beyond the area of direct disturbance associated with the Project. |
| Groundwater, Surface Water, Wetlands, Aquatic Resources | HUC-12 watersheds | Watersheds are natural, well-defined boundaries for surface water flow, and commonly contribute to the recharge of groundwater resources. Impacts on groundwater, surface water resources, wetlands, and aquatic resources could reasonably extend throughout a HUC-12 watershed. |
| Vegetation, Wildlife, Special Status Species | HUC-12 watersheds | Consideration of impacts within a HUC-12 watershed sufficiently accounts for impacts on vegetation and wildlife (including special status species) that would be directly affected by construction activities and for indirect impacts such as changes in habitat availability and displacement of transient species. |
| Land Use | Within 1 mile of construction workspace | Impacts on general land uses, including public recreational areas, would be restricted to the construction workspaces and the adjacent landscape up to 1 mile where indirect impacts could occur. |
| Visual Resources | The distance the tallest features would be visible from neighboring communities | Assessing the impact based on the viewshed allows for the impact to be considered with any other feature that could have an effect on visual resources. |
| Socioeconomics | Counties where Project activities are proposed | Most workers would be expected to reside in the affected counties during construction and operation of the Project. |

| | | |
|---|---|---|
| | | Affected counties would experience the greatest impacts associated with employment, housing, public services, transportation, traffic, property values, economy and taxes, and environmental justice. |
| Environmental Justice | Affected environmental block groups | The 1-mile radius is sufficiently broad considering the likely concentration of air emissions, noise, and traffic impacts proximal to the aboveground facilities. |
| Cultural Resources | APE, which typically includes overlapping impacts within the Project's footprint (direct) and within 0.25 mile of aboveground facilities (indirect) | The impact area for direct effects (physical) includes areas subject to ground disturbance, while indirect effects (visual or audible) include aboveground ancillary facilities or other project elements that are visible from historic properties in which the setting contributes to their NRHP eligibility. |
| Air Quality – Construction ^a | Within 0.25 mile of all active construction (pipeline, road crossing, aboveground facilities) | Air emissions during construction would be limited to vehicle and construction equipment emissions and dust, and would be localized to the Projects' active construction work areas and areas adjacent to these active work areas. |
| Air Quality – Operation ^a | 20 kilometers (about 12.4 miles) from aboveground compression facilities | We adopted the distance used by the EPA for cumulative modeling of major sources during permitting (40 CFR 51, appendix W), which is a 20-kilometer radius. Impacts on air quality beyond 20 kilometers (31.1 miles) would be <i>de minimis</i> . |
| Noise – Construction | NSAs within 0.25 mile of any construction and within 0.5 mile of compressor stations | Areas in the immediate proximity of pipeline or aboveground facility construction activities would have the potential to be affected by construction noise. |
| Noise – Operation | NSAs within 1 mile of a noise-emitting permanent aboveground facility | Noise from the Projects' permanent aboveground facilities could result in cumulative noise impacts on NSAs within 1 mile. |
| ^a We note that GHGs do not have a localized geographic scope. GHG emissions from the Project combined with projects all over the planet lead to increased CO ₂ , methane, and other GHG concentrations in the atmosphere (see section 4.9). | | |

As the GTN XPress Project would not impact or only have minimal impacts on socioeconomics, geology, soils, groundwater, waterbodies, wetlands, aquatic resources, and visual resources, cumulative impacts on these resources are not discussed below.

Projects and Activities Considered Our cumulative impacts analysis looks at the potential impacts of other actions as described in NEPA guidance. NEPA requires reasonable forecasting, but an agency is not required to engage in speculative analysis or to do the impractical, if not enough information is available to permit meaningful consideration. The scope of the cumulative impact assessment depends in part on the availability of information about other projects. Other projects considered for this assessment were identified from information provided by GTN; FERC's documentation of other planned, pending, and ongoing jurisdictional natural gas projects; input from applicable agencies and stakeholders; comments received during the public scoping and comment periods; and via online research.

No other projects were identified within the geographic scopes for the Starbuck Compressor Station and the Athol Compressor Station. One reasonably foreseeable project, the Kent Launcher/Receiver project, was identified within the geographic scopes of the Kent Compressor Station. The Kent Launcher/Receiver project consists of modifications in order to make the pipeline piggable, which includes the installation of a launcher and receiver at the Kent Compressor Station to allow for the use of inline inspection tools. The Kent Launcher/Receiver Project is an integrity undertaking and is not connected to the Project. The Kent Launcher/Receiver Project is expected to result in 15.3 acres of temporary land impacts with the exception of the footprint of new equipment, which will be minor and adjoining existing equipment within the current compressor station footprint and permanent easement. It is anticipated that the Kent Launcher/Receiver Project will be installed pursuant to the automatic provisions of GTN's blanket certificate with construction anticipated to occur from May 2023 through August 2023, which is expected to overlap with the Project construction schedule.

Per the requirements of the blanket certificate, all necessary federal, state, and local permits and authorizations will be obtained prior to construction. Given the schedules proposed, the Kent Launcher/Receiver Project may partially overlap the temporal and spatial extent of the Project; thus, a cumulative impact analysis is applicable.

Only 1.5 acres of the Kent Launcher/Receiver Project are proposed outside the Project boundaries. Due to the similarities in the timing, nature, and location of the Project and the Kent Launcher/Receiver Project, resource impacts and required permits and authorizations are expected to be similar.

The Kent Launcher/Receiver Project has overlapping workspace and is within the same watershed (HUC 170702040603 – Eakin Canyon) as the Project area at the Kent Compressor Station. The following sections address the potential cumulative impacts on vegetation, wildlife, land use, air quality, noise and environmental justice from the Project and the other project identified within the cumulative geographic scope.

Vegetation and Wildlife

Modifying and installing the Project facilities would impact a total of 28.4 acres of grass land and 18.5 acres of unvegetated lands. These impacts would likely be short-term as affected lands would be stabilized and seeded to improve restoration success. Only 1.5 acres of the Kent Launcher/Receiver Project are proposed outside the Project boundaries. Due to the similarities in the timing, nature, and location of the Project and the Kent Launcher/Receiver Project, resource impacts and required permits and authorizations are expected to be similar.

The grass lands and unvegetated lands impacted by the Project and the Kent Launcher/Receiver Project provide habitats for a variety of commonly occurring wildlife. However, as the Kent Compressor Station is existing, the wildlife occupying the affected areas that could be affected by the Project are already accustomed to human disturbance and the presence/operation of industrial facilities. No sensitive wildlife or wildlife habitat would be affected by the Project.

Based on the type of vegetation occurring on lands that would be affected by the projects, the generally small scope of the Project, and the minor impacts that would occur to vegetation and wildlife, we conclude that modifying and installing the Project facilities would not result in a significant cumulative impact on vegetation and wildlife.

Land Use

Construction and operating the new facilities at the Kent Compressor Station would result in the permanent conversion of about 1.2 acres of land from open space/land to developed industrial. This conversion and permanent impact would occur on lands abutting the Kent Compressor Station and these lands would be incorporated into the management operations of the existing facilities/site. As mentioned above, only 1.5 acres of the Kent Launcher/Receiver Project are proposed outside the Project boundaries.

Based on the existing uses of affected lands, the scope of the Project and the Kent Launcher/Receiver Project, and the minimal permanent impacts on open space/lands due to the installation of the aboveground facilities, we conclude that modifying and installing the Project would not result in a significant cumulative impact on land use. Air Quality

The AERMOD dispersion model was utilized to evaluate the cumulative air impacts of the proposed modification for the Kent Compressor Station. The model calculated impacts of the station in combination with ambient monitoring data, which was used to account for other nearby sources and compared to EPA's NAAQS. A modeling analysis was conducted for the compressor station demonstrating that the facility would have emissions below the significant impact levels (SILs) and therefore in compliance with the NAAQS.

The combined effect of multiple construction projects occurring in the same airshed, and timeframe could temporarily add to the ongoing air quality effects of existing activities. No major projects have been identified in the vicinity of the Project. The construction periods for the Project and the Kent Launcher/Receiver Project are anticipated to overlap, which will result in some cumulative impacts associated with construction are emission, which would be short-term. Operational emissions from the Kent Launcher/Receiver Project would be minor. We conclude after review of the past, present, and reasonably foreseeable future projects/actions occurring within the Project

area and the small nature of the Project, that the Project would not have a significant long-term adverse impact on air quality and would not result in a significant cumulative impact on air quality.

Noise

The Project could contribute to cumulative noise impacts. However, the impact of noise is highly localized and attenuates quickly as the distance from the noise source increases. Other than the Kent Launcher/Receiver project, we have not identified any other projects that could cumulatively add to noise impacts during construction within a 0.25-mile radius. In addition, we have not identified any other facility that could affect noise at NSAs within 0.25 mile of the compressor stations.

Construction and operation of the Kent Launcher/Receiver project may contribute to some cumulative noise impacts; however, we don't anticipate any significant cumulative noise impacts. In addition, the nearest noise sensitive resource is located over 1-mile from the Kent Compressor Station. Therefore, we conclude that cumulative noise impacts from construction and operations would not be significant.

Environmental Justice

As described above, no minority or low-income populations are present within one mile of the Kent Compressor Station; therefore, there are no project related impacts on environmental justice communities and no project contribution to cumulative impacts on environmental justice communities.

Modification and installation of the Project facilities would increase the atmospheric concentration of GHGs, in combination with past and future emissions from other sources and would contribute incrementally to future climate change impacts. While the climate change impacts taken individually may be manageable for certain communities, the impacts of compounded extreme events (such as simultaneous heat and drought, or flooding associated with high precipitation on top of saturated soils) may exacerbate preexisting community vulnerabilities and have a cumulative adverse impact on environmental justice communities. This EIS is not characterizing the Project's GHG emissions as significant or insignificant because the Commission is conducting a generic proceeding to determine whether and how the Commission will conduct significance determinations going forward.⁴⁷

⁴⁷ Consideration of Greenhouse Gas Emissions in Natural Gas Infrastructure Project Reviews, 178 FERC ¶ 61,108 (2022); 178 FERC ¶ 61,197 (2022).

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of the Environmental Analysis

The conclusions and recommendations presented in this EIS are those of the Commission's environmental staff with input from EPA who has assisted in the preparation of this analysis as a cooperating agency. The EPA's input on this EIS has no effect on its authority under Section 102(2)(C) of the NEPA, Section 309 of the CAA, or the CWA.

We conclude that modifying and installing the Project facilities would result in limited adverse impacts on the environment. Most adverse environmental impacts would be temporary or short-term and would have minimal impact on existing land use as the Project facilities would be located within the fenced-boundaries of existing compressor stations or abutting an existing compressor station. This determination is based on a review of the information provided by GTN and further developed from environmental information requests; scoping; literature research; alternatives analysis; and correspondence with federal and state agencies.

Overall, Commission staff conclude that approval of the Project would not result in significant environmental impacts with the exception of potential impacts on climate change. This EIS is not characterizing the Project's GHG emissions as significant or insignificant because the Commission is conducting a generic proceeding to determine whether and how the Commission will conduct significance determinations going forward.⁴⁸ We also conclude that no system or other alternative would provide a significant environmental advantage over the Project as proposed. Therefore, we conclude that the proposed Project, with our recommended mitigation measures, is the preferred alternative to meet the Project objectives.

5.2 FERC Staff's Recommended Mitigation

If the Commission authorizes the Project, we recommend that the following measures be included as specific conditions in the Commission's Order. We have determined that these measures would further mitigate the environmental impacts resulting from construction and operation of the Project.

1. GTN shall follow the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests) and as identified in the EIS, unless modified by the Order. GTN must:

⁴⁸ Consideration of Greenhouse Gas Emissions in Natural Gas Infrastructure Project Reviews, 178 FERC ¶ 61,108 (2022); 178 FERC ¶ 61,197 (2022).

- a. request any modification to these procedures, measures, or conditions in a filing with the Secretary;
 - b. justify each modification relative to site-specific conditions;
 - c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
 - d. receive approval in writing from the Director of the OEP, or the Director's designee, **before using that modification.**
2. The Director of OEP, or the Director's designee, has delegated authority to address any requests for approvals or authorizations necessary to carry out the conditions of the Order, and take whatever steps are necessary to ensure the protection of environmental resources during construction and operation of the project. This authority shall allow:
- a. the modification of conditions of the Order;
 - b. stop-work authority; and
 - c. the imposition of any additional measures deemed necessary to ensure continued compliance with the intent of the conditions of the Order as well as the avoidance or mitigation of unforeseen adverse environmental impact resulting from project construction and operation activities.
3. **Prior to any construction**, GTN shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, EIs, and contractor personnel will be informed of the EI's authority and have been or will be trained on the implementation of the environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.
4. The authorized facility locations shall be as shown in the EIS, as supplemented by filed alignment sheets. **As soon as they are available, and before the start of construction**, GTN shall file with the Secretary any revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for all facilities approved by the Order. All requests for modifications of environmental conditions of the Order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

GTN's exercise of eminent domain authority granted under Natural Gas Act section 7(h) in any condemnation proceedings related to the Order must be consistent with these authorized facilities and locations. GTN's right of eminent domain granted under Natural Gas Act section 7(h) does not authorize it to increase the size of its natural gas pipeline to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other than natural gas.

5. GTN shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations, and staging areas, pipe storage yards, new access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP, or the Director's designee, **before construction in or near that area.**

This requirement does not apply to extra workspace allowed by the Commission's *Upland Erosion Control, Revegetation, and Maintenance Plan* and/or minor field realignments per landowner needs and requirements which do not affect other landowners or sensitive environmental areas such as wetlands.

Examples of alterations requiring approval include all route realignments and facility location changes resulting from:

- a. implementation of cultural resources mitigation measures;
 - b. implementation of endangered, threatened, or special concern species mitigation measures;
 - c. recommendations by state regulatory authorities; and
 - d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.
6. **Within 60 days of the acceptance of the authorization and before construction begins**, GTN shall file an Implementation Plan with the Secretary for review and written approval by the Director of OEP, or the Director's designee. GTN must file revisions to the plan as schedules change. The plan shall identify:
 - a. how GTN will implement the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests), identified in the EIS, and required by the Order;
 - b. how GTN will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;

- c. the number of EIs assigned, and how the company will ensure that sufficient personnel are available to implement the environmental mitigation;
 - d. company personnel, including EIs and contractors, who will receive copies of the appropriate material;
 - e. the location and dates of the environmental compliance training and instructions GTN will give to all personnel involved with construction and restoration (initial and refresher training as the project progresses and personnel change);
 - f. the company personnel (if known) and specific portion of GTN's organization having responsibility for compliance;
 - g. the procedures (including use of contract penalties) GTN will follow if noncompliance occurs; and
 - h. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:
 - (1) the completion of all required surveys and reports;
 - (2) the environmental compliance training of onsite personnel;
 - (3) the start of construction; and
 - (4) the start and completion of restoration.
7. GTN shall employ at least one EI at each compressor station site where physical ground disturbance would occur. The EI shall be:
- a. responsible for monitoring and ensuring compliance with all mitigation measures required by the Order and other grants, permits, certificates, or other authorizing documents;
 - b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see condition 6 above) and any other authorizing document;
 - c. empowered to order correction of acts that violate the environmental conditions of the Order, and any other authorizing document;
 - d. a full-time position, separate from all other activity inspectors;
 - e. responsible for documenting compliance with the environmental conditions of the Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
 - f. responsible for maintaining status reports.
8. Beginning with the filing of its Implementation Plan, GTN shall file updated status reports with the Secretary on a **biweekly** basis until all construction and restoration activities are complete. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:

- a. an update on GTN’s efforts to obtain the necessary federal authorizations;
 - b. the construction status of the project, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally-sensitive areas;
 - c. a listing of all problems encountered and each instance of noncompliance observed by the EI during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
 - d. a description of the corrective actions implemented in response to all instances of noncompliance;
 - e. the effectiveness of all corrective actions implemented;
 - f. a description of any landowner/resident complaints which may relate to compliance with the requirements of the Order, and the measures taken to satisfy their concerns; and
 - g. copies of any correspondence received by GTN from other federal, state, or local permitting agencies concerning instances of noncompliance, and GTN’s response.
9. GTN must receive written authorization from the Director of OEP, or the Director’s designee, **before commencing construction of any project facilities**. To obtain such authorization, GTN must file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof).
10. GTN must receive written authorization from the Director of OEP, or the Director’s designee, **before placing the project into service**. Such authorization will only be granted following a determination that rehabilitation and restoration of the right-of-way and other areas affected by the project are proceeding satisfactorily.
11. **Within 30 days of placing the authorized facilities in service**, GTN shall file an affirmative statement with the Secretary, certified by a senior company official:
- a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or
 - b. identifying which of the conditions in the Order GTN has complied with or will comply with. This statement shall also identify any areas affected by the project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.

12. GTN shall file a noise survey with the Secretary **no later than 60 days** after placing each modified Compressor Station in service. If a full power load condition noise survey is not possible, GTN shall provide an interim survey at maximum possible horsepower load and provide the full load survey **within 6 months**. If the noise attributable to the operation of the equipment at the Compressor Station under interim or full horsepower load conditions exceeds an Ldn of 55 dBA at any nearby NSAs, GTN shall file a report on what changes are needed and shall install the additional noise controls to meet the level **within 1 year** of the in-service date. GTN shall confirm compliance with the above requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls.