Office of
Energy Projects

September 2020

Northern Natural Gas Company — Docket No. CP20-460-000

Clifton to Palmyra A-Line Abandonment Project

Environmental Assessment

Washington, DC 20426

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

OFFICE OF ENERGY PROJECTS

In Reply Refer To:
OEP/DG2E/Gas 1
Northern Natural Gas Company
Clifton to Palmyra A-Line
Abandonment Project
Docket No. CP20-460-000

TO THE INTERESTED PARTY:

The staff of the Federal Energy Regulatory Commission (FERC or Commission) has prepared an environmental assessment (EA) for the Clifton to Palmyra A-Line Abandonment Project, proposed by Northern Natural Gas Company (Northern) in the above-referenced docket. Northern requests authorization to abandon in-place a segment of its A-Line pipeline from Clifton, Kansas to Palmyra, Nebraska and increase compression capacity at its existing Beatrice Compressor Station near Beatrice, Nebraska.

The EA assesses the potential environmental effects of the construction and operation of the Clifton to Palmyra A-Line Abandonment Project in accordance with the requirements of the National Environmental Policy Act. The FERC staff concludes that approval of the proposed project, with appropriate mitigating measures, would not constitute a major federal action significantly affecting the quality of the human environment.

The proposed Clifton to Palmyra A-Line Abandonment Project includes the following activities:

- disconnect the existing 24-inch-diameter M600A and the existing 20-inch-diameter M600J at Northern's existing Clifton Compressor Station;
- disconnect the existing 24-inch-diameter M590A and the existing 24-inch-diameter M600A at Northern's existing Beatrice Compressor Station;
- disconnect the existing 24-inch-diameter M590A at Northern's existing Palmyra Compressor Station;
- abandon in-place 54.3 miles of existing 24-inch-diameter M600A mainline in Gage and Jefferson Counties, Nebraska, and Washington and Clay Counties, Kansas;
- abandon in-place 19.9 miles of existing 20-inch-diameter M600J mainline in Clay and Washington Counties, Kansas;

- abandon in-place 41.7 miles of existing 24-inch-diameter M590A in Otoe, Lancaster, and Gage Counties, Nebraska, between Palmyra and Beatrice, Nebraska; and
- install a new 15,900-horsepower turbine driven compressor unit at Northern's existing Beatrice Compressor Station near Beatrice, Nebraska.

The Commission mailed a copy of the *Notice of Availability* to federal, state, and local government representatives and agencies; elected officials; environmental and public interest groups; Native American tribes; potentially affected landowners and other interested individuals and groups; and newspapers and libraries in the project area. The EA 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 EA may be accessed by using the eLibrary link on the FERC's website. Click on the eLibrary link (https://www.ferc.gov/ferc-online/elibrary/overview), select "General Search" and enter the docket number in the "Docket Number" field, excluding the last three digits (i.e. CP20-460). 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 EA 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. Any person wishing to comment on the EA may do so. Your comments should focus on the EA's disclosure and discussion of potential environmental effects, reasonable alternatives, and measures to avoid or lessen environmental impacts. The more specific your comments, the more useful they will be. To ensure that the Commission has the opportunity to consider your comments prior to making its decision on this project, it is important that we receive your comments in Washington, DC on or before 5:00pm Eastern Time on **October 16, 2020.**

For your convenience, there are three methods you can use to file your comments to the Commission. The Commission encourages electronic filing of comments and has staff available to assist you at (866) 208-3676 or FercOnlineSupport@ferc.gov. Please carefully follow these instructions so that your comments are properly recorded.

(1) You can file your comments electronically using the eComment feature on the Commission's website (www.ferc.gov) under the link to FERC Online. This is an easy method for submitting brief, text-only comments on a project;

(2) You can also file your comments electronically using the eFiling feature on the Commission's website (www.ferc.gov) under the link to FERC Online. With eFiling, you can provide comments in a variety of formats by attaching them as a file with your submission. New eFiling users must first create an account by clicking on "eRegister." You must select the type of filing you are making. If

you are filing a comment on a particular project, please select "Comment on a Filing"; or

(3) You can file a paper copy of your comments by mailing them to the Commission. Be sure to reference the project docket number (CP20-460-000) on your letter. Submissions sent via the U.S. Postal Service must be addressed to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First Street NE, Room 1A, Washington, DC 20426. Submissions sent via any other carrier must be addressed to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 12225 Wilkins Avenue, Rockville, Maryland 20852.

Filing environmental comments will not give you intervenor status, but you do not need intervenor status to have your comments considered. Only intervenors have the right to seek rehearing or judicial review of the Commission's decision. At this point in this proceeding, the timeframe for filing timely intervention requests has expired. Any person seeking to become a party to the proceeding must file a motion to intervene out-of-time pursuant to Rule 214(b)(3) and (d) of the Commission's Rules of Practice and Procedures (18 CFR 385.214(b)(3) and (d)) and show good cause why the time limitation should be waived. Motions to intervene are more fully described at https://www.ferc.gov/ferc-online/ferc-online/how-guides.

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 which 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

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

TECHNICAL ABBREVIATIONS AND ACRONYMS

BCC	Birds of Conservation Concern
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CERT	Conservation and Environmental Review Tool
Certificate	Certificate of Public Convenience and Necessity
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_{2e}	carbon dioxide equivalents
Commission	Federal Energy Regulatory Commission
dBA	A-weighted decibels
DKM	DKM Enterprises, LLC
DOT	Department of Transportation
EA	environmental assessment
EI	environmental inspector
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FERC	Federal Energy Regulatory Commission
GHG	greenhouse gas
HAP	hazardous air pollutants
hp	horsepower
HUC	hydrologic unit code
IBA	Important Bird Area
KDHE	Kansas Department of Health and Environment
KDWPT	Kansas Department of Wildlife, Parks and Tourism
Laborers Council	Great Plains Laborers District Council
L_{dn}	day-night sound level
L_{eq}	equivalent sound level
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NDEE	Nebraska Department of Environment and Energy
NEPA	National Environmental Policy Act
NGA	Natural Gas Act
NGPC	Nebraska Game and Parks Commission
NLEB	Northern long-eared bat
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NOI	*Notice of Intent to Prepare an Environmental Assessment for the Proposed Clifton to Palmyra A-Line Abandonment Project and Request for Comments on Environmental Issues*
Northern	Northern Natural Gas Company
NPDES	National Pollutant Discharge Elimination System

NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSA	noise sensitive area
NSPS	New Source Performance Standards
NSR	New Source Review
O_2	oxygen
OEP	Office of Energy Projects
Order	Commission's Order
PCB	polychlorinated biphenyls
Plan	Commission's *Upland Erosion Control, Revegetation, and Maintenance Plan*
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to 10 microns
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than or equal to 2.5 microns
ppb	parts per billion
Procedures	Commission's *Wetland and Waterbody Construction and Mitigation Procedures*
Project	Clifton to Palmyra A-Line Abandonment Project
PSA	Purchase and Sale Agreement
PSD	Prevention of Significant Deterioration
SHPO	State Historic Preservation Officer
SO_2	sulfur dioxide
SPCC Plan	Spill Prevention, Control, and Countermeasure Plan
SWPPP	Stormwater Pollution Prevention Plan
tpy	tons per year
UDP	Unanticipated Discovery Plan
USACE	U.S. Army Corps of Engineers
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	volatile organic compounds

A. PROPOSED ACTION

1. Introduction

The staff of the Federal Energy Regulatory Commission (Commission or FERC) prepared this environmental assessment (EA) to assess the environmental impacts of the abandonment and construction of certain natural gas pipeline facilities proposed by Northern Natural Gas Company (Northern). We[1] prepared this EA in compliance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality's (CEQ)[2] regulations for 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 380.

FERC is the lead federal agency for authorizing interstate natural gas transmission facilities under the Natural Gas Act (NGA), and the lead federal agency for preparation of this EA. No other federal agencies elected to become cooperating agencies for the preparation of this EA.

On May 21, 2020, Northern filed an application with the Commission in Docket No. CP20-460-000 under sections 7(b) and 7(c) of the NGA and Part 157 of the Commission's regulations. Northern seeks authorization to abandon in-place a segment of its A-Line and J-Line pipelines and construct, own, and operate a new compressor unit at its existing Beatrice Compressor Station. The project is referred to as the Clifton to Palmyra A-Line Abandonment Project (Project).

Section 7(b) of the NGA specifies that no natural gas company shall abandon any portion of its facilities subject to the Commission's jurisdiction without the Commission first finding that the abandonment would not negatively affect the present or future public convenience and necessity.

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 of Public Convenience and Necessity (Certificate) to construct and operate them. The Commission bases its decisions on both economic issues, including need, and environmental impacts.

Our EA is an integral part of the Commission's decision on whether to issue Northern a Certificate to construct and operate the proposed facilities and authorize abandonment. Our principal purposes in preparing this EA are to:

---

[1] "We," "us," and "our" refer to environmental staff of the Office of Energy Projects.

[2] In July 2020, CEQ comprehensively updated its NEPA regulations and the new regulations were effective as of September 14, 2020; however, the NEPA review of this project was in process at that time and was prepared using the 1978 regulations.

- identify and assess potential impacts on the natural and human environment that could result from implementation of the proposed action;
- identify and recommend reasonable alternatives and specific mitigation measures, as necessary, to avoid or minimize Project-related environmental impacts; and
- facilitate public involvement in the environmental review process.

2. Purpose and Need

Northern states that the purpose of the Project is to enhance the safety, security, and operational efficiency of its pipeline system through the abandonment of approximately 115.9 miles of the A-Line and J-Line from Clifton, Kansas to Palmyra, Nebraska, and to increase compression capacity at the existing Beatrice Compressor Station to replace the lost capacity from the proposed abandonment. Northern states these pipelines were originally placed in-service in the 1940's and have substantially escalating maintenance demands.

3. Proposed Facilities

Pipeline Facilities

Northern would abandon in-place:

- 54.3 miles of its existing 24-inch-diameter M600A mainline in Gage and Jefferson Counties, Nebraska and Washington and Clay Counties, Kansas;
- 19.9 miles of its existing 20-inch-diameter M600J mainline in Clay and Washington Counties, Kansas; and
- 41.7 miles of its existing 24-inch-diameter M590A mainline in Otoe, Lancaster, and Gage Counties, Nebraska, between Palmyra and Beatrice, Nebraska.

The Project consists of isolation and abandonment of the A-Line and a segment of the J-Line. To abandon the pipeline in-place, Northern would disconnect and cap the A-Line at six interconnections where it is linked to other system facilities. Ground disturbance would be required at three locations inside existing compressor station yards to isolate the segments of the A-Line and J-Line being abandoned as shown in table 1. Ground disturbances for the disconnects would be limited to where the A-Line would be disconnected from Northern's existing pipeline system: one location in Clay County, Kansas, one location in Gage County, Nebraska, and one location in Otoe County, Nebraska. The abandonment of the A-Line would result in the abandonment of the J-Line, which is a loop[3] of the A-Line. Figure 1 below shows the Project location.

[3] A loop is a pipeline that is constructed adjacent and connected to another pipeline for the purpose of increasing capacity in this portion of the system.

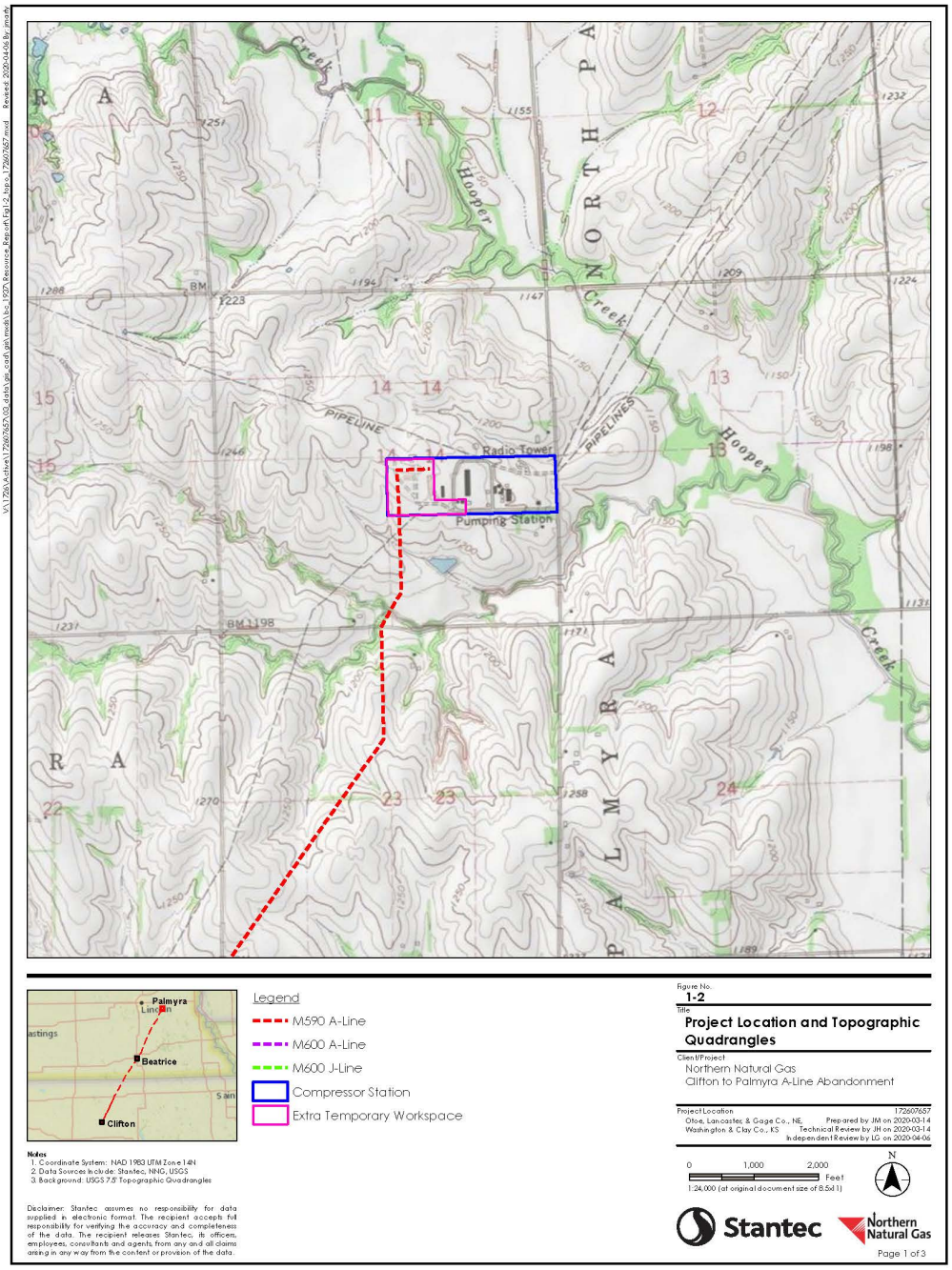
Table 1: Proposed Disconnect Sites			
Pipeline	**Milepost**	**County, State**	**Facility Name – Disconnect Location**
M600A	0.00	Clay County, Kansas	Clifton Compressor Station
M600J	0.00		
M600A	54.30	Gage County, Nebraska	Beatrice Compressor Station
M590A	0.00		
M600J	19.91		
M590A	41.70	Otoe County, Nebraska	Palmyra Compressor Station

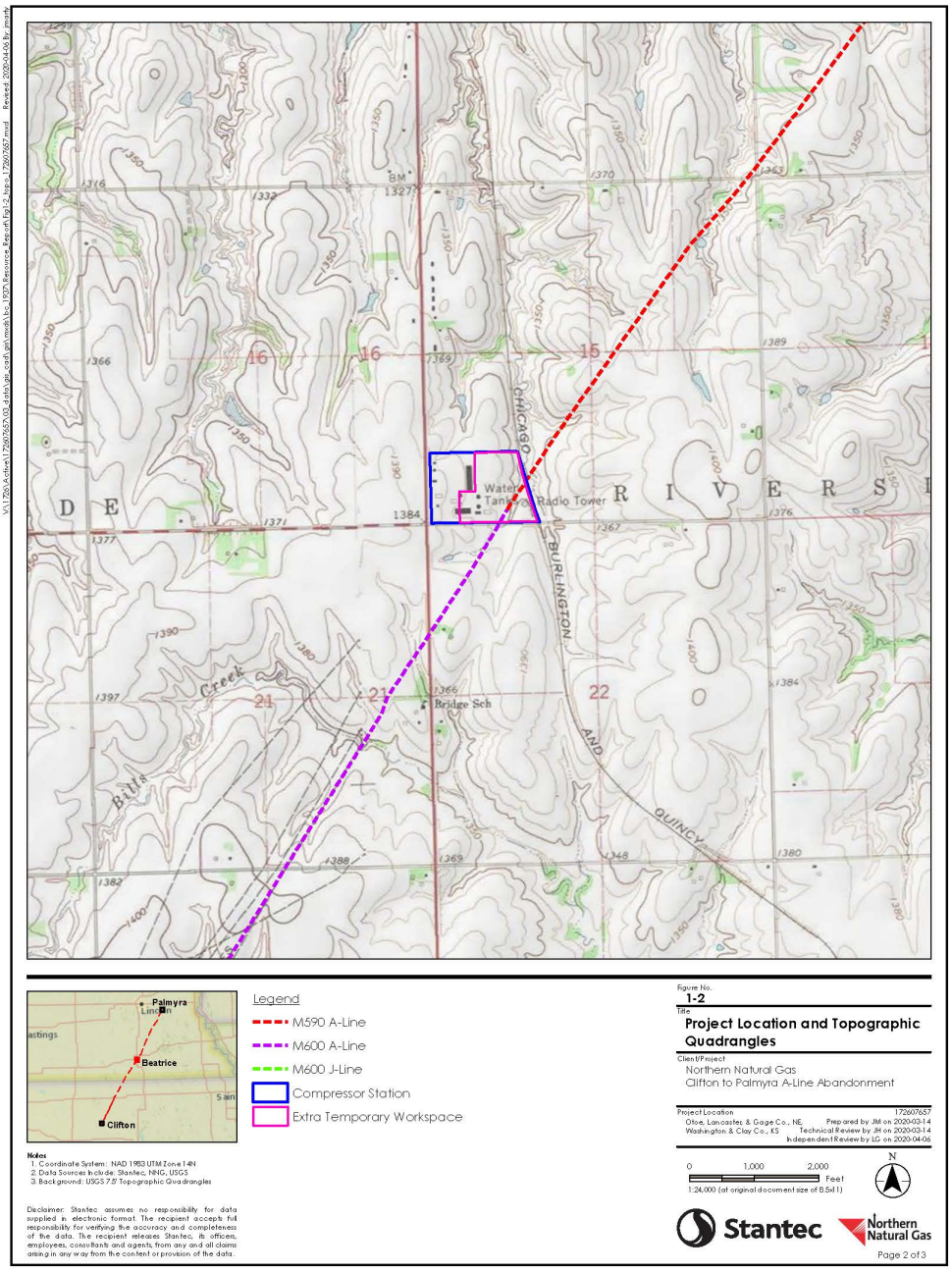
Aboveground Facilities

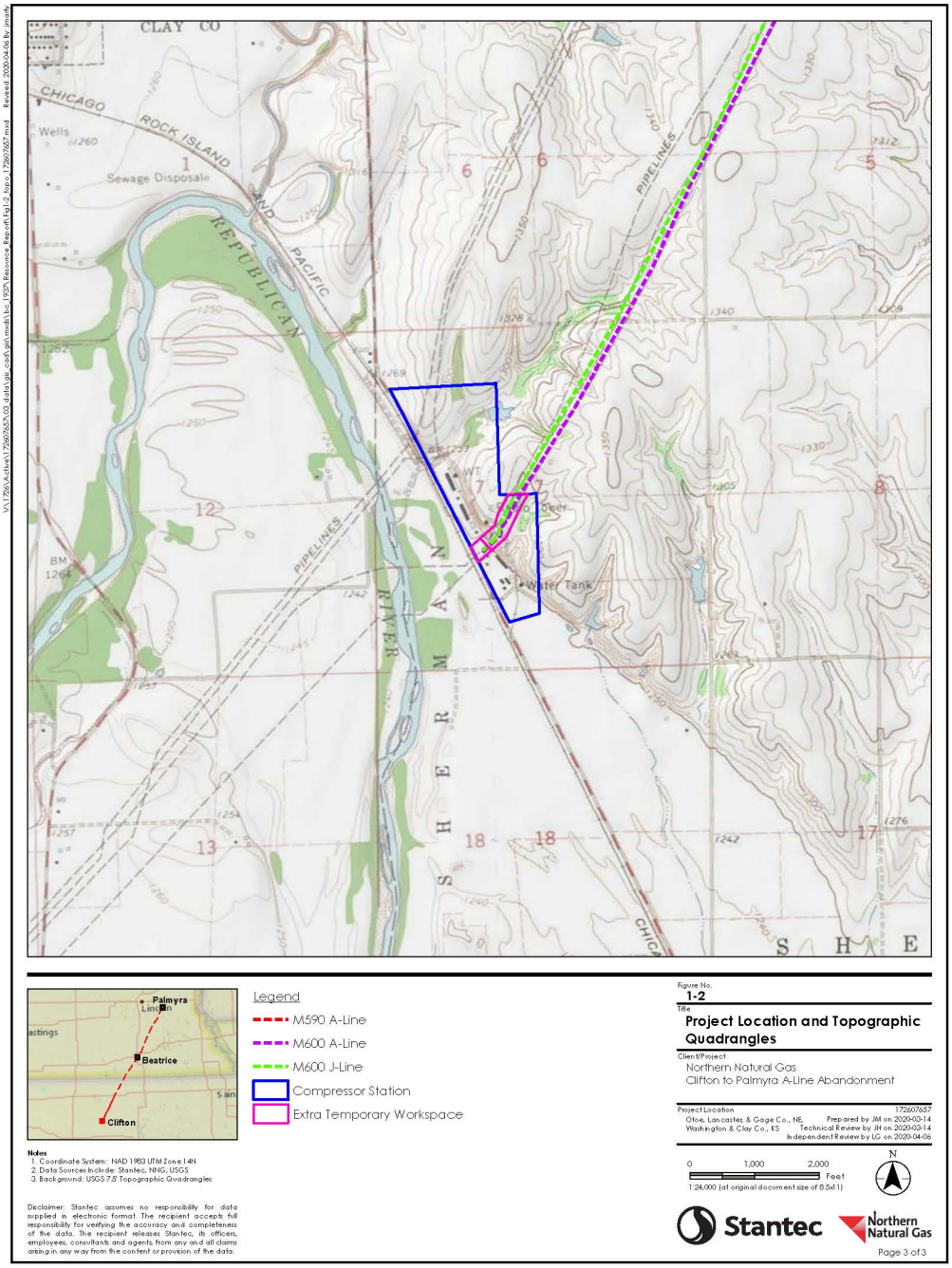
Northern proposes to construct and operate an additional ISO-rated 15,900-horsepower (hp) turbine unit (Unit 29) and appurtenant facilities at its Beatrice Compressor Station in Section 15, Township 3 North, Range 6 East, Gage County, Nebraska. The current compressor station occupies approximately 38 acres. Additional permanent property would not be acquired, and the operational footprint would remain the same. Additionally, no expansion of the current fenced footprint would be required. Unit 29 would provide system compression, replacing the lost A-Line capacity.

The facility expansion would include the installation of compressor and control buildings, a gas cooler, a suction scrubber, a unit lube oil cooler, fuel gas heater, unit inlet air filter and exhaust systems, a unit blowdown silencer, a station backup generator, a station air compressor and dryer system, associated above and below grade piping, valves, and instrumentation. The new compressor building would house the Unit 29 turbine package and would contain noise-attenuating panels, insulation, and air intake/exhaust hoods. The control building would house the motor control center and station controls. The existing utility power, water, and sewer would be sufficient for the new facilities. No new facility easements would be required for the Project.

Figure 1: General Project Location




Water Tank
Radio Tower
Bridge Sch
Creek
Bills
CHICAGO
BURLINGTON
AND
QUINCY
R I V E R S I
D E
Palmyra
Lincoln
Beatrice
Clifton
Legend
M590 A-Line
M600 A-Line
M600 J-Line
Compressor Station
Extra Temporary Workspace
Notes
1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources Include: Stantec, NNG, USGS
3. Background: USGS 7.5' Topographic Quadrangles
Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.
Figure No.
1-2
Title
Project Location and Topographic Quadrangles
Client/Project
Northern Natural Gas
Clifton to Palmyra A-Line Abandonment
Project Location
Otoe, Lancaster, & Gage Co., NE,
Washington & Clay Co., KS
172607657
Prepared by JM on 2020-03-14
Technical Review by JH on 2020-03-14
Independent Review by LG on 2020-04-06
0
1,000
2,000
Feet
1:24,000 (at original document size of 8.5x11)
N
Stantec
Northern Natural Gas
Page 2 of 3


CLAY CO
CHICAGO ROCK ISLAND AND PACIFIC
Wells
Sewage Disposale
REPUBLICAN
PIPELINES
PIPELINES
RIVER
NEMAHA
Water Tank
BM 1264
SHE
Palmyra
Lincoln
Beatrice
Clifton
Legend
M590 A-Line
M600 A-Line
M600 J-Line
Compressor Station
Extra Temporary Workspace
Notes
1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources Include: Stantec, NNG, USGS
3. Background: USGS 7.5' Topographic Quadrangles
Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.
Figure No.
1-2
Title
Project Location and Topographic Quadrangles
Client/Project
Northern Natural Gas
Clifton to Palmyra A-Line Abandonment
Project Location
Otoe, Lancaster, & Gage Co., NE, Washington, & Clay Co., KS
172607657
Prepared by JM on 2020-03-14
Technical Review by JH on 2020-03-14
Independent Review by LG on 2020-04-06
0 1,000 2,000 Feet
1:24,000 (at original document size of 8.5x11)
N
Stantec
Northern Natural Gas
Page 3 of 3

Northern plans to commence disconnect activities, and construction at the Beatrice Compressor Station in May 2021, or upon receipt of all applicable authorizations. Northern anticipates completing construction activities by November 1, 2021.

4. Public Participation and Comment

On June 9, 2020, the Commission issued a *Notice of Intent to Prepare an Environmental Assessment for the Proposed Clifton to Palmyra A-Line Abandonment Project and Request for Comments on Environmental Issues* (NOI). The NOI was mailed to interested parties, including federal, state, and local officials; agency representatives; Native American tribes; local libraries and newspapers; and property owners affected by the proposed facilities and within the abandoned-in-place portions of the Project. This notice opened the scoping period for 30 days. We received comments in response to the NOI from the Bureau of Indian Affairs, U.S. Fish and Wildlife Service (USFWS), Nebraska Department of Natural Resources, Kansas Department of Wildlife, Parks and Tourism (KDWPT), and the Great Plains Laborers District Council (Laborers Council). The Nebraska Department of Natural Resources stated it had no comments. The Bureau of Indian Affairs stated that there are no tribal or individual Indian trust lands in the Project area; and therefore, it has no jurisdiction in the Project area (see section B.6). The USFWS provided comments in regard to special status species and recommended measures to prevent the inadvertent spread of exotic species (see sections B.3.1 and B.3.2). The KDWPT had no objections to the Project and offered general comments and recommendations (see section B.3.2). The Laborers Council provided comments on traffic and socioeconomic impacts of local versus non-local workers (see section B.5). All substantive comments are addressed in the relevant resource sections of the EA.

5. Land Requirements

The Project would disturb approximately 46.2 acres of land. Land required for the Project includes temporary workspace centered on the A-Line and J-Line at the six disconnect locations and temporary workspace for the Beatrice Compressor Station modification. Table 2 summarizes the land requirements for the Project.

Table 2: Land Requirements for the Project				
Activity	**Facility Name**	**County, State**	**Land Required for Construction (acres)**	**Land Required for Operation (acres)**
M600A Disconnect	Clifton Compressor Station	Clay County, Kansas	7.0	0.0
M600J Disconnect				
M600A Disconnect	Beatrice Compressor Station	Gage County, Nebraska	22.3	0.0
M590A Disconnect				
M600J Disconnect				
Unit 29 Construction				
M590A Disconnect	Palmyra Compressor Station	Otoe County, Nebraska	16.9	0.0
Total			**46.2**	**0.0**

No new land would be obtained or required for the Project. The disconnect locations are within existing compressor station facilities; the property for the facilities is owned in fee by Northern. The A-Line is collocated with other Northern pipelines. After abandonment, Northern would continue to operate the other pipelines in the right-of-way and maintain its pipeline easements, with the exception of 0.5 mile of J-Line easement that would be relinquished from Milepost 12.01 to 12.04 and 12.67 to 12.71.

Northern states it would use temporary workspace to accommodate safe and efficient work at the disconnect sites. Following disconnection of the A-Line and J-Line, Northern would restore disturbed portions of the workspace to pre-construction conditions. Northern would use the existing compressor station entrances and the existing networks of driveways inside each facility for access. None of these roads would require modification or improvement.

No new land or easements would be required to construct the additional turbine at the Beatrice Compressor Station. The construction and operational footprint would be inside Northern's current facility boundary.

Although Northern has identified areas where temporary workspace would be required, additional or alternative areas could be identified in the future due to changes in site-specific construction requirements. Northern would be required to file information on each of those areas for review and approval prior to use.

6. Construction, Operation, and Maintenance Procedures

The proposed facilities would be designed, constructed, removed, tested, operated, and maintained in accordance with the U.S. Department of Transportation (USDOT) Minimum Federal Safety Standards in 49 CFR 192. The USDOT's regulations are intended to ensure adequate protection for the public and to prevent natural gas facility accidents and failures. Part 192 specifies material selection and qualification, minimum design requirements, and protection from internal, external, and atmospheric corrosion.

Northern would conduct the work at the Clifton and Palmyra Compressor Station disconnect sites in one spread by one crew. A separate crew (spread) would complete the disconnects and construction of the new turbine at the Beatrice Compressor Station. The two spreads would consist of as many as 42 construction and inspection personnel at the peak of construction activities. Work would occur six days per week (Monday through Saturday) during daytime hours (7 a.m. to 7 p.m.). Tie-ins, testing, and commissioning may extend beyond daylight hours and into Sunday, as necessary, to maintain the Project schedule.

No new permanent staff beyond that already working for Northern would be required to operate the new turbine at the Beatrice Compressor Station.

Northern proposes to follow the construction procedures and mitigation measures contained in the Commission's *Upland Erosion Control, Revegetation, and Mitigation Plan* (Plan) and *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures) without modification.[4] Northern would incorporate environmental requirements into its construction documents, conduct environmental training, employ one Environmental Inspector (EI) for the Project, and provide routine monitoring during construction, clean up, and restoration. Northern would also implement Project-specific plans, including:

- Spill Prevention Control and Countermeasure Plan (SPCC Plan);
- Unanticipated Discovery Plan (UDP); and
- Stormwater Pollution Prevention Plans (SWPPPs).

Prior to initiating the work, Northern would conduct training for all construction personnel to familiarize them with the specific conditions and issues associated with the Project. If sensitive environmental areas are identified that require specialized construction, avoidance, or monitoring, Northern would present these measures as part of the environmental training. Northern would conduct training for new personnel who join the team and refresher training throughout the duration of the Project.

For purposes of quality assurance and compliance with mitigation measures, other applicable regulatory requirements and specifications, Northern would be represented on each construction spread by a chief inspector. The chief inspector would be assisted by a team of craft

[4] Copies of the Plan and Procedures may be accessed on our website (https://www.ferc.gov/industries-data/natural-gas/environment/environmental-guidelines).

inspectors and one EI. The EI position is a full-time position with stop-work authority and would report directly to Northern's environmental department. The EI's duties are consistent with those contained in section II.B (Responsibilities of the EI) of the Plan and would include ensuring compliance with environmental conditions attached to the FERC Certificate, Northern's environmental designs and specifications, and environmental conditions attached to other permits or authorizations.

Northern's operations department would be responsible for long-term project maintenance and regulatory compliance.

6.1 Disconnection Activities

Northern would mobilize survey crews to stake the limits of the approved work areas. Northern would contact the states' One Call systems, Kansas 811 and Nebraska 811, to locate, identify, and flag existing underground utilities to prevent accidental damage during disconnection activities. Following survey, Northern would clear and grade the work area to remove vegetation and large rocks from the work area. Vegetation generally would be cut or scraped flush with the surface of the ground, leaving rootstock in place where possible.

Grading would be conducted, where necessary, to provide a safe and level work surface. Northern would segregate at least the top 12 inches of topsoil where 12 or more inches of topsoil is present. In areas with less than 12 inches of topsoil, Northern would segregate the entire topsoil layer. During restoration, topsoil would be returned to its original horizon. Northern would install temporary erosion controls along the edges of the approved work area immediately after initial soil disturbance and would maintain the controls throughout construction. Temporary erosion control measures would remain in place until permanent erosion controls are installed or restoration is completed.

Once a work site has been cleared and graded, the crew would isolate segments of the abandonment and blow down and purge natural gas from the pipeline. Northern would then excavate and expose the pipeline at system disconnect sites. No more than 13.6 million standard cubic feet of gas would be vented.

To expose the pipe, Northern would excavate a trench within the station yards of approximately 50 feet wide by 70 feet long to a minimum of 6 feet below the surface and a maximum depth of 10 feet below the surface. However, site conditions at some locations, such as areas with unstable soils or other underground utilities, may require excavating a larger or deeper trench to ensure safe working conditions. Northern would stockpile excavated materials within the approved work area. Where topsoil is stripped, subsoil would be stored separately from topsoil away from active construction. Construction site dewatering may be necessary where water accumulates in the trench or work area. If trench dewatering is required, Northern would discharge the water to an upland ground surface through a sediment filter bag or straw bale dewatering structure. Discharge rates would be monitored to minimize the potential for erosion at the discharge point. As applicable, Northern would obtain authorization under the

Kansas Department of Health and Environment's (KDHE) Stormwater Runoff from Construction Activities General Permit No. S-MCST-1703-1 and the Nebraska Department of Environment and Energy's (NDEE) General Permit NER160000 for Stormwater Discharges from Construction Sites to discharge stormwater associated with construction activities.

After the pipe is exposed, Northern would cut and remove a small section of the pipe and weld steel caps onto both ends of the pipe remaining in place. Secondary containment would be placed below the pipe at each cut to catch unexpected liquids that may be present in the pipe. Liquids captured in secondary containment would be tested for polychlorinated biphenyls (PCBs) and disposed of properly. After the pipe has been capped, the trench would be backfilled. In areas where topsoil was segregated, Northern would backfill subsoils first, followed by topsoil. Portions of pipe and related appurtenances and structures that are more than three feet below ground, would be abandoned in place.

Northern would require its contractor to use a proven compaction method to minimize trench settling. Following backfilling, a small crown of material may be left over the trench to account for any potential soil settling. Once disconnection of the A-Line and J-Line is complete, Northern would final grade disturbed work areas to restore pre-construction contours and natural drainage patterns. Northern would seed uplands in accordance with the Plan and Procedures. Disturbed areas would be restored similar to the adjacent land cover. Disconnection activities at any given site are expected to take up to 10 days.

6.2 Special Construction Techniques

Approximately 0.4 acre of temporary emergent wetland impact would occur at the Beatrice Compressor Station. The workspace would be used to facilitate disconnection of the A-Line and J-Line. Any open-cut excavation would be completed in accordance with the measures specified in the Procedures, U.S. Army Corps of Engineers (USACE) permit conditions, and Northern's construction plans. Grading, topsoil segregation, and excavation would be limited to the area immediately over the existing pipeline.

During clearing, Northern would install and maintain sediment barriers such as silt fence and staked straw bales adjacent to the wetland and temporary workspace to minimize the potential for sediment runoff. Northern would install sediment barriers across the full width of the workspace. Northern would also install sediment barriers within wetlands along the edge of the right-of-way, where necessary, to minimize the potential for sediment to run off the construction workspace and into wetland areas outside the construction work area. If trench dewatering is necessary in the wetland, Northern would discharge the trench water in stable, vegetated, upland areas and filtered through a filter bag or siltation barrier. No heavily silt-laden water would be allowed to flow into a wetland.

During restoration, Northern would backfill the subsoil first followed by the topsoil. Northern would remove equipment mats, terra mats, and timber riprap from the wetland

following backfilling. The wetland would be regraded and allowed to revegetate from its natural seed bank.

6.3 Aboveground Facility Construction

Typical construction activities associated with the above-grade facility at the Beatrice Compressor Station are summarized below. Construction activity and storage of construction material would be limited to the approved workspace. Northern states it would dispose of waste materials in a manner consistent with state and local regulations, and restore disturbed areas in a timely manner. Construction would include general activities, such as clearing and grading, foundation installation, erection of above-grade facilities, installation of piping equipment, testing of equipment, and clean up and restoration.

Clearing and Grading

The site would be partially cleared of existing vegetation, graded as described in the Beatrice Compressor Station SWPPP, and prepared for construction. Construction activities, including temporary storage of equipment, materials, and waste would be limited to the temporary workspace. Northern would store excess soil removed during construction activities on-site.

Access Roads

Northern would utilize existing compressor station entrances and driveways to access the temporary workspace within the Beatrice Compressor Station.

Foundation Installation

After site preparation, Northern would perform excavation, as necessary, to accommodate the new concrete foundations. Forms would be set, rebar installed, and the concrete poured and cured in accordance with minimum strength requirements. Backfill would be compacted in-place and excess soil would be evenly spread within the station yard or hauled off for proper disposal. Northern estimates the foundations for the proposed Beatrice Compressor Station would be less than 6 feet in depth. Northern would construct the new compressor building on a concrete mat while the control building would utilize spread footings and stem walls.

Erection of Above-grade Facilities

The above-grade facilities for the Beatrice Compressor Station would be installed after foundations are complete. The proposed expansion of the above-grade facilities include: compressor and control buildings, associated above-grade piping and valves, a gas cooler, an 1,118-hp backup generator, a blowdown silencer, a lube oil cooler, a fuel gas heater, exhaust systems, inlet air filter, a fire/gas detection system, and an air compressor and air dryer system.

Piping Equipment

All non-screwed or flanged piping associated with the Beatrice Compressor Station would be welded. All welders and welding procedures would be qualified in accordance with American Petroleum Institute Standards. Equipment and structures would be installed in compliance with applicable local, state, and federal code requirements. Above-grade piping would be cleaned and painted according to Northern's specifications and in accordance with regulatory requirements.

Pressure Testing

Hydrostatic testing or air testing would be conducted in accordance with USDOT regulations Title 49 CFR 192 to verify the integrity of the piping components of the compressor station before being placed into service. Any water used would be withdrawn from an on-site well or municipal source and transported to the Project in tanker trucks. The hydrostatic testing is a one-time construction activity and the traffic impacts from the trucks are expected to be temporary and of short duration.

The water would be pumped from tanker trucks into onsite storage tanks (frac tanks). From there, the water would be pumped into the new piping. Northern may reuse the test water in an effort to minimize water use. After use, Northern may temporarily store hydrostatic test water in onsite frac tanks.

The test water is expected to contact only new pipe and no additives or chemicals would be added to the test water. Once Northern has completed a pressure test, the hydrostatic test water would be discharged into an on-site tank or hauled off for disposal at an approved facility. If water is discharged on site, the discharge would be dispersed by a splash plate and filtered through hay or straw bales. Use of grassy areas as the final discharge point would provide additional filtering, as well as an impediment to rapid runoff. The test water would not be discharged directly into streams/rivers or contain chemical additives, and no chemicals would be used after testing (e.g., to dry the pipe). Northern would submit an application to the NDEE requesting authorization to discharge hydrostatic test water in accordance with its National Pollutant Discharge Elimination System (NPDES) General Permit NEG672000 in the event Northern chooses to conduct hydrostatic test water discharges as part of the Project.

Appropriation and discharge activities would be conducted in accordance with permit requirements. The volume of hydrostatic test water required for the Beatrice Compressor Station would be approximately 29,000 gallons. Approximately 8,600 gallons of hydrostatic test water would be used at the Palmyra Compressor Station. No hydrostatic testing would be required at the Clifton Compressor Station. Compressed air, nitrogen, or other inert gases may be used instead of water as a test medium, as allowed by 49 CFR 192.

Cleanup and Restoration

Northern would clean and restore the Project workspaces in accordance with applicable state and federal permits and plans. Northern would complete final grading, refresh gravel surfaces (as needed), and seed per specifications.

7. Non-jurisdictional Facilities

Non-jurisdictional facilities are those associated facilities related to a proposed project that are constructed, owned, and operated by other entities that do not come under the jurisdiction of FERC. These non-jurisdictional facilities may be integral to the project objective (e.g., a new or expanded power plant that is not under the jurisdiction of FERC at the end of a pipeline) or they may be merely associated as minor, non-integral components of the jurisdictional facilities that would be constructed and operated with the proposed facilities (e.g., a meter station constructed by a customer of the pipeline to measure gas off-take). There are no non-jurisdictional facilities that would be constructed as a result of this Project.

However, if the Commission approves the Project, Northern has indicated that it would sell the abandoned pipeline facilities to DKM Enterprises, LLC (DKM). Although Northern has indicated that DKM intends to purchase and salvage the abandoned pipeline, the eventual salvage of the pipeline after abandonment is not part of Northern's proposed action. If the Commission grants the abandonment, the pipeline would no longer be under the Commission's jurisdiction. Any subsequent construction by DKM or any other entity related to the abandoned pipeline would also not be under the Commission's jurisdiction. However, a brief overview of the DKM Project is given below and a more detailed description with available resource impact information for the DKM Project is included in sections B.9 and B.10 to inform stakeholders and decision makers. A portion of the DKM Project would be within the geographic scope of the cumulative impacts analysis for the Project and is included in that analysis.

The Purchase and Sale Agreement (PSA) between Northern and DKM, executed on May 11, 2020,[5] outlines certain environmental provisions agreed upon by both parties that are relevant to the assessment of environmental impacts. With the execution of the PSA, DKM and Northern would exercise a Joint Use Rights of Way agreement, whereby Northern would not relinquish its rights under its existing easement agreements at locations where other pipelines in the right-of-way are covered under these same easements, and Northern would continue to operate the other pipelines in the right-of-way and maintain its pipeline easements. Where the A-Line is the only pipeline within the easement, Northern would transfer the easement to DKM upon sale of the pipeline. DKM would reclaim the pipeline within two years of the executed PSA and would be responsible for coordinating reclamation activities with landowners. DKM would use a 50-foot-wide corridor centered on the pipeline, and reclamation activities would occur within Northern's easement. DKM would use existing public and private roads and the A-Line and J-Line right-of-way to gain access to the work area. Per the PSA, DKM and the

[5] FERC Docket CP20-460; accession number 20200521-5092.

respective landowners may agree that the facilities be left in-place instead of removed. Any facilities left in-place based on landowner preference would be transferred to and owned by the respective landowners. Northern would contractually exclude a section of the M590A line to be abandoned that contains remains of a prehistoric burial site. DKM would retain ownership of the pipeline in this area; however, the sections of pipe around the site would be abandoned in-place and not removed or disturbed.

8. Permits, Approvals, and Regulatory Requirements

Table 3 lists the major federal and state permits, approvals, and consultations for the Project and provides the current status of each. Northern would be responsible for obtaining and abiding by all permits and approvals required for the Project regardless if they appear in table 3. Northern stated that all relevant permits and approvals would be provided to the respective contractors who would be required to be familiar with and adhere to applicable requirements.

Table 1: Major Permits and Approvals for the Project

Issuing Agency	**Permit/Approval**	**Filing Date (*Anticipated*)**	**Receipt Date (*Anticipated*)**
Federal			
Federal Energy Regulatory Commission	Section 7 of the Natural Gas Act, Certificate	5/21/20	*Pending*
U.S. Army Corps of Engineers- Omaha District	Clean Water Act- Section 404, Nationwide Permit 12 and Section 10 Rivers and Harbors Act	Wetland impacts qualify for coverage under NWP-3: pre-construction notification is not required.	
U.S. Fish and Wildlife Service- Kansas and Nebraska Field Office	Endangered Species Act- Section 7 Consultation, Bald and Golden Eagle Protection Act, and Migratory Bird Treaty Act	Habitat assessment resulted in 'no effect' determination	Concurrence with 'no effect' determination not required
State-Kansas			
KDHE	NPDES Construction Stormwater Permit	Oil and gas construction sites are exempt and not required to obtain coverage under KDHE NPDES Stormwater Runoff from Construction Activities General Permit	
	NPDES Trench Water Discharge Permit	Request for permit will be submitted prior to construction	Approval will be obtained prior to construction
KDWPT	State Protected Species Consultation	Habitat assessment report submitted 2/13/2020	Response received March 16, 2020
Kansas Historical Society – State Historic Preservaiont Officer (SHPO)	Section 106 Consultation, National Historic Preservation Act	Phase I cultural resource report and UDP submitted 2/14/2020	SHPO concurrence received 3/4/2020

Table 1: Major Permits and Approvals for the Project			
Issuing Agency	**Permit/Approval**	**Filing Date (*Anticipated*)**	**Receipt Date (*Anticipated*)**
State-Nebraska			
NDEE	Construction Permit	Submitted July 1, 2020	Approval will be obtained prior to construction
	Modification of Air Operations Permit	Application will be submitted prior to operation	Approval will be obtained prior to operation
	Section 401 Water Quality Certification	Authorization concurrent with USACE NWP-3. No individual 401 certification required.	
	NPDES Construction Stormwater Permit	Request for General Permit for Stormwater Discharges from Construction Sites will be submitted prior to construction	Approval will be obtained prior to construction
	NPDES Hydrostatic Test Water Discharge Permit	Request for General NPDES Permit Authorizing Hydrostatic Test Discharges from Pipelines and Storage Tanks will be submitted prior to construction	Approval will be obtained prior to construction
Nebraska Natural Heritage Program - Nebraska Game and Parks Commission	State Protected Species Consultation	Online Conservation and Environmental Review Tool (CERT) report completed 2/7/2020	Final CERT uploaded 2/12/2020; no further coordination required
Nebraska State Historical Society - SHPO	Section 106 Consultation, National Historic Preservation Act	Phase I cultural resource report and UDP submitted 2/14/2020	Concurrence received 2/26/2020
Local			
Clay County Floodplain Manager	Floodplain development permit	Will be obtained prior to construction	

B. ENVIRONMENTAL ANALYSIS

Construction and operation of the Project would have temporary, short-term, long-term, and permanent impacts. As discussed throughout this EA, temporary impacts are defined as occurring only during the construction phase up to a few months after construction. Short-term impacts are defined as lasting up to three years. Long-term impacts would eventually recover, but require more than three years. Permanent impacts are defined as lasting throughout the life of the Project.

1. Geology and Soils

1.1 Geology

The Project is proposed within the Central Lowlands Province of the Interior Plains. Topography of the Project area generally consists of gently rolling dissected and dendritic terrain with elevations between 1,300 to 1,400 feet above mean sea level. Surficial geology near the Project area consists of alluvial sands at the Clifton and Beatrice Compressor Stations and clay loam till at the Palmyra Compressor Station. Blasting is not proposed for the Project.

Mineral Resources

The Nebraska Conservation and Survey Division- Active Mine Operations database and Kansas Oil & Gas Database did not identify any mines or quarries within 0.25 mile of the Project. Northern's desktop analysis did not indicate any surficial mines within 0.25 mile of the Project. Therefore, we conclude the Project would not impact mineral resources.

Paleontological Resources

Paleontological resources potentially encountered in the Project area include invertebrate and vertebrate marine fossils in Paleozoic sedimentary bedrock and Pleistocene vertebrate fossils in unconsolidated sediments. Recorded findings of vertebrate fossil bones from the Pleistocene that have been identified in counties along the Project route include mammoths, mastodons, and bison. No specific locations of these fossils are documented within the Project workspaces.

In the event that significant paleontological resources are encountered during construction, the construction contractor would report the finding to Northern's onsite EI. The EI would temporarily suspend construction activities in the immediate area of the paleontological finding while a qualified paleontologist is consulted. Northern would contact the Nebraska Conservation and Survey Division, University of Kansas, Kansas Geological Survey, and FERC, as appropriate. Northern would comply with applicable laws, regulations, procedures and recommendations from the agencies. Given the above, and that most of the Project area has been previously disturbed, we conclude that significant paleontological resources are unlikely to be affected by construction or operation of the Project.

Geologic Hazards

Geologic hazards are natural, physical conditions that can result in damage to land and structures or injury to people. Such hazards include earthquakes, surface faulting, and soil liquefaction; landslides; karst terrain and ground subsidence hazards; and flooding. These hazards are discussed below.

The Project would be in an area with low seismicity (U.S. Geologic Survey [USGS], 2014). Kansas has experienced occasional and small to moderate earthquakes; however, most earthquakes in the region are undetectable to people without monitoring equipment. The largest recorded earthquake in Kansas occurred in 1876 and was measured between 5.0 and 5.5 on the Richter scale near Wamego, approximately 70 miles southeast of the Clifton Compressor Station. Based on the frequency of historic earthquakes and strength of earthquakes, we conclude there is a low seismic risk of an earthquake occurring in Kansas.

There are no active mapped faults in the state of Nebraska. The closest recorded earthquake to the Project in Nebraska measuring 3.5 or greater was the Tecumseh earthquake with a magnitude of 4.6 on the Richter approximately 21 miles southeast of the Project. An earthquake measuring 2.9 occurred in 2014 near Wymore, Nebraska, approximately 13 miles southeast of the Beatrice Compressor Station. Based on the frequency of historic earthquakes and minor strength of the earthquakes, the Project locations in Nebraska are considered in an area of low seismic risk.

The Project is within an area of low landslide incidence and low landslide susceptibility. Deposits most susceptible to liquefaction are sands and non-plastic silty soils deposited within the last 10,000 years and saturated with water. Because the glacial deposits in the Project areas occurred more than 11,000 years ago, the potential for soil liquefaction within the Project area is minimal.

Land subsidence can occur as a result of oil and gas extraction. While some oil and gas exploration has occurred extensively in Kansas, the occurrence of land subsidence due to oil and gas extraction is rare (Walters, 1978). Oil and gas exploration has also occurred in Nebraska; however, significant extraction has not occurred in Gage or Otoe Counties (NOGCC, 2020). Therefore, we conclude the potential for land subsidence due to oil and gas extraction is minimal.

The United States Geological Survey (USGS) map depicts no extensive historical subsidence has occurred within the Project area (USGS, 2000). Assessment of the potential for karst terrain was conducted using data available from the Kansas Geological Survey and USGS. Karst environments are commonly present in areas where soluble rock (typically carbonate or evaporite rocks) are present at or near the land surface (USGS, 2014c). The Project workspaces are not in areas of known karst with the exception of the area surrounding the Beatrice Compressor Station, which is part of the Chase Group of carbonate rocks buried beneath more than 50 feet of glacially derived insoluble sediments (USGS, 2014c). No known sinkholes are

present (USGS, 2014a, 2014b). Therefore, we conclude impacts on the Project due to karst are not anticipated.

The Clay County floodplain data indicated that the southwestern portion of the temporary workspace within the Clifton Compressor Station is within a mapped Special Flood Hazard Zone A of the Republican River. Northern is not adding or modifying any above-grade facilities or topography at the Clifton Compressor Station. Northern would coordinate with Clay County regarding temporary grading within the floodplain during construction, if necessary. A review of the floodplain data in Gage and Otoe counties, Nebraska, indicated that the Beatrice and Palmyra Compressor Stations are not within a 100-year flood zone or Special Flood Hazard Zone A. No evidence of flash flooding (e.g., disturbed vegetation and sediment deposition above the ordinary high-water mark) or scouring is present at the compressor stations. Topography of the Project area would limit potential flood hazards.

Construction and operation of the Project would result in minor, short-term impacts on topography and geology. Primary impacts would be limited to construction activities and include temporary disturbance within the existing compressor stations resulting from grading and trenching operations. Northern would minimize impacts by returning contours to pre-construction conditions to the extent practicable with the exception of the new compressor at the Beatrice Compressor Station, where grading and filling would be required to create a safe and stable land surface, and to support facility drainage.

Facilities for the Project would be designed and installed in accordance with the USDOT's 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 pipe and facilities to move or to sustain abnormal loads such as washouts, floods, subsidence, landslides, and earthquakes. Based on the above assessment, we conclude that the impact from geologic hazards on the Project facilities during construction and/or operation would be minimal and the Project would not have significant impacts on geologic resources.

1.2 Soils

The primary soil limitations identified within Project workspaces are erosion potential and corrosivity to steel.

Prime Farmland

The U.S. Department of Agriculture defines prime farmland as land that has the best combination of physical and chemical characteristics for the production of food, feed, fiber, and oilseed crops. Prime farmland soils can include either actively cultivated land or land that is potentially available for cultivation. Approximately 28.9 acres (about 62 percent) of the soils within the workspaces for the Project are considered prime farmland. The workspaces are within existing compressor stations and are not used for agriculture. Therefore, we conclude that impacts on prime farmland soils would be temporary and not significant.

Highly Erodible Soils

Removal of vegetation associated with construction activities greatly increases erosion potential. The classification of a soil as highly erodible by the Natural Resources Conservation Service (NRCS) is directly related to the soil's susceptibility to erosion by water or wind. The analysis of erosion potential, which was determined through examination of slope, soil capability class, and wind erodibility group, provides an indication of soil loss by water and wind action. A total of 15.5 acres (34 percent) of the soils within the Project area have a high potential for erosion, including 3.3 acres within the Clifton Compressor Station workspace and 12.2 acres within the Beatrice Compressor Station workspace. None of the soils within the Palmyra Compressor Station workspace are considered highly erodible. Northern would utilize erosion and sediment control measures in accordance with the Project SWPPP and our Plan and Procedures, to minimize or avoid impacts on soil resources due to erosion by wind or water. Northern would inspect the temporary erosion control devices on a regular basis and after each rainfall event of 0.5 inch or greater, to ensure controls function properly. Following construction, Northern would seed and mulch disturbed areas. Northern would monitor the effectiveness of revegetation during the long-term operation and maintenance of the compressor stations. Northern would maintain temporary erosion control devices until the workspace is successfully revegetated. Following successful revegetation of construction areas, temporary erosion control devices would be removed. Given Northern's proposed mitigation measures, we conclude there would be no significant impact on soils from erosion.

Corrosion Potential

Corrosion potential is based on the corrosion of steel rating class. Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle size distribution, pH, and electrical conductivity of the soil. The risk of corrosion for uncoated steel is expressed as low, moderate or high, and is based on soil drainage class, total acidity, electrical resistivity, near field capacity, and electrical conductivity of the saturation extract. Corrosion potential for soils within the workspaces at the Clifton Compressor Station is rated as low to moderate. Approximately 17 acres (76 percent) of the soils within the Beatrice Compressor Station workspace are highly corrosive to steel, and 16.9 acres (100 percent) of the soils within the Palmyra Compressor Station workspace are highly corrosive to steel. To mitigate corrosion potential, Northern would use a fusion bond epoxy coating on piping associated with the new compressor. Further, corrosive potential would be controlled by connecting the new compressor at the Beatrice Compressor Station and pipe at the Palmyra Compressor Station to the existing cathodic protection impressed current system. Northern would continue to maintain the cathodic protection system at this compressor station through bimonthly rectifier inspection readings and annual cathodic potential readings to ensure that proper cathodic protection levels are maintained. Therefore, we conclude there would not be a significant impact on Project facilities from corrosion.

Soil Contamination

Northern reviewed the U.S. Environmental Protection Agency (EPA), KDHE, and NDEE databases to identify potentially contaminated sites in the Project area. Northern did not identify sites with the potential for contamination within 500 feet of the proposed Clifton, Beatrice, or Palmyra Compressor Station workspaces. Northern would adhere to its SPCC Plan, which specifies secondary containment requirements and liquid transfer procedures to prevent spills. The SPCC Plan also lists containment, cleanup, and disposal procedures that Northern would implement in the event of soil contamination from spills or leaks of fuels, lubricants, coolants, or other hazardous materials. In the event contaminated soils are encountered during construction, Northern's contractors would follow the procedures outlined in its SPCC Plan.

Project workspaces are industrial land owned by Northern. Areas disturbed by construction would be graded, restored, and re-seeded with perennial grasses to establish a permanent vegetative cover. Given the limited disturbed area, Northern's proposed mitigation measures, and because Northern would return most disturbed areas to pre-construction conditions, permanent impacts on soils would be mostly temporary and not significant.

2. Water Resources

2.1 Surface Water and Wetlands

The Project existing compressor stations (Clifton, Beatrice, and Palmyra) are within three watersheds: Beaver Creek-Republican River (hydrologic unit code (HUC) 102600100502), DTCH-BB River (HUC 102702020409), and Hooper Creek (HUC 102400060201). Wetland and waterbodies were previously delineated using the USACE 1987 Wetland Delineation Manual as part of the Bushton to Clifton A-Line Abandonment Project and Northern's 2020 Palmyra to South Sioux City A-Line Abandonment Project in December 2018, April 2019, and November 2019. A waterbody, as defined by the FERC, is "any natural or artificial stream, river, or drainage with perceptible flow at the time of crossing and other permanent waterbodies such as ponds and lakes." Wetlands are areas inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions (USACE 2010; USACE 1987).

No wetlands or waterbodies were identified within the Palmyra Compressor Station. Northern identified two palustrine emergent wetlands (one shallow marsh wetland and one wet meadow) and two waterbodies (one intermittent and one perennial) and one open pond within the Clifton Compressor Station; however, none of these water resources are within the Project's workspace nor would they be impacted by the Project. The nearest water resource (shallow marsh wetland) is approximately 140 feet southeast of the Clifton Compressor Station workspace.

One upland drainage feature and one wet meadow wetland (wetland W1) that acts as a drainage swale dominated by barnyard grass were identified within the Beatrice Compressor Station fence line and within the Project workspace. The adjacent upland is highly disturbed

industrial land; therefore, a 50-foot setback for the workspace is not required, as described in section V.B.2.a and VI.B.1.a of our Procedures. The Project workspace is completely within the Beatrice Compressor Station fence line.

Wetland impacts would occur within the Project workspace and minor temporary wetland impacts are unavoidable. Approximately 0.4 acre of temporary impacts would occur on wetland W1, at the Beatrice Compressor Station. Construction equipment in the wetland would be limited to only equipment deemed essential to complete the A-Line disconnect and associated activities within the Project workspace. Potential impacts on the wetland and the upland drainage feature could occur from stormwater runoff, hydrostatic test discharges, and spills or leaks of hazardous liquids from refueling construction vehicles or storing fuel, oil, and other fluids. Removal of vegetation near the upland drainage feature and wet meadow wetland could cause potential sedimentation and erosion. However, Northern would install erosion and sediment control devices to protect waterbodies and wetlands within construction workspaces from impacts from sediment laden runoff during construction. Additionally, construction impacts on surface waterbodies (upland drainage feature) and wetlands would be minimized by implementing best management practices and the FERC Procedures.

Northern would implement its SWPPP, which includes best management practices and countermeasures to reduce ground disturbance, and minimize erosion and sediment run off. These include, but are not limited to:

- installing erosion control devices, including silt fences and/or straw bales, at the edges of the construction work area adjacent to wetland resources;
- collecting sediment using dewatering bags placed on geotextile fabric prior to discharging to vegetated upland areas;
- revegetating or stabilizing disturbed areas upon completion of construction;
- degreasing engines off-site;
- marking washout stations using a large sign;
- storing hazardous materials requiring secondary containment off-site; and
- properly containing and mitigating small chemical, petroleum, hazardous, or other non-stormwater material which has the potential to contaminate groundwater using spills kits or other suitable emergency action procedures.

Additionally, Northern would implement its SPCC Plan which includes preventative measures to avoid spills of hazardous materials and response procedures to be implemented in the event of a release. Northern would abide by a refueling setback at the drainage feature which would be demarcated with signs placed by Northern's EI.

No permanent wetland or waterbody impacts would occur as a result of construction or operation of the Project. After the completion of construction, Northern would restore temporary workspaces to pre-construction contours, stabilize the areas with erosion control devices, and

would allow the drainage feature and wetland (W1) to revegetate naturally thereby restoring wetland function and restoring the drainage.

Based on the limited impacts on surface waterbodies (one upland drainage feature) and wetlands (0.4 acre temporary impacts), implementation of the FERC Procedures, Northern's SWPPP, and SPCC Plan; we have determined the Project has minimized impacts on surface waterbodies and wetlands to the greatest extent possible, and impacts would be temporary and not significant.

Hydrostatic Testing

In accordance with USDOT regulations, Northern would perform hydrostatic testing of the existing Beatrice Compressor Station and Palmyra Compressor Station and associated piping prior to placing the Project facilities into service. Hydrostatic testing is a method by which water is introduced to segments of pipe and then pressurized to verify the integrity of the pipeline. A total of 29,000 gallons of water is anticipated to be used for hydrostatic testing at the Beatrice Compressor Station and 8,600 gallons of water would be necessary for the Palmyra Compressor Station. No hydrostatic testing would be required at the Clifton Compressor Station.

Northern may also use the hydrostatic test water for the control and mitigation of fugitive dust in areas disturbed for construction, such as access roads and Project workspace. Typically, dust control is provided by contractors utilizing water tanker trucks, and water is obtained from municipal or surface resources under permits carried by the contractor, as necessary. Water for hydrostatic testing would be obtained from local municipal sources and/or from Northern's water well at the Beatrice Compressor Station. No chemicals would be added to the hydrostatic test water. Following hydrostatic testing, test water would first pass through an energy-dissipation device as necessary, before being discharged into well vegetated, upland areas in accordance with the FERC's Procedures.

Based on Northern's implementation of the FERC Procedures, we conclude that hydrostatic test water and fugitive dust control impacts would not result in significant impacts on water resources.

3. Vegetation and Wildlife

3.1 Vegetation

Project workspace would occur within Northern's existing compressor stations. The Project area primarily consists of wetland (discussed above) and developed land (industrial land; roads; parking areas; buildings; and impervious surfaces), which is generally devoid of native herbaceous vegetation. The Project workspaces would consist of approximately 45.8 acres of industrial/commercial land, which consists of non-vegetated land interspersed with mowed grass areas and landscape trees. Common vegetation species observed in the Project area include smooth brome and Kentucky bluegrass. The pipeline would be abandoned in place; however,

cutting and capping would occur within Northern's existing compressor stations could result in a temporary loss of vegetative cover within these compressor stations. Project activities would impact less than 0.5 acre of maintained vegetation that would be converted to new gravel cover within the Beatrice Compressor Station.

No forested vegetation would be affected, and no tree clearing is proposed for the Project. No areas of unique, sensitive, or protected vegetation would be affected by the Project. Northern would restore the Project area to pre-existing conditions after cutting and capping the existing pipeline and would revegetate, stabilize, and reseed disturbed areas in accordance with the FERC Plan, its SWPPP, and with recommended seed mixtures from the NRCS. Following restoration, the disconnect sites would continue to be maintained similar to existing compressor station sites.

Noxious and Invasive Species

An invasive species is a plant which is of foreign origin and is new to or not widely prevalent in the United States. Noxious and invasive weed surveys were conducted in December 2018 at the Clifton Compressor Station; April 2019 at the Palmyra Compressor Station; and November 2019 at the Beatrice Compressor Station. In its August 12, 2020 letter, the USFWS recommended proactive measures to prevent the inadvertent spread of exotic species, such as cleaning all equipment brought on site by washing thoroughly to remove dirt, seeds, and plant parts; and cleaning with hot water greater than 140 degree Fahrenheit any equipment that has been in any body of water within 30 days of its use at the Project site and dried for a minimum of 5 days being used at the Project site. Northern has committed to the USFWS recommendations. No federal, state, or county noxious or invasive weeds were identified in the Project area. Given the limited conversion of vegetation to industrial land, Northern's adoption of our Plan, and the lack of noxious and invasive species in the Project area, we conclude Project impacts on vegetation would be mostly temporary and not significant.

3.2 Wildlife

A majority of the wildlife habitat within the Project area consists of developed lands (industrial/commercial) interspersed with mowed grass areas which have been extensively modified, often resulting in reduced numbers of individuals and diversity of wildlife species. The lands adjacent to the Project area are primarily composed of agricultural land. Common wildlife in the area include a wide variety of mammal species, such as bobcat, white-tailed deer, cottontail rabbit, jackrabbit, fox squirrel and raccoon; reptile and amphibian species, such as eastern tiger salamander, plains spadefoot, Woodhouse's toad, northern prairie skink, snapping turtle, northern painted turtle, bullsnake, and plains garter snake; and bird species, such as mallard, pintail, wood duck, blue-winged teal, and redhead. During peak migration (late April to early May), tanagers, orioles, blue grosbeaks, waterthrush, and broad-winged hawks may be observed. No unique or sensitive wildlife resources were identified in the Project area.

Wildlife is generally not present within the fence line of the existing facilities, although small animals, such as squirrels and reptiles, may occasionally occur. Potential short-term

impacts on wildlife could occur from construction-related ground disturbance and noise. Impacts could include the displacement of individuals from construction areas and adjacent habitats and the direct mortality of small, less mobile mammals, reptiles, and amphibians that are unable to vacate the construction area.

Impacts on wildlife would be limited to the period of vegetation removal and construction activities. Northern would convert 0.5 acre of maintained vegetation to gravel cover. After construction activities are complete, the areas disturbed by construction that do not contain permanent facilities would be restored to original conditions. Noise levels by the facilities would return to pre-construction levels immediately following completion of abandonment construction activities. Noise associated with the new compressor unit (Unit 29) and appurtenant facilities at the Beatrice Compressor Station would be permanent; however, the compressor unit associated with the Project would be within existing industrial facilities. Therefore, we conclude noise associated with abandonment, construction, and operation of the Project would not significantly impact wildlife in the Project area.

Following construction, Northern would reseed the vegetated areas. Northern would restore the Project area once abandonment activities are complete. After abandonment activities are complete, wildlife would be expected to return. Given the limited time of construction (10 days at each disconnect site and up to 7 months for installation of Project facilities), Northern's commitment to revegetate disturbed areas, and the abundance of wildlife habitat adjacent to the Project area, we conclude that the Project would have short-term and not significant impacts on wildlife or their habitat in the Project area.

No waterbodies with the potential to contain fish species are present within the Project workspaces. Construction activities adjacent to waterbodies may result in temporary impacts on fisheries and aquatic resources if sediment flows to off-site waterbodies. Sedimentation and introduction of water pollutants would increase stress, injury, and mortality of stream biota. Northern would implement the measures in the Plan to minimize potential for sedimentation to impact off-site waterbodies.

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 U.S. Code, sections 703-711), and bald and golden eagles are additionally protected under the Bald and Golden Eagle Protection Act (Title 16 of the U.S. Code, sections 668-668d). The MBTA, as amended, prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. Executive Order (EO) 13186 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 USFWS, and emphasizes species of concern, priority habitats, and key risk factors, with particular focus given to population-level impacts.

On March 30, 2011, the USFWS 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 Endangered Species Act (ESA), or any other statutes, and does not authorize the take of migratory birds.

Though all migratory birds are afforded protection under the MBTA, both EO 13186 and the MOU require that Birds of Conservation Concern (BCC) and federally listed species be given priority when considering effects on migratory birds. BCCs are a subset of MBTA-protected species identified by the USFWS as those in the greatest need of additional conservation action to avoid future listing under the ESA. In accordance with EO 13186 and the MOU, Northern has identified BCCs within the Project area. The Project would be within BCC Region 19 (Central Mixed Grass Prairie) and BCC Region 22 (Eastern Tallgrass Prairie) (NABCI 2019; USFWS 2008). Table 4 below lists migratory bird species potentially occurring in the Project area. Of the 55 BCC within both BCR19 and BCR 22, three migratory bird species have the potential to occur in the Project area.

Table 4: Migratory Bird Species with Potential to Occur within the Project area

Common Name	Scientific Name	Project Component	Seasonal Occurrence in the Project Area	Habitat[2]
Harris's Sparrow[1]	*Zonotrichia querula*	Palmyra Compressor Station	Winter	During migration/winter, found in thickets, woodland edges, fields, hedgerows, shelterbelts.
Red headed woodpecker	*Melanerpes erythrocephalus*	Beatrice and Palmyra Compressor Stations	Summer	Deciduous woodlands and savanna like habitat.
Bald Eagle	*Haliaeetus leucocephalus*	Palmyra Compressor Station	Year-round	Typically nest in mature trees near reservoirs or large rivers.

[1] Species identified on the Informational Planning and Consultation system and listed within the 2008 report.
[2] Habitat information from Audubon Society Guide to North American Birds (Audubon 2019).

Important Bird Areas (IBAs) are discrete sites that provide essential habitat for one or more bird species and include habitat for breeding, wintering, and/or migrating birds. The Lancaster County Saline Wetlands are the nearest IBA to the Palmyra Compressor Station (10 miles southwest of the Project) and Beatrice Compressor Station (27 miles south of the Project). The Flint Hills IBA is the nearest IBA to the Clifton Compressor Station (23 miles southeast of the Project). The Project would not cross the Lancaster County Saline Wetlands or the Flint Hills IBA.

The nesting season for migratory birds in Nebraska and Kansas occurs generally from April 1 to July 15. Northern plans to begin construction in May 2021 within the primary nesting season. Construction would continue through November 2021. No tree clearing is proposed for this Project and the Project workspaces are within existing compressor stations with minimal to no habitat for nesting birds. Impacts on bald eagles are not expected due to Project construction. Field surveys for each compressor station within the Project included 0.5-mile line of site raptor nest surveys. No raptor, bald eagle, or golden eagle nests were observed during these surveys.

Northern commits to conducting pre-construction bird surveys within the construction areas immediately prior to construction. Due to the lack of active raptor nests observed, Northern does not anticipate site-specific consultation with USFWS; however, if nests are observed, Northern would contact the USFWS to determine any necessary avoidance or mitigation measures prior to continuing ground-disturbing activities. Based on the mitigation measures described above, we conclude that the Project would not adversely impact migratory bird populations.

Special Status Species

Special status species are those species for which state or federal agencies provide an additional level of protection by law, regulation, or policy. Included in this category are federally listed species that are protected under the ESA, species considered as candidates for such listing by the USFWS, and those species that are state-listed as threatened, endangered, or state species of special concern.

Federally Listed Species

In accordance with Section 7 of the ESA, the FERC, in coordination with the USFWS, must ensure that any federal action authorized, funded, or carried out by the agency does not jeopardize the continued existence of a federally listed threatened or endangered species or result in an adverse modification of designated critical habitat of a federally listed species.

On February 6, 2020, Northern utilized the USFWS' Informational Planning and Consultation system to obtain a list of threatened and endangered species that may occur in the Project area. Six federally listed species have the potential to occur in the Project area (see table 5 below).

Table 5: Federally Listed Species Potentially Occurring in the Project Area

Common Name	County, State	Project Component	Federal Status	Habitat Description	Suitable Habitat Present	Anticipated Project Impacts
Birds						
Interior least tern	Clay County, KS	Clifton Compressor Station	E[1]	Vegetated sand and gravel bars in wide river channels.	Not present – the Project area does not include	*No effect*

					reservoirs, lakes, or major river systems.	
Whooping crane	Clay County, KS Gage County, NE	Clifton and Beatrice Compressor Stations	E	Breed in Canada, roost in large wetland complexes as well as flooded palustrine wetlands and wide, sandy rivers adjacent to agricultural land during migration.	Not present – no suitable foraging habitat is present in the Project area.	*No effect*
Piping plover	Clay County, KS	Clifton Compressor Station	T[1]	Prairie freshwater lakes, alkali wetlands, and major river systems, including the Missouri River.	Not present – The Project area does not include freshwater lakes, alkali wetlands, or major river systems.	*No effect*
Mammals						
Northern long-eared bat (NLEB)	Clay County, KS, Gage and Otoe County, NE	Clifton, Beatrice, and Palmyra Compressor Stations	T	Winter habitat includes large caves and mines. Summer habitat includes tree cavities and crevices, loose bark of live or dead trees.	Not present – The Project area does not contain caves, mines, or forested areas. No tree clearing is proposed for the Project.	*No effect*
Fish						
Pallid sturgeon	Otoe County, NE	Palmyra Compressor Station	E	Large river systems (including the Missouri River) with diversity of depths and velocities, free-flowing braided channels and sand and gravel bars. No suitable habitat is present for this species.	Not present – The Project area does not contain large river systems.	*No effect*
Plants						
Western prairie fringed orchid	Gage and Otoe County, NE	Beatrice and Palmyra Compressor Stations	T	Moist tallgrass prairie and sedge meadows. Big and little bluestem, switchgrass, Indiangrass, and northern reedgrass are common associates.	Not present – The Project area does not include prairie or sedge meadows containing common associate species.	*No effect*

[1] Did not appear on the USFWS Informational Planning and Consultation system but appeared on KDWPT county list accessed on February 7, 2020.

Northern conducted field surveys to identify habitat in December 2018 at the Clifton Compressor Station; April 2019 at the Palmyra Compressor Station; and November 2019 at the

Beatrice Compressor Station. The habitat present within the Project workspace is largely industrial and although there would be limited temporary wetland impacts (0.4 acre of wet meadow) within the Beatrice Compressor Station, it is adjacent to a parking area and is not considered suitable stopover habitat for the federally endangered whooping crane. Sparse vegetation within the compressor stations are regularly mowed and do not contain suitable habitat for federally threatened Western prairie fringed orchid. Additionally, no suitable habitat exists for the federally endangered interior least tern, federally threatened piping plover, federally threatened NLEB, and federally endangered pallid sturgeon. Because no suitable habitat exists for federally listed species, we have determined the Project would have *no effect* on federally listed species.

In its August 12, 2020 letter, the USFWS indicated that the federally threatened NLEB may occur in the Project area. As stated previously, because no suitable habitat is present within the Project area and tree clearing is not proposed for the Project, we have determined the Project would have *no effect* on the NLEB; therefore, no further consultation with the USFWS for this Project would be required under section 7 of the ESA.

State-listed Species

On February 12, 2020, Northern obtained a list of state-listed species provided by the Nebraska Game and Parks Commission (NGPC) using the Conservation and Environmental Review Tool (CERT) (NGPC 2019). Informal consultation pursuant to the Nebraska Nongame and Endangered Species Conservation Act can be completed using the CERT program. On February 4, 2020, Northern conducted a review of the KDWPT threatened and endangered species website for records of state-listed species with potential to be in the Project area (KDWPT 2020). On February 14, 2020, Northern contacted the KDWPT to identify and confirm the state-listed species potentially present in the Project area.

Based on the Nebraska CERT report, three state-listed species potentially occur within the Project area workspaces in Gage and Otoe Counties, Nebraska, including the NLEB, western massasauga, and the western prairie fringed orchid. There are eight Kansas state-listed species potentially occurring within the Project area workspace in Clay County, Kansas. These are the interior least tern, whooping crane, piping plover, snowy plover, shoal chub, silver chub, plains minnow, and Eastern spotted skunk. The interior least tern, whooping crane, NLEB, western prairie fringed orchid, and piping plover are discussed above as these are also federally listed species. The remaining state-listed species are discussed below.

The NGPC CERT review indicated that the Project is unlikely to negatively impact Nebraska state-listed species. No additional correspondence with the NGPC is required. In March 16, 2020 e-mail correspondence to Northern, KDWPT stated that the Project would have no significant impacts on crucial wildlife habitats; therefore, no special mitigation measures are recommended. KDWPT provided general construction recommendations, such as avoiding or minimizing the removal of native upland or riparian hardwood timber and vegetation when repairing, moving, or constructing new pipelines and associated facilities; and implementing and

maintaining standard erosion control best management practices. In its July 30, 2020 supplemental filing, Northern committed to following applicable KDWPT recommendations. In its correspondence, KDWPT stated that the Project would not impact any public recreational areas, nor could they document any potential impacts on current Kansas state-listed threatened or endangered species. Thus, we conclude the Project would not adversely impact state-listed species.

4. Land Use, Recreation, and Visual Resources

4.1 Land Use

The Project would disturb approximately 46.2 acres of land during construction, of which 45.8 acres are classified as industrial/commercial land, and 0.4 acre is classified as wetland. Project activities include temporary workspace associated with disconnecting and capping the pipeline and construction of the new compressor. No access roads or staging areas would be used for the Project. All Project workspace is within Northern's existing compressor stations. Impacts on land use types are summarized in table 6.

Table 6: Land Use Affected by Construction and Operation of the Project (acres)

Facility	Wetland		Industrial/Commercial		Total	
	Const	Oper	Const	Oper	Const	Oper
Clifton Compressor Station						
Temporary Workspace	0.0	0.0	7.0	0.0	7.0	0.0
Beatrice Compressor Station						
Temporary Workspace	0.4	0.0	21.9	0.0	22.3	0.0
Palmyra Compressor Station						
Temporary Workspace	0.0	0.0	16.9	0.0	16.9	0.0
Total	**0.4**	**0.0**	**45.8**	**0.0**	**46.2**	**0.0**

Const = Construction
Oper = Operation

Wetlands

Approximately 0.4 acre of wetland would be temporarily impacted by construction activities at the Beatrice Compressor Station. Temporary impacts would result from activities associated with excavation, disconnection of existing pipeline, capping, and backfilling. Northern would minimize impacts on the wetland by implementing the mitigation measures in accordance with the Plan and Procedures. Original contours would be restored and the wetland would be allowed to naturally revegetate. No wetlands are within the workspace at the Clifton or Palmyra Compressor Stations.

Industrial/Commercial Land

Industrial/commercial land within the Project workspace includes the existing Northern compressor stations. Approximately 45.8 acres of industrial/commercial land within Northern's

existing compressor stations would be temporarily impacted by the Project. No operational impact on industrial/commercial land would occur due to the Project.

The Project would not impact land use, as all Project workspace is proposed within Northern's existing compressor stations. Northern would restore lands disturbed by construction in accordance with the Plan and Procedures. The workspaces would be maintained as industrial/commercial land and no change to land use type would occur.

4.2 Residential Areas

There are no residences within 50 feet of the Project workspaces. Northern contacted the planning, zoning, and economic development departments for Gage and Otoe Counties, Nebraska and Clay County, Kansas[6] to identify any known residential or commercial developments that are planned within the Project areas. No future residential or commercial developments were identified within 2 miles of the Project.

4.3 Recreation and Special Interest Areas

The Project would not cross any federally, state, or locally designated recreational or special interest areas. No churches, schools, cemeteries, or hospitals are within 1,500 feet of the Project. No designated coastal zones pursuant to the Coastal Zone Management Act would be affected by the Project. Additionally, the Project would not impact any landfills, hazardous waste sites, or quarries. Therefore, we conclude the Project would not impact any recreational or special interest areas.

4.4 Visual Resources

There are no special or unique scenic features in the Project area, nor are there any designated scenic areas or view sheds. Construction activities would be relatively short-term, and long-term changes would be relatively minor. The addition of a compressor unit and associated buildings at the Beatrice Compressor Station would not create a substantial change in the long-term visible impact of the site, which is already an existing feature of the landscape. The additional buildings and associated infrastructure would be painted to match the existing facilities. The nearest residences are 1,026 feet north and 1,100 feet northeast of the Beatrice Compressor Station. The new compressor unit would be installed approximately in the middle of the existing station and would not change the existing viewshed. Based on the co-location with the existing Beatrice Compressor Station and the distance to the nearest residences, we conclude no significant impact on visual resources would occur due to the proposed Beatrice Compressor Station expansion facilities.

Other than the limited construction equipment activities, the abandonment activities at the Clifton and Palmyra Compressor Stations would not involve above-grade construction and

[6] Northern did not contact Washington County, Kansas and Jefferson and Lancaster Counties, Nebraska since no ground disturbance is proposed in these counties.

would not impact visual resources. Therefore, we conclude that the Project would not result in any significant impacts on visual resources.

5. Socioeconomics and Traffic

The Laborers Council submitted comments in response to our NOI in regard to traffic and socioeconomic impacts of the Project. The Laborers Council stated there could be a substantial traffic impact if Northern selects a contractor who employs mostly out of state travelers who would stay at certain campgrounds, hotels, or other lodging facilities. The Laborers Council stated that the EA should look at how the proposed Project would impact traffic if at least half of the workers employed on the Project came from in-state versus mostly travelling workers from other states.

The movement of equipment, materials, and personnel to construction work areas would result in modest, incremental, short-term impacts on the transportation network. Based on a total estimated workforce of 42 workers plus 29 construction equipment vehicles (pick up trucks and concrete trucks), impacts on traffic in the Project area would be localized, minor, and short term, regardless of the locality of the workforce.

The Laborers Council also stated that FERC's EA should assess the socioeconomic impacts of the Project based on the following criteria:

- impact on local and state payroll taxes of using local versus out of state labor;
- impact on local and state unemployment tax collection on using local versus out of state labor;
- assumed rates of health care coverage for workers on the Project given the COVID-19 crisis; and
- assumed contractor labor costs - wage and benefit levels, health care coverage, and retirement benefit.

In an August 11, 2020 response to our July 29, 2020 data request, Northern responded to the Laborers Council's comments stating that construction of the Project would have minor, short-term positive impacts on employment and the economy through the creation of jobs, increased local spending, and tax payments. Northern also stated its construction contractors would be responsible for hiring appropriately trained workers. Given the fact that construction would require only 42 workers and 29 construction vehicles, and the relative population of the counties where construction would occur, we agree that these impacts would be minor, short-term, and localized.

The impact on local and state payroll taxes, and local and state unemployment tax collection, from using local versus out of state labor is outside the scope of this EA. The assumed rates of health care coverage given the COVID-19 crisis and assumed contractor labor costs is also outside the scope of this EA. Therefore, these issues are not evaluated further in this EA.

Given the amount of construction personnel and short duration of construction, we conclude the Project would have a minor and not significant impact on socioeconomics and traffic.

6. Cultural Resources

Section 106 of the National Historic Preservation Act, as amended, requires the FERC to take into account the effects of its undertakings on properties listed in or eligible for listing in the National Register of Historic Places (NRHP) and afford the Advisory Council on Historic Preservation an opportunity to comment on the undertaking. Northern, as a non-federal party, is assisting the Commission in meeting these obligations under Section 106 and the implementing regulations at 36 CFR 800 by preparing the necessary information, analyses, and recommendations, as authorized by 36 CFR 800.2(a)(3).

Northern conducted a cultural resources survey of the 91.4-acre Clifton Compressor Station in Kansas in 2019. No archaeological sites were identified, and the Clifton Compressor Station itself was recommended as not eligible for listing in the NRHP. In a May 23, 2019 letter, the Kansas State Historic Preservation Office (SHPO) concurred and recommended the Project would have no adverse effect on historic properties. We also concur.

Northern conducted a cultural resources survey of the 31.7-acre Beatrice Compressor Station in Nebraska. No archaeological sites or historic structures were identified. The 41.7-acre Palmyra Compressor Station, also in Nebraska, was previously surveyed for Northern's Palmyra to South Sioux City A-Line Abandonment Project (Docket No. CP19-500-000). No archaeological sites or historic structures were identified. The Nebraska SHPO concurred with Northern's recommendations of "no historic properties affected" for the two compressor stations on February 26, 2020. We also concur.

On February 14, 2020, Northern wrote to the Apache Tribe of Oklahoma, Cheyenne and Arapaho Tribes, Iowa Tribe of Kansas and Nebraska, Iowa Tribe of Oklahoma, Kaw Nation, Omaha Tribe of Nebraska, Osage Nation, Otoe-Missouria Tribe of Indians, Pawnee Nation of Oklahoma, Sac and Fox Nation of Missouri in Kansas and Nebraska, Sac and Fox Nation, Sac and Fox Tribe of the Mississippi in Iowa, and the Wichita and Affiliated Tribes to request their comments on the Project. Northern made follow up calls to the tribes on March 27, 2020. The FERC sent its NOI (issued June 9, 2020) to the same tribes to provide them an opportunity to comment on the Project. No responses have been received to date in response to Northern's letter or our NOI.

In a June 29, 2020 letter to the Commission, the Southern Plains Region of the Bureau of Indian Affairs commented that there were no tribal lands or Indian trust lands within the Project area and that they had no jurisdiction and no concerns that the Project would affect tribal or trust lands.

Northern has prepared a plan in the event any unanticipated cultural resources or human remains were encountered during construction. We requested minor revisions to the plan. Northern made the requested revisions. We find the revised plan to be acceptable.

Therefore, we have determined, in consultation with the Kansas and Nebraska SHPOs, that the Project as proposed would have no adverse effect on any properties listed in or eligible for listing in the NRHP.

7. Air Quality and Noise

7.1 Air Quality

Air quality would be affected by construction and operation of the Project. This section discusses the impacts on air quality from the proposed Project at the Clifton Compressor Station in Clay County, Kansas; the Beatrice Compressor Station in Gage County, Nebraska; and the Palmyra Compressor Station in Otoe County, Nebraska. Both regional and local impacts are discussed.

Northern proposes to construct and operate an additional 15,900-hp turbine unit and appurtenant facilities at its Beatrice Compressor Station.

Minor construction activities would also occur at all three compressor stations associated with abandonment of the A and J-Lines. The emissions from this minor construction would be temporary, lasting approximately 10 days, and insignificant. There would only be Project operational emissions associated with the new compressor at the Beatrice Compressor Station.

Types of Emissions from the Proposed Project

Air quality is protected by federal and state regulations. The Clean Air Act (CAA) designates seven pollutants as criteria pollutants. These are: particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}); particulate matter with an aerodynamic diameter of 2.5 microns or less ($PM_{2.5}$); sulfur dioxide (SO_2); nitrogen dioxide (NO_2); carbon monoxide (CO); ozone; and lead.

The combustion processes associated with gas-powered turbines as well as from construction vehicles would directly produce some of the criteria pollutants, namely SO_2, NO_2, and CO. These processes would also result in fine particulate matter, $PM_{2.5}$, primarily as a result of complex reactions in the atmosphere of the other combustion pollutants just mentioned. Larger particulate matter would generally be minimal from combustion processes; however, because PM_{10} includes by definition all smaller particulates, the amount of PM_{10} and $PM_{2.5}$ reported as emissions from the operation of compression facilities and construction vehicles would be exactly the same. During construction, PM_{10} would also result from fugitive dust produced from moving vehicles and ground disturbance. No measurable amounts of lead would be emitted by the Project during construction or operation.

In addition to SO_2, NO_2, CO, and $PM_{2.5}$, the proposed facilities would emit other pollutants called volatile organic compounds (VOC) and hazardous air pollutants (HAP), which are also regulated by the EPA. VOCs refer to certain compounds of carbon that react in the atmosphere to create ground-level ozone. HAPs are pollutants designated by the EPA as being known or suspected to cause cancer or other serious health effects. VOCs and HAPs both result from combustion processes.

Some of the pollutants already mentioned are also designated as greenhouse gases (GHG). These are gases that trap heat in the atmosphere either directly or as a result of chemical reactions in the atmosphere, resulting in warming of the earth. Methane is itself a GHG and the leakage of methane during the operation of the facility would be classified as a GHG emission. Because there are a variety of GHGs, GHG emissions are usually reported as relative to the warming potential of carbon dioxide, in units called carbon dioxide equivalents (CO_{2e}).

Existing Air Quality

The EPA measures and regulates air quality by promulgating National Ambient Air Quality Standards (NAAQS), which establish acceptable concentrations in the air of the aforementioned seven criteria pollutants. The NAAQS include primary standards, which are designed to protect human health, including the health of sensitive subpopulations, such as children and those with chronic respiratory problems. The NAAQS also include secondary standards designed to protect public welfare, including economic interests, visibility, vegetation, animal species, and other concerns not related to human health. The current NAAQS for these criteria pollutants are summarized in table 7 below.

Table 7: NAAQS for Criteria Pollutants Emitted by the Project

Pollutant [Final Rule Citation]	Primary or Secondary	Averaging Time	Level	Form
Carbon monoxide	Primary	8-hour	9 ppm	Not to be exceeded more than once per year
		1-hour	35 ppm	
Nitrogen Dioxide	Primary	1-hour	100 ppb	98th percentile, averaged over 3 years
	Primary and Secondary	Annual	53 ppb	Annual Mean
$PM_{2.5}$ Particle Pollution	Primary	Annual	12 µg/m3	Annual mean, averaged over 3 years
	Secondary	Annual	15 µg/m3	Annual mean, averaged over 3 years

	Primary and Secondary	24-hour	35 µg/m3	98th percentile, averaged over 3 years
PM_{10} Particle Pollution	Primary and Secondary	24-hour	150 µg/m3	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide	Primary	1-hour	75ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	Secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year
ppm = parts per million ppb = parts per billion µg/m3 = micrograms per cubic meter See https://www.epa.gov/criteria-air-pollutants/naaqs-table (accessed March 2020).				

The NAAQS are codified in 40 CFR 50. Areas of the country are designated based on compliance with the NAAQS. Designations fall under three main categories, as follows: "attainment" (areas in compliance with the NAAQS); "nonattainment" (areas not in compliance with the NAAQS); or "unclassifiable." Unclassifiable areas are treated as attainment areas for the purpose of permitting a stationary source of pollution. Areas that have been designated nonattainment but still demonstrated compliance with the ambient air quality standard(s) are designated maintenance for that pollutant. Maintenance areas may be subject to more stringent regulatory requirements to ensure continued attainment of the NAAQS.

Gage, Otoe, and Clay Counties are classified as in attainment with the NAAQS.

Regulatory Requirements for Air Quality

The Project equipment would be subject to various federal and state air quality regulations. The CAA, as amended in 1977 and 1990, and 40 CFR Parts 50 through 99 are the basic federal statutes and regulations governing air pollution in the United States. These CAA regulations ensure acceptable air quality and minimize impacts on human health. They regulate the criteria pollutants, HAPs, and VOCs, as well as provide for mechanisms to monitor GHGs.

The following federal requirements have been reviewed for applicability to operation of the Project.

- New Source Review (NSR) / Prevention of Significant Deterioration (PSD);
- Title V Operating Permits;
- New Source Performance Standards (NSPS);
- National Emission Standards for Hazardous Air Pollutants; and

- Greenhouse Gas Reporting.

Because the CAA was designed on an area-wide or regional level, our evaluation of the proposed Project also addresses impacts on local air quality in the immediate vicinity of the proposed Project, as discussed below.

For Project construction, we have evaluated applicability of another federal air quality program, referred to as General Conformity.

New Source Review/Prevention of Significant Deterioration

The CAA establishes a pre-construction permitting program called NSR which is administered by each state. There are three types of NSR permitting requirements, which depend on the scale of the new source - major or minor - and the status of the existing air quality - attainment or nonattainment. The three types are:

- PSD permits, which are required for new major sources or an existing source making a major modification in an attainment area;
- Nonattainment NSR permits, which are required for new major sources or an existing source making a major modification in a nonattainment area; and
- Minor NSR permits.

The emission rates for the Project do not exceed the significant emission rates which would define the Project as a major modification under NSR/PSD requirements. Therefore, the Beatrice Compressor Station only requires modification of the existing operation permit from NDEE prior to operation. The potential-to-emit for the proposed Project is shown in table 8 below.

Title V Operating Permits

Title V of the CAA requires states to establish an air quality operating permit program. The requirements of Title V are outlined in the federal regulations in 40 CFR 70. The operating permits required by these regulations are often referred to Title V permits.

Major sources are required to obtain a Title V operating permit. Title V major source threshold levels are 100 tons per year (tpy) for CO, SO_2, PM_{10}, or $PM_{2.5}$, 10 tpy for an individual HAP, or 25 tpy for any combination of HAPs. The recent Title V GHG Tailoring Rule also requires facilities that have the potential to emit GHGs at a threshold level of 100,000 tpy CO_{2e} be subject to Title V permitting requirements.

The Beatrice Compressor Station is currently a major PSD source and is a major Class I operation source under Title V operation permitting regulations. Northern would be required to

amend its current Title V air operation major source permit following construction of the additional compressor at Beatrice Compressor Station.

National Emission Standards for Hazardous Air Pollutants

The National Emission Standards for Hazardous Air Pollutants codified in 40 CFR Parts 61 and 63 regulate HAP emissions. Part 61 was promulgated prior to the 1990 Clean Air Act Amendments and regulates specific HAPs, such as asbestos, benzene, beryllium, coke oven emissions, inorganic arsenic, mercury, radionuclides, and vinyl chloride.

The 1990 Clean Air Act Amendments established a list of 189 HAPs, while directing the EPA to publish categories of major sources and "area sources" of these HAPs. It also established emission standards known as the Maximum Achievable Control Technology standards.

40 CFR 63 Subpart ZZZZ establishes national emission limitations and operating limitations for HAPs emitted from stationary reciprocating internal combustion engines at major and area (minor) sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations. Subpart ZZZZ would apply to the new emergency generator proposed at the Beatrice Compressor Station, which would be an area source of HAPs. The engine would comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart JJJJ.

Greenhouse Gas Reporting

Subpart W under 40 CFR 98, the Mandatory GHG Reporting Rule, requires petroleum and natural gas systems that emit 25,000 metric tons or more of CO_{2e} per year to report annual operating emissions of GHG to the EPA.

Emissions of GHGs associated with the construction and operation of the proposed Project, including all direct and indirect emission sources were calculated and are shown in table 8 and 9 below. GHG emissions were converted to total CO_{2e} emissions. The reporting rule does not apply to construction emissions. If actual GHG emissions exceed 25,000 metric tons of CO_2e per year at any compressor station associated with the Project, Northern would be required to report the GHG emissions to EPA per 40 CFR 98.

General Conformity

The EPA promulgated the General Conformity Rule to require that the federal government not engage, support, or provide financial assistance for licensing or permitting, or approve any activity not conforming to an approved CAA implementation plan. The only Project activities that are not potentially subject to a CAA permitting program are construction activities and as such fall under the General Conformity Rule.

The General Conformity Rule is codified in 40 CFR Part 51, Subpart W and Part 93, Subpart B, *Determining Conformity of General Federal Actions to State or Federal Implementation Plans*. A conformity determination must be conducted by the lead federal agency if a federal action's construction and operational activities is likely to result in generating direct and indirect emissions that would exceed the conformity threshold (*de minimis*) levels of the pollutant(s) for which an air basin is in nonattainment or maintenance.

As noted above, the Project is proposed in areas which are all currently designated as attainment areas; therefore, the General Conformity requirements would not be applicable.

Construction Impacts and Mitigation

Construction of the Project would result in temporary increases in emissions of some pollutants due to the use of construction equipment powered by diesel or gasoline engines. Construction activities would also result in particulates in the air, mostly larger PM_{10} particulates, in the form of fugitive dust from land clearing, grading, excavation, concrete work, and vehicle traffic on paved and unpaved roads. The amount of dust generated would be a function of construction activities, soil type, moisture content, wind speed, frequency of precipitation, vehicle traffic, vehicle types, and roadway characteristics. Emissions would typically be greater during dry periods and in areas of fine-textured soils subject to surface activity.

Northern would use the following dust control techniques as needed during construction:

- cover or treat surfaces disturbed by construction activities with a dust suppressant until completion of activities at each site;
- stabilize on-site unpaved roads and off-site unpaved access roads (e.g., using water or chemical stabilizer/suppressant);
- restrict on-road vehicle speeds on unpaved roadways to 15 miles per hour;
- restore disturbed areas following construction; and
- sweep paved roads.

A summary of the estimated construction emissions for the proposed Project is presented in table 8.

Once construction activities in the area are completed, fugitive dust and construction equipment emissions would subside and the Project's related impact on air quality would terminate. Because of the implementation of the mitigation measures described by Northern and the intermittent and temporary nature of construction emissions, we conclude that the emissions from construction-related activities for the Project would be temporary and are not expected to cause or significantly contribute to a violation of any applicable ambient air quality standard or significantly affect local or regional air quality.

Table 8: Construction Emissions									
Description	Emissions (tons) [1]								
	Criteria Pollutants						CO_2e	Formal-dehyde	Total for All HAPS
	NOx	CO	VOC	SO2	PM10	PM2.5			
Clifton Compressor Station									
Engine Emissions	1.7	0.4	0.1	0.0	0.1	0.1	80	0.0	0.0
Earthmoving	-	-	-		0.0	0.0	-	-	-
Subtotal	1.7	0.4	0.1	0.0	0.1	0.1	80	0.0	0.0
Beatrice Compressor Station									
Engine Emissions	30.9	7.6	2.6	0.0	1.4	1.4	1440	0.3	0.5
Earthmoving	-	-	-	-	0.2	0.0	-	-	-
Subtotal	30.9	7.6	2.6	0.0	1.6	1.4	1440	0.3	0.5
Palmyra Compressor Station									
Engine Emissions	1.7	0.4	0.1	0.0	0.1	0.1	80	0.0	0.0
Earthmoving	-	-	-	-	0.0	0.0	-	-	-
Subtotal	1.7	0.4	0.1	0.0	0.1	0.1	80	0.0	0.0
Pipeline Abandonment (Venting)									
Subtotal	-	-	44.0	-	-	-	12,650	-	-
Total emissions	34.3	8.4	46.8	0.0	1.8	1.6	14,264	0.3	0.5

1 Earthmoving includes fugitive dust emissions from these operations.

Operational Impacts: Regional Emissions

As discussed above, air emissions from the Project would comply with applicable federal and state air quality regulations that would ensure acceptable air quality in the region. As previously described, the Beatrice Compressor Station is the only facility that would have new

emissions as a result of Project operations. The total emissions from each Project component at the station are presented in table 9.

Table 9: Operational Emissions for the Beatrice Compressor Station

Description	Emissions (tons per year)							
	Criteria Pollutants						CO_2e	Single HAP
	NO_x	CO	VOC	SO_2	PM10	PM2.5		
Solar Mars 100-16000S turbine	35.87	38.56	20.45	2.04	8.98	8.98	65,857	0.4
Process Heater	0.2	0.17	0.01	0.00	0.02	0.02	236	0.0
Emergency Generator	0.43	0.51	0.5	0.00	0.02	0.02	338	0.2
Facility Fugitives	-	-	0.77	-	-	-	127	0.0
Maximum potential emissions - Project	36.50	39.23	21.73	2.0	9.0	9.0	66,558	0.6
Existing Permitted Facility Potential Emissions	2,569	308	116	4.6	33.9	33.9	164,083	39.8
New Potential Emissions with Project	**2,606**	**347**	**138**	**6.6**	**42.9**	**42.9**	**230,598**	**40.4**
PSD/NSR major modification threshold	40.0	100.0	40.0	40.0	15.0	10.0	-	-
PSD/NSR major stationary source threshold	250.0	250.0	250.0	250.0	250.0	-	100,000	-
Title V major source threshold (Class I)	100.0	100.0	100.0	100.0	100.0	100.0	-	10.0

Operational Impacts: Local Impacts

Air dispersion modeling was performed for the Project using AERMOD, the Gaussian plume model sanctioned by the EPA. The air dispersion modeling results are summarized in the

tables below. As shown, all total concentrations would be below the NAAQS in the local vicinity of the proposed Project (table 10).

Table 10: Beatrice Compressor Station AERMOD Results and NAAQS Compliance Summary

Pollutant	Averaging Period	AERMOD (ug/m3)	Background (ug/m3)	Total (ug/m3)	NAAQS ($\mu g/m^3$)
SO2	1-HR	1.85	7	**8.85**	196
	3-HR	1.43	7	**8.43**	1300
PM10	24-HR	2.96	52	**54.96**	150
	Annual	0.1	NA	**NA**	**NA**
PM2.5	24-HR	2.96	23	**25.96**	35
	Annual	0.1	9.8	**9.90**	12
CO	1-HR	126.7	3,500	**3,627**	40,000
	8-HR	82.24	2,100	**2,182**	10,000
NOx	1-HR	31.2	18	**49.20**	188
	Annual	0.7	4	**4.70**	100

ug/m3 = micrograms per cubic meter

Conclusion

We conclude that there would not be any significant impacts from construction of the facilities proposed in this Project because the existing air quality is in conformity with the NAAQS and the temporary nature of construction activity would not be expected to lead to any significant deterioration of air quality.

There would also not be any significant impacts on air quality from operation of the Project facilities. The equipment would conform with CAA regulations that are designed to ensure acceptable regional air quality. Further, we conclude on the basis of our air modeling analysis that there would be no significant local air quality impacts.

7.2 Noise

Construction and operation of the proposed Project may affect local noise levels. The ambient sound level of a region is defined by the total noise generated within the specific environment, and usually comprises sounds emanating from natural and artificial sources. At any location, both the magnitude and frequency of environmental noise may vary considerably over the course of a day, through the week, and across months. This variation is caused in part by changing weather conditions and the effect of seasonal vegetation cover.

Two measurements used by some federal agencies to relate the time-varying quality of environmental noise to its known effects on people are the equivalent sound level (L_{eq}) and the day-night sound level (L_{dn}). The L_{eq} is an A-weighted sound level containing the same sound energy as the instantaneous sound levels measured over a specific time period. Noise levels are perceived differently, depending on length of exposure and time of day. The L_{dn} takes into account the duration and time the noise is encountered. Specifically, in the calculation of the L_{dn}, late night to early morning (10:00 pm to 7:00 am) noise exposures are penalized +10 decibels to account for people's greater sensitivity to sound during the nighttime hours. The A-weighted scale is used because human hearing is less sensitive to low and high frequencies than mid-range frequencies. For an essentially steady sound source that operates continuously over a 24-hour period, the L_{dn} is approximately 6.4 decibels above the measured L_{eq}.

In 1974, the EPA published its *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. This document provides information for state and local governments to use in developing their own ambient noise standards. The EPA has indicated that an L_{dn} of 55 decibels on the A-weighted scale (dBA) protects the public from indoor and outdoor activity interference. FERC staff has adopted this criterion and use it to evaluate the potential noise impacts from the proposed Project at noise sensitive areas (NSAs), such as residences, schools, or hospitals. Due to the 10 dBA nighttime penalty added prior to calculation of the L_{dn}, for a facility to meet the L_{dn} 55 dBA limit, it must be designed such that actual constant noise levels on a 24-hour basis do not exceed 48.6 dBA L_{eq} at any NSA. Also, in general, a person's threshold of a perceivable change in loudness on the A-weighted sound level is about 3 dBA, whereas a 6 dBA change is clearly noticeable, and a 10 dBA change is perceived as either twice or half the loud.

Construction Noise

Noise could affect the surrounding area during construction of the proposed Project components. The construction activities would be performed with standard heavy equipment, such as track-excavators, backhoes, bulldozers, dump trucks, and cement trucks. The most prevalent sound source during construction of the proposed facilities would be the internal combustion engines used to power construction equipment. The sound level impact at NSAs from construction activities is dependent on the type of construction equipment used, the duration of use for each piece of construction equipment, the amount of construction equipment used simultaneously, and the distance between the construction equipment and the NSAs.

Northern indicates that construction activities would be conducted during daylight hours (7 a.m. to 7 p.m.) unless unique circumstances arise.

Based on our analysis, the overall day-night impact of the construction to the nearest NSA would be 53.6 dBA. The noise impact from construction of the Project for the other NSAs would attenuate further with distance.

Construction would last about 10 days at most locations and approximately 7 months at the Beatrice Compressor Station. Noise associated with construction activities would be intermittent and occur mostly during daylight hours. Based on these factors, we conclude that impacts due to construction noise activities would not be significant.

Operational Noise

Northern conducted a noise analysis for the Beatrice Compressor Station site to measure existing sound levels, predict sound levels from the proposed sources, predict total sound levels, and determine noise increases. Noise levels of compressor station equipment are based on equipment specifications. The estimated sound levels are presented in table 11.

Table 11: Beatrice Compressor Station Operational Sound Pressure Level Impacts at NSAs

NSA	Distance from Compressor Station (feet)	Project Acoustic Impact (dBA)			
		Existing Ldn (Ambient, Including Existing Station)	New Turbine Ldn	Total Ldn (Existing Plus New Compression)	Increase Above Existing
NSA-1	1,100	60.8	49.8	61.2	0.4
NSA-2	1,026	73.9	50.5	73.9	0.0
NSA-3	2,500	73.8	41.3	73.8	0.0

As shown in table 11, the existing noise at the nearest NSAs is above 55 dBA. The Beatrice Compressor Station was built and went into service in the 1930s. Additional units were added in 1956, 1959, 1963, 1965 and 1972.[7] The 1972 units were replaced in 2016. As such, the operation of this facility predates our noise regulations. While the predicted L_{dn} sound levels attributable to operation of the new turbine are below 55 dBA at all of the NSAs, the total noise from operation of the modified Beatrice Compressor Station is predicted to result in a minimal increase at NSA-1 of 0.4 dBA and no increase at any of the other NSAs. FERC staff maintains

[7] See FERC Docket Nos. G-122491, CP62-233, and CP63-64.

that grandfathered compressor stations that precede the Commission's noise criteria of an L_{dn} of 55 dBA at the nearest NSAs should be held to a standard that restricts overall noise from the entire modified station from exceeding the existing station noise levels.[8]

To ensure that the actual noise levels resulting from operation of the modified Beatrice Compressor Station do not exceed existing noise levels, **we recommend that:**

- **Northern should conduct a noise survey at the Beatrice Compressor Station to verify that the noise from all the equipment operated at full capacity does not exceed the previously existing noise levels that are at or above an L_{dn} of 55 dBA at the nearby NSAs. The results of this noise survey should be filed with the Secretary of the Commission (Secretary) no later than 60 days after placing the authorized unit at the Beatrice Compressor Station into service. If a full load condition noise survey is not possible, Northern should provide an interim survey at the maximum possible horsepower load and provide the full load survey within 6 months. If any of these noise levels are exceeded, Northern should:**

  a) file a report with the Secretary on what changes are needed, for review and written approval by the Director of the Office of Energy Projects (OEP), or the Director's designee;
  b) implement additional noise control measures within 1 year of the in-service date to reduce the operating noise level at the NSAs to or below the previously existing noise level; and
  c) confirm compliance with this requirement by filing a second noise survey with the Secretary no later than 60 days after it installs the additional noise controls.

Based on the above analysis and our recommendation, we conclude that there would be no significant noise impacts from the proposed Project during operation.

8. Reliability and Safety

The transportation of natural gas by pipeline involves some risk to the public in the event of an accident and subsequent release of 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.

[8] *Guidance Manual for Environmental Report Preparation* for applications filed under the Natural Gas Act, February 2017, p. 4-133; also see 18 CFR 157.206(b)(5)(ii)(B).

The aboveground facilities associated with the Project must be designed, constructed, operated, and maintained in accordance with the USDOT 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 USDOT pipeline standards are published in 49 CFR Parts 190-199. For example, 49 CFR 192 specifically addresses natural gas pipeline safety issues, prescribes the minimum standards for operating and maintaining pipeline facilities, and incorporates compressor station design, including emergency shutdowns and safety equipment. Part 192 also requires a pipeline operator to establish a written emergency plan that includes procedures to minimize the hazards in a natural gas pipeline emergency.

The operator must also establish a continuing education program to enable customers, the public, government officials, and those engaged in excavation activities to recognize a gas pipeline emergency and report it to appropriate public officials. Northern would provide the appropriate training to local emergency service personnel before the facilities are placed in service.

The Project's construction and operation would represent a minimal increase in risk to the public; however, we are confident that with Northern's continued compliance with USDOT safety standards, operation, and maintenance requirements, the Project would be constructed and operated safely.

Polychlorinated Biphenyls

Northern's pipeline system has been historically tested for PCBs. The liquids in Northern's system south of Beatrice, Nebraska, have been documented as PCB-free. The historic PCB testing data in Northern's system has been certified by the EPA.

Liquids from Northern's system north of Beatrice are not allowed to mix with liquids in the system south of Beatrice. Because natural gas in this portion of Northern's system flows only north, the pipeline south of Beatrice, including portions of this Project, are PCB-free. PCBs have been documented at the Palmyra Compressor Station and valve appurtenances north of the Beatrice Compressor Station; the PCB concentrations in both these locations are below reportable action levels.

Specifically, Northern is planning to abandon portions of the M600A line, the M600J line, and the M590A line. The disconnects would be within existing compressor stations and would require the removal of station piping, valves, reducers, tees and other miscellaneous equipment. Prior to fully cutting the pipe for the disconnects, a hole would be cut in the top of the pipe and the pipe would be inspected for free liquids. In the event liquids are present, they would be removed by a vacuum truck prior to cutting the pipe segment. Any liquids would be disposed of through a petroleum recycler. Northern would implement its Environmental

Procedures for PCBs[9] during disconnect activities, as applicable. Therefore, impacts from potential PCB contamination are appropriately mitigated and would not be significant.

The new pipe required for the proposed Beatrice Compressor Station Unit 29 would not contain PCBs.

9. Cumulative Impacts

In accordance with NEPA and with FERC policy, we identified other actions in the vicinity of the proposed Project facilities and evaluated the potential for a cumulative impact on the environment. As defined by the Council on Environmental Quality (CEQ), a cumulative effect is the impact on the environment that results from the incremental effects of a proposed action when added to other past, present, or reasonably foreseeable future actions, regardless of the agency or party undertaking such other actions. Cumulative impacts can result from individually minor, but collectively significant actions, taking place over time. The CEQ guidance states that an adequate cumulative effects analysis may be conducted by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions. In this analysis, we consider the impacts of past projects within the defined geographic scope as part of the affected environment (environmental baseline) which were described and evaluated in the preceding environmental analysis. However, present effects of past actions that are relevant and useful are also considered. When evaluating cumulative impacts, we establish a geographic scope for each resource affected by the proposed Project, shown in table 12.

Table 12: Geographic Scope of Potential Impact of the Project

Resource	Geographic Scope
Geological Resources and Soils	Limits of Project disturbance
Groundwater, Wetlands, Surface Waters	Watershed boundary (HUC-12)
Vegetation and Wildlife	HUC-12
Land Use and Recreation	1 mile
Visual Resources	0.5 mile from the aboveground facilities
Cultural Resources	Area of potential effects
Air Quality	Construction: 0.25 mile Operation: 50 kilometers (31.1 miles)

[9] FERC Docket CP20-460; accession number 20200521-5092.

Table 12: Geographic Scope of Potential Impact of the Project	
Resource	**Geographic Scope**
Noise	Construction: 0.25 mile Operation: 1 mile
Socioeconomics and Traffic	Counties/block groups crossed by the Project

This cumulative effects analysis generally follows a method set forth in relevant CEQ and EPA guidance and focuses on potential impacts from a proposed Project on resource areas or issues where the incremental contribution could result in cumulative impacts when added to the potential impacts of other actions. To avoid unnecessary discussions of insignificant impacts and projects and to adequately address and accomplish the purposes of this analysis, an action must first meet the following three criteria to be included in the cumulative analysis:

- affect a resource potentially affected by the Project;
- cause this impact within all, or part of, the geographic scope of the Project; and
- cause this impact within all, or part of, the time span for the potential impact from the Project.

As described in section B of this EA, constructing and operating the Project would temporarily and permanently impact the environment. The Project would impact geology, soils, wetlands, vegetation and wildlife, visual resources, air quality, noise, and socioeconomics. However, throughout section B of this EA, we determined that the proposed Project would have only minimal or temporary impacts on these resources and nearly all of the Project-related impacts would be contained within or adjacent to the temporary workspace.

9.1 Projects Identified within the Geographic Scope

Appendix A identifies 24 present and reasonably foreseeable projects or actions that would occur within the Project's geographic scope. These projects were identified by a review of publicly available information; aerial and satellite imagery; and information provided by Northern. These projects include both FERC jurisdictional projects as well as other, non-jurisdictional projects.

The geographic scope for cumulative impacts on air quality is 0.25 mile from construction activities and 50 km for operation; the geographic scope for cumulative impacts on noise is 0.25 mile for noise impacts during construction and 1 mile for noise impacts during operation. For soils, the geographic scope is the limits of Project disturbance. For water resources, vegetation, and wildlife, the geographic scope is the HUC-12 watershed in which the Project is located.

The Project is expected to have no impact or a negligible impact on geologic resources and geologic hazards. The Project would not impact any waterbodies (with the exception of a drainage swale). The Project would have no effect on state-listed species and threatened and endangered species potentially occurring within the Project area. We also determined that the Project would have no effect on historic properties. The Project would not impact land use and recreation, as all temporary workspace is within Northern's existing compressor stations. The new compressor unit at the existing Beatrice Compressor Station would not change the existing viewshed. Given the lack of Project impacts on geology, surface waters, listed species, cultural resources, land use and recreation, and visual resources, cumulative impacts were not evaluated further for these resources. Therefore, we conclude that the impacts from this Project, when considered cumulatively with past, present, and reasonably foreseeable projects, would not contribute to significant cumulative impacts on these resources, and these resources will not be discussed further in this section.

9.2 Potential Cumulative Impact on Specific Resources within the Project Area

Soils

The geographic scope is defined as the area of Project disturbance for soils. Construction of the Project would result in localized impacts on soils as a result of ground-disturbing activities. Construction activities would temporarily impact approximately 29 acres of soils classified as prime farmland; however, the impacted soils are within industrial facilities and are not available for agricultural use. Inside the Beatrice Compressor Station, less than 0.5 acre of land would be converted to new gravel cover. Northern's operations and maintenance projects within the Clifton Compressor Station and the DKM salvage of Northern's abandoned pipeline segments would overlap or partially overlap the Project workspaces. These projects would not be concurrent. Northern would implement the FERC's Plan and Procedures to limit soil erosion and sedimentation and minimize impacts on soils. As the Project's impact on soils would be highly localized and limited primarily to the footprint during the period of active construction, cumulative impacts on soils would only occur if other geographically overlapping or abutting projects were constructed at the same time (and place) as the Project (and the exposure of soils to erosion and sedimentation) occurs. DKM would install erosion controls and reseed all temporary workspaces for its project. Northern would construct its operations and maintenance projects in accordance with the erosion control measures within the FERC Plan which would minimize the potential for impacts on soils. Therefore, we conclude that cumulative impacts on soils would not be significant.

Wetlands

Northern would temporarily impact approximately 0.4 acre of wetland at the Beatrice Compressor Station during construction of the proposed Project. Wetland impacts would be minimized by use of standard construction methods and mitigation measures in the Plan, Procedures, and Northern's SPCC plan. Although the DKM Project would impact wetlands during salvage of the pipeline, these areas are not within the geographic scope of the proposed

Project, where disturbance would occur. No other actions identified would impact wetlands. Therefore, there would be no cumulative impacts on wetlands.

Vegetation and Wildlife

Approximately 0.5 acre of vegetation (mowed grass) within the existing Beatrice Compressor Station would be permanently affected by the Project (see section B.3.1). All other areas affected by the Project are developed and have low suitability for vegetation or wildlife. Impacts associated with projects within the geographic scope are generally anticipated to be similar to the Project (temporary construction impacts) associated with twelve pipeline operations and maintenance projects and two salvage projects (M630 A-Line and M590A,M600A/J), with most habitat types returning to pre-construction conditions following the completion of construction activities. The majority of the land impacted by the other projects are agricultural lands (about 31 acres). The majority of the land impacted by the proposed Project is considered industrial, with 0.5 acre of vegetative land cover within the Beatrice Compressor Station to be converted to gravel cover. Therefore, due to the abundance of open land in the geographic scopes and the limited suitability of actively cultivated areas to serve as wildlife habitat, cumulative impacts on vegetation and wildlife habitat are anticipated to be minimal.

Air Quality

Multiple projects were identified within the vicinity of the Project with the potential to contribute to cumulative impacts on air quality during construction. Construction of these projects would involve the use of heavy equipment that would generate emissions of air pollutants and fugitive dust. Fugitive dust emissions would settle quickly and dust suppression measures would be implemented at the proposed Project, and other project, sites as necessary to ensure the related effects from fugitive dust are intermittent and temporary and would occur within or very near the construction areas. The potential cumulative impacts from the Project and recently completed, current, and reasonably foreseeable projects in the vicinity would be temporary and minor. Due to the limited amount of overlap of construction, minimization of fugitive dust as a result of the dust suppression measures, and the highly localized and temporary nature of construction emissions, we conclude there would be no significant cumulative impacts on air quality during construction of the Project.

No facilities with pending Title V air permits were identified within the geographic and temporal scopes for air quality of the Beatrice Compressor Station, which would be expanded as part of Northern's Project. Therefore, there would be no cumulative impacts on air quality during operation.

Noise

The Project and other projects shown in appendix A would all produce noise during construction and multiple projects were identified within the vicinity of the Project with the

potential to contribute to cumulative impacts on noise during construction. However, construction noise would be a temporary disturbance to noise receptors in the vicinity of the projects. Construction noise impacts are highly localized and attenuate quickly as the distance from the noise source increases; therefore, cumulative impacts are unlikely, unless one or more of the other projects are constructed at the same time and location. In addition, Northern proposes daytime only construction. Therefore, we conclude that the Project's construction would result in negligible cumulative noise impacts.

Operation of the new compressor unit at the existing Beatrice Compressor Station would contribute to noise impacts. None of the reasonably foreseeable projects are expected to be new sources of operational noise. Based on this information, we conclude that Project operation would not contribute to any cumulative noise impacts.

Socioeconomics and Traffic

Nine of the actions listed in appendix A are within the geographic and temporal scope of the Project for socioeconomics and traffic. The actions consist of Nebraska Department of Transportation (DOT) highway work, including mill and pavement resurfacing and bridge deck overlay or repair; construction or expansion of new commercial facilities; and salvage of natural gas pipelines. The socioeconomic impact associated with construction of the Project would be short-term and localized primarily because of the relatively short construction period (approximately seven months) for installation of the facilities. Northern anticipates that the total construction workforce would consist of 42 construction workers and inspectors. Northern does not anticipate adding additional full-time positions once construction is completed and the facilities are operational. Beneficial impacts associated with construction of the Project and other actions include temporary construction jobs and increased local spending.

The Project and other actions could result in minor increases in traffic during construction. The DOT road projects could involve temporarily closure of one lane of traffic. Northern would work with their contractor to develop travel routes for construction vehicles that would avoid the DOT construction projects to the extent practicable. Construction of the other actions and Northern's Project would potentially occur at the same time; therefore, cumulative impacts on traffic could result.

Impacts on traffic associated with construction of the Project would be localized, minor, and short term. Based on review of the potential cumulative impacts, there would be no significant cumulative socioeconomic or traffic impacts due to construction and operation of Project facilities.

9.3 Cumulative Impact Conclusion

In conclusion, when the impacts of the Project are added to other projects in the vicinity, we conclude that the cumulative impacts would be minimal. We conclude that impacts would be

primarily temporary in nature and no significant cumulative impacts would be incurred from the Project.

10. Non-Jurisdictional Future Use

This section includes the best available information regarding the environmental impacts that would result from the DKM Project. The following section describes general impacts from the overall DKM Project, whereas the above cumulative impact analysis only assessed the portions of the DKM Project within the geographic scope of the Project. Although the Commission has no authority to approve or deny the DKM Project and no ability to require any avoidance or minimization of the related impacts, we provide information here to inform stakeholders and decision-makers.

As discussed previously, after assuming ownership of the A-Line, DKM intends to reclaim most of the facilities for salvage. DKM would be required to obtain all applicable permits and approvals from federal, state, and local regulatory agencies prior to initiating activities, and to abide by permit requirements during removal of the pipeline.

Northern has stated that DKM would use a 50-foot-wide corridor centered on the pipeline, and reclamation activities would occur within Northern's easement. Prior to removal of the pipeline, DKM would contact Kansas 811 and Nebraska 811 to locate, identify, and flag existing underground utilities to prevent accidental damage during reclamation activities. DKM would use existing public and private roads and the A-Line and J-Line right-of-way to gain access to the work area. Temporary gates would be installed to allow access at fences.

Grading may occur in areas where the existing topography must be modified to create a safe and level working surface. Generally, the pipeline would be removed with trackhoes equipped with low ground-weight equipment. As the pipeline is lifted from the trench, it would be placed on cribbing adjacent to the trench. The pipeline would be continuously removed and breaks in the pipeline would be determined by foreign line crossings, road crossings, wetland/waterbody crossings, and points of inflection where bends in the pipeline preclude continuous removal. Once placed on cribbing, the pipeline would be cut into sections as needed for transport and storage. Pipe joints would be stacked within the corridor in designated load-out areas. Semi-trucks and trailers equipped with custom pipe stakes would be used to safely haul the pipe joints from the corridor.

Cleanup would be conducted in conjunction with backfill operations and land contours would be restored to pre-removal conditions. Installation of permanent erosion control devices would consist of water bars and terraces where required. In accordance with the terms of the PSA, DKM would be responsible for coordinating reclamation activities with landowners, and would assume all costs, risks, and liabilities for damages to private property.

Northern conducted a desktop review of publicly available data to identify the potential environmental effects of DKM's planned pipeline reclamation. Northern completed its

evaluation of a 75-foot-wide corridor (centered on the A-Line and J-Line) to estimate environmental effects of the pipeline salvage and land requirements are summarized in table 13. However, DKM is proposing only a 50-foot-wide corridor, so impacts would likely be about 2/3rds those shown in the table.

Table 13: Summary of Potential Environmental Effects of DKM's Pipeline Reclamation	
Facility/Resource	**Potential Effects**
M590 A-Line	
Length	41.7 miles
Total Impact	252.5 acres
Wetlands	
Forested/Shrub Wetlands	0.7 acre
Emergent Wetlands	0.7 acre
Pond	0.3 acre
Riverine	1.5 acres
Waterbodies	
Perennial	7
Ephemeral	0
Intermittent	54
Land Cover/Use	
Agricultural	181.1 acres
Developed	9.6 acres
Forested	13.4 acres
Open Land	48.1 acres
Open Water	0.2 acre
Land Ownership	
Federal	0.0
State	0.0
County/Local	0.0
Private	252.5 acres
Private water wells within 150 feet	5
Public water supply within 150 feet	0
Residences within 50 feet	0
Cultural Resources Sites Crossed	
NRHP-eligible	0
Not NRHP-eligible	2
Unevaluated	1
M600 A-Line	
Length	54.3 miles
Total Impact	328.9 acres
Wetlands	
Forested/Shrub Wetlands	1.1 acres
Emergent Wetlands	0.9 acre
Pond	1.2 acres
Riverine	2.0 acres
Waterbodies	
Perennial	10
Intermittent	63
Ephemeral	0
Land Cover/Use	

Table 13: Summary of Potential Environmental Effects of DKM's Pipeline Reclamation	
Facility/Resource	**Potential Effects**
Agricultural	221.0 acres
Developed	12.8 acres
Forested	7.4 acres
Open Land	86.9 acres
Open Water	0.8 acre
Land Ownership	
Federal	0.0
State	0.0
County/Local	0.0
Private	328.9 acres
Private water wells within 150 feet	4
Public water supply within 150 feet	0
Residences within 50 feet	0
Cultural Resources Sites Crossed	
NRHP-eligible	0
Not NRHP-eligible	1
Unevaluated	0
M600 J-Line	
Length	19.9 miles
Total Impact	120.5 acres
Wetlands	
Forested/Shrub Wetlands	0.2 acre
Emergent Wetlands	0.4 acre
Pond	<0.1 acre
Riverine	0.5 acre
Waterbodies	
Perennial	1
Intermittent	22
Ephemeral	0
Land Cover/Use	
Agricultural	82.0 acres
Developed	4.6 acres
Forested	2.1 acres
Open Land	31.7 acres
Open Water	0.1 acre
Land Ownership	
Federal	**0.0**
State	0.0
County/Local	0.0
Private	120.5 acres
Private water wells within 150 feet	1
Public water supply within 150 feet	0
Residences within 50 feet	0
Cultural Resources Sites Crossed	
NRHP-eligible	0
Not NRHP-eligible	0
Unevaluated	0

The PSA between Northern and DKM outlines certain environmental provisions agreed upon by both parties. Per this PSA, DKM would reclaim the pipeline within two years of the executed PSA and regulated substances in the pipeline (such as naturally occurring radioactive materials, pipeline coatings comprised of asbestos containing material, and PCBs) would be appropriately managed.

To reduce potential impacts on soils, topsoil would be segregated within the ditch and spoil storage areas in agricultural land. To minimize disturbance in agricultural land, topsoil would not be removed in the remaining temporary workspace. In areas where topsoil is segregated, the soils would be replaced in reverse order of removal to ensure the topsoil remains in the upper horizon. Installation of permanent erosion control devices would consist of water bars and terraces where required. Seeding would occur in accordance with the seeding recommendations provided by the local NRCS and/or landowner request. Areas requiring reseeding would be seeded within 20 days of backfill but seeding may be delayed based on the NRCS-recommended seeding window. All temporary fencing would be removed following seeding activities and the permanent fences would be replaced.

Northern conducted background research and a desktop study of the non-jurisdictional pipe to be sold for salvage. There are various previous surveys in the area and the study did identify one site, potentially eligible for listing in the NRHP, that appears to be within the area of potential effect for the pipe to be sold. The contract provides for that segment to be abandoned in place, so the site would not be affected. Northern submitted this information to the SHPO, but specifically requested no Section 106 comments for the pipe to be sold because it is not part of the FERC-jurisdictional Project.

Visual impacts would be greatest where workspace areas are adjacent to roads and may be seen by passing motorists or from residences if vegetation that provides visual screening is removed. In accordance with the terms of the PSA, DKM would restore land to its present condition after reclamation of the pipeline is complete; however, the duration of visual impacts would depend on the type of vegetation that is cleared or altered and would be shortest in open areas where the re-establishment of vegetation following construction would be relatively rapid.

Air quality and noise associated with salvage of the A-Line and J-Line would be localized. Construction emissions would result from heavy equipment burning fossil fuels and fugitive dust from ground-disturbing activities, and construction noise would result from the use of heavy equipment.

C. ALTERNATIVES

In accordance with NEPA and Commission policy, we identified and evaluated alternatives to the Project to determine whether they would be reasonable and environmentally preferable to the proposed action. These alternatives include the no action alternative, system alternatives, pipeline abandonment alternatives, and aboveground facility site alternatives. The criteria used for selecting potentially environmentally preferable alternatives are: the ability to

meet the Project's objectives, technical and economic feasibility and practicality, and whether it provides a significant environmental advantage over the proposed Project, as discussed in greater detail below. Alternatives that would not meet the Project's objective or were not feasible were not brought forward to the next level of review (i.e., the third evaluation criterion).

Our evaluation of the identified alternatives is 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. We did not receive any comments about alternatives from the landowners, stakeholders, or any state or federal resource agencies.

Evaluation Process

Through environmental comparison and application of our professional judgement, each alternative is considered to a point where it becomes clear if the alternative could or could not meet the three evaluation criteria. To ensure a consistent environmental comparison and to normalize the comparison factors, we generally use desktop sources of information (e.g., publicly available data, GIS data, aerial imagery) and assume the same right-of-way widths and general workspace requirements. Where appropriate, we also use site-specific information (e.g., field surveys or detailed designs). As described previously, our environmental analysis and this evaluation only considers quantitative data (e.g., acreage or mileage) and uses common comparative factors such as total length, amount of collocation, and land requirements. Our evaluation also considers impacts on both the natural and human environments. Impacts on the natural environment include wetlands, forested lands, geology, and other common environmental resources. Impacts on the human environment include residences, roads, utilities, and industrial and commercial development near construction workspaces. In recognition of the competing interests and the different nature of impacts resulting from an alternative 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 or discount or eliminate factors that are not relevant or may have less weight or significance.

The purpose of the Project, which is described in greater detail in section A.2, is to ensure safe and efficient operation of Northern's existing pipeline system and to replace the lost capacity from the proposed abandonment. Therefore, a preferable alternative must also accomplish the same goal of the proposed action.

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. The determination must then balance the overall impacts and all other relevant considerations. In comparing the impact between resources (factors), 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.

One of the goals of an alternatives analysis is to identify alternatives that avoid significant impacts. In section B, we evaluated each environmental resource potentially affected by the Project and concluded that constructing and operating the Project would not significantly impact these resources. Consistent with our conclusions, the value gained by further reducing the (not significant) impacts of the Project when considered against relocating the route/facility to a new set of landowners was also factored into our evaluation.

1. No Action Alternative

The no-action alternative would result in not implementing the proposed action and would avoid the potential environmental impacts associated with the Project; however, the Project objectives would not be met. On August 25, 2016, Northern experienced a pipeline rupture in Lincoln County, Kansas, on its M640A mainline, resulting in a USDOT Pipeline and Hazardous Materials Safety Administration Corrective Action Order. This order required Northern to reduce the pressure on a segment of the A-Line and conduct remedial measures such as hydrostatic tests, in-line inspections, and close-interval surveys to eliminate the pressure restriction placed on the affected segment. These activities would have environmental impacts associated with ground disturbance which would likely exceed the impacts associated with the Project. Northern identified abandonment of the A-Line as the remediation alternative in the Remedial Work Plan submitted to the USDOT, Pipeline and Hazardous Materials Safety Administration, Southwest Region, on April 5, 2017. The no-action alternative is not preferable due to the increased potential environmental impacts associated with the continued operation of the pipeline.

2. System Alternatives

The purpose of identifying and evaluating system alternatives is to determine whether the environmental impacts associated with the construction and operation of the proposed Project could be avoided or reduced by using existing, modified, or other proposed facilities rather than constructing new facilities. System alternatives are those able to meet the objectives of the Project but use a different facility (existing or proposed) or are able to otherwise use existing infrastructure to eliminate the need for the proposed facility. However, a viable system alternative must be technically and economically feasible as well as practicable and must satisfy interconnect requirements and the anticipated in-service date to fulfill commitments made to the Project customers.

Northern evaluated a no-compression system alternative. No new compression at the Beatrice Compressor Station would be required; however, Northern would need to construct approximately 16 miles of 36-inch-diameter pipeline loop along the M590D line. Conservatively, assuming a 75-foot-wide right-of-way to construct these facilities, Northern would disturb about 145 acres to construct the 16-mile-long loop, compared to the 46.2 acres of proposed disturbance. Construction of this alternative would result in greater impacts on

landowners and environmental resources than the proposed Project; therefore, we eliminated it from further consideration.

3. Pipeline Abandonment

Northern proposes to abandon in place approximately 115.9 miles of its A-Line and J-Line prior to transferring ownership to a third-party salvager. Northern has consulted with landowners along portions of the A-Line and J-Line to be abandoned regarding the third-party salvage activities. A list of landowners who have requested the pipeline not be salvaged would be provided to the third-party salvager as part of the sale. Northern stated in its July 23, 2020[10] response to FERC staff's data request that Northern would honor landowner requests for in-place abandonment of facilities.

4. Aboveground Facility Site Alternatives

Northern proposes to install a new compressor unit at the existing Beatrice Compressor Station. No new aboveground facilities are being installed as part of the abandonment activities at the Palmyra or Clifton Compressor Stations. Our review of the Project found no significant environmental impacts that would drive an evaluation of alternative sites for the proposed compressor unit, nor did we receive any comments on aboveground facility site alternatives.

Because the impacts associated with the proposed Project are not significant, and no alternative offered a significant environmental advantage, we conclude that the proposed Project is the preferred alternative to meet the Project objectives.

D. CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis in this EA, we have determined that if Northern abandons, constructs, and operates the proposed facilities in accordance with its application and supplements, approval of this proposal would not constitute a major federal action significantly affecting the quality of the human environment. We recommend that the Commission's Order (Order) contain a finding of no significant impact and include the mitigation measures listed below as conditions to any Certificate/Authorization the Commission may issue.

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

    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;

[10] FERC eLibrary accession number 20200723-5147.

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 Office of Energy Projects (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 and activities associated with abandonment 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 and abandonment activities.

3. **Prior to any construction or abandonment activities**, Northern 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 abandonment activities and facility locations shall be as shown in the EA, as supplemented by filed alignment sheets. **As soon as they are available, and before the start of construction**, Northern 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 and abandonment activities 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.

5. Northern shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all workspace rearrangements 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 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 Order and before construction or abandonment begins**, Northern shall file an Implementation Plan with the Secretary for review and written approval by the Director of OEP, or the Director's designee. Northern must file revisions to the plan as schedules change. The plan shall identify:

a. how Northern will implement the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests), identified in the EA, and required by the Order;
b. how Northern 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 Northern 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 Northern's organization having responsibility for compliance;
g. the procedures (including use of contract penalties) Northern 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. Northern shall employ at least one EI per construction spread. 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. 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
e. responsible for maintaining status reports.

8. Beginning with the filing of its Implementation Plan, Northern shall file updated status reports with the Secretary on a **biweekly** basis until all abandonment, 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 Northern'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(s) 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 Northern from other federal, state, or local permitting agencies concerning instances of noncompliance, and Northern's response.

9. Northern must receive written authorization from the Director of OEP, or the Director's designee, **before commencing abandonment activities or construction of any Project facilities.** To obtain such authorization, Northern must file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof).

10. Northern must receive written authorization from the Director of OEP, or the Director's designee, **before placing the new compressor unit at the Beatrice Compressor Station 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 completing Project abandonment and construction**, Northern shall file an affirmative statement with the Secretary, certified by a senior company official:

    a. that the facilities have been constructed and abandoned 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 Northern 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. Northern shall conduct a noise survey at the Beatrice Compressor Station to verify that the noise from all the equipment operated at full capacity does not exceed the previously existing noise levels that are at or above an L_{dn} of 55 dBA at the nearby NSAs. The results of this noise survey shall be filed with the Secretary **no later than 60 days** after placing the authorized unit at the Beatrice Compressor Station into service. If a full load condition noise survey is not possible, Northern shall provide an interim survey at the maximum possible horsepower load and provide the full load survey **within 6 months**. If any of these noise levels are exceeded, Northern shall:

    a. file a report with the Secretary on what changes are needed, for review and written approval by the Director of OEP, or the Director's designee;
    b. implement additional noise control measures **within 1 year** of the in-service date to reduce the operating noise level at the NSAs to or below the previously existing noise level; and
    c. confirm compliance with this requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls.

E. REFERENCES

Audubon, 2019. Audubon Guide to North American Birds. Available at: https://www.audubon.org/bird-guide. Accessed February 2020.

KDWPT, 2020. Threatened and Endangered Wildlife, List of Kansas Counties. Available at: https://ksoutdoors.com/Services/Threatened-and-Endangered-Wildlife/List-of-all-Kansas-Counties. Accessed February 2020.

NABCI, 2019. Bird Conservation Regions Map. Available at: http://nabcius.org/resources/birdconservation-regions-map/. Accessed February 2020.

NOGCC, 2020. Nebraska Oil and Gas Well Database. Available at: http://www.nogcc.ne.gov/RBDMSDataMining/(S(4hhigofz5jih02ohr3xktxsn))/. Accessed March 9, 2020.

NGPC. 2019, Threatened and Endangered Species Fact Sheets. Available at: http://outdoornebraska.gov/endangeredspecies/. Accessed February 2020.

USACE, 2010, Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center. Accessed August 2020.

USACE, 1987, *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS. Accessed August 2020.

USFWS, 2008. Birds of Conservation Concern 2008. U.S. Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia. December 2008. Accessed August 2020.

USFWS, 2018, Midwest Region 6 Endangered Species. Available at: https://www.fws.gov/mountain-prairie/es/endangered.php. February 2020.

USGS, 2000. Fact Sheet-165-00, Land Subsidence in the United States. Available at: https://water.usgs.gov/ogw/pubs/fs00165/. Accessed February 26, 2020.

USGS, 2014a. Earthquake Hazards – Information by Region – Kansas. Available at: https://www.usgs.gov/natural-hazards/earthquake-hazards. Accessed March 6, 2020.

USGS, 2014b. Earthquake Hazards – Information by Region – Nebraska. Available at: https://www.usgs.gov/natural-hazards/earthquake-hazards. Accessed March 6, 2020.

USGS, 2014c. Karst in the United States: A Digital Map Compilation and Database, Open File Report 2014-1156. Available at: https://pubs.usgs.gov/of/2014/1156/pdf/of2014-1156.pdf. Accessed March 9. 2020.

Walters, Robert F. "Land Subsidence in Central Kansas Related to Salt Dissolution," State Geological Survey of Kansas Bulletin 214. February 1978.

APPENDIX A

PROJECTS CONSIDERED FOR CUMULATIVE IMPACTS

Appendix A
Other Actions Considered in the Cumulative Impacts Analysis for the Proposed Project

Project	County/State	Description	Impacts within Geographic Scope	Estimated Construction Timeframe	Distance/Direction to Proposed Project	Resources Considered
Past and Present Actions						
Southeast Community College expansion	Gage County, NE	Construction of additional education buildings	~30 acres of commercial land	2019-2022	Approximately 4 miles northwest of Beatrice Compressor Station	Socioeconomics and traffic
Shortstop Convenience Store and Gas Station	Clay County, KS	Installation of convenience store and gas station facility in Clay Center, KS	Unable to determine	2020	Approximately 30 miles southeast of Clifton Compressor Station	Socioeconomics and traffic
Glavan Ford	Clay County, KS	Construction of a car dealership	Unable to determine	2020	Approximately 30 miles southeast of Clifton Compressor Station	Socioeconomics and traffic
Future Actions						
M630 A-line salvage project	Clay, Cloud, and Ottawa Counties, KS	Reclamation of approximately 47.1 miles of M630 A-Line within 75-foot-wide ROW	~12 acres of primarily agricultural land	2021-2022	Between Clifton and Tescott Compressor stations; 1.3 miles share HUC-12 with Clifton Compressor Station	Soils, water resources, vegetation, wildlife, air quality (construction), noise (construction)
M590A, M600A, and M600J salvage project	Washington and Clay Counties, KS Gage, Jefferson, Lancaster, and Otoe Counties, NE	Reclamation of approximately 115.9 miles of A-Line within 50-foot-wide ROW	~19 acres of primarily agricultural land	2022-2023	Between Clifton and Palmyra Compressor Stations 1 mile shares HUC-12 with Palmyra, 1 mile shares HUC-12 with Beatrice, and 1.2 miles	Soils, water resources, vegetation, wildlife, air quality (construction), noise (construction)

Appendix A
Other Actions Considered in the Cumulative Impacts Analysis for the Proposed Project

Project	County/State	Description	Impacts within Geographic Scope	Estimated Construction Timeframe	Distance/Direction to Proposed Project	Resources Considered
					shares HUC-12 with Clifton	
M600C-26"-X-I-N21 Clifton-Beatrice	Clay County, KS	Pipeline operations and maintenance project	<1 acre of agricultural land	2021	0.5 mile north of Clifton Compressor Station	Vegetation and wildlife
M600C-26"-X-I-Dig21 Clifton-Beatrice	Clay County, KS	Pipeline operations and maintenance project - integrity dig	<1 acre of agricultural land	2021	0.5 mile north of Clifton Compressor Station	Vegetation and wildlife
GBR-26-KS022-Comp Stn FMS1 Clifton-REM	Clay County, KS	Operations and maintenance project within Clifton Compressor Station	<1 acre of industrial land	2021	Within Clifton Compressor Station	Soils, air quality (construction), noise (construction)
M600B-24"-X-I-Mods21 Clifton-Beatrice	Clay County, KS	Operations and maintenance project within Clifton Compressor Station	<1 acre of industrial land	2021	Within Clifton Compressor Station	Soils, air quality (construction), noise (construction)
GBR-26-KS022-Comp Stn FMS1 Clifton	Clay County, KS	Operations and maintenance project within Clifton Compressor Station	<1 acre of industrial land	2021	Within Clifton Compressor Station	Soils, air quality (construction), noise (construction)
Beatrice Southeast Project	Gage County, NE	Mill and resurface 9.4 miles of road	~ 22 acres of industrial land (road)	2021-2025	Approximately 2.5 miles west of Beatrice Compressor Station	Socioeconomics and traffic
MyPlace Extended Stay Hotel	Gage County, NE	Construction of 3-4 story hotel	~2 acres of primarily commercial land	2020-2021	Approximately 6 miles north of Beatrice Compressor Station	Socioeconomics and traffic

Appendix A
Other Actions Considered in the Cumulative Impacts Analysis for the Proposed Project

Project	County/State	Description	Impacts within Geographic Scope	Estimated Construction Timeframe	Distance/Direction to Proposed Project	Resources Considered
M590C-26"-X-I-Dig21 Beatrice-Palmyra C-MCA	Gage County, NE	Pipeline operations and maintenance project - integrity dig	<1 acre of agricultural land	2021	0.4 mile northeast of Beatrice Compressor Station	Vegetation and wildlife
M600C-26"-X-I-Dig21 Clifton-Beatrice C	Gage County, NE	Pipeline operations and maintenance project - integrity dig	<1 acre of agricultural land	2021	0.4 mile southwest of Beatrice Compressor Station	Vegetation and wildlife
M600C-26"-X-I-N21 Clifton-Beatrice C	Gage County, NE	Pipeline operations and maintenance project	<1 acre of agricultural land	2021	0.4 mile southwest of Beatrice Compressor Station	Vegetation and wildlife
M590C-26"-I-N21 Beatrice-Palmyra C-MCA	Gage County, NE	Pipeline operations and maintenance project	<1 acre of agricultural land	2021	0.4 mile northeast of Beatrice Compressor Station	Vegetation and wildlife
M600B-24"-X-I-Mods21 Clifton-Beatrice B	Gage County, NE	Pipeline operations and maintenance project	<1 acre of agricultural land	2021	0.2 mile south of Beatrice Compressor Station	Vegetation and wildlife, air quality (construction), noise (construction)
Syracuse South	Otoe County, NE	Resurfacing of approximately 14 miles of road	~30 acres of industrial land (road)	2021-2025	24 miles southeast of Palmyra Compressor Station (shares HUC-12)	Socioeconomics and traffic
N-41 Bennet Project	Lancaster County, NE	Mill and resurface 16 miles of road	~35 acres of industrial land (road)	2021-2025	13 miles southwest of Palmyra Compressor Station (shares HUC-12)	Socioeconomics and traffic
M590C-26"-I-Mods20 Beatrice-Palmyra C-MCA	Otoe County, NE	Pipeline operations and maintenance project	<1 acre of agricultural land	2021	0.5 mile south of Palmyra Compressor Station	Vegetation and wildlife
Palmyra ROW Clearing	Otoe County, NE	Pipeline operations and maintenance project	<1 acre of agricultural land	2021	0.5 mile south of Palmyra Compressor Station	Vegetation and wildlife

Appendix A
Other Actions Considered in the Cumulative Impacts Analysis for the Proposed Project

Project	County/State	Description	Impacts within Geographic Scope	Estimated Construction Timeframe	Distance/Direction to Proposed Project	Resources Considered
M590C-26"-I-N21 Beatrice-Palmyra C-MCA	Otoe County, NE	Pipeline operations and maintenance project	<1 acre of agricultural land	2021	0.5 mile south of Palmyra Compressor Station	Vegetation and wildlife
M580C-30"-I-Mods21 Palmyra-Oakland C-MCA	Otoe County, NE	Pipeline operations and maintenance project	<1 acre of agricultural land	2021	0.2 mile northeast of Palmyra Compressor Station	Vegetation and wildlife, air quality (construction), noise (construction)
M590C-26"-X-I-Dig21 Beatrice-Palmyra C-MCA	Otoe County, NE	Pipeline operations and maintenance project – integrity dig	<1 acre of agricultural land	2021	0.5 mile south of Palmyra Compressor Station	Vegetation and wildlife

APPENDIX B

LIST OF PREPARERS

LIST OF PREPARERS

Crosley, Shannon – Project Manager; Geology and Soils; Land Use; Socioeconomics; Cumulative Impacts; and Alternatives
B.S., Natural Resources Management, 1999, University of Maryland, College Park

Armbruster, Ellen – Cultural Resources
M.A., Anthropology, 1986, University of Pennsylvania
B.A., Anthropology, 1979, Bryn Mawr College

Monib, Kareem – Air Quality and Noise; Reliability and Safety
M.S., Chemical Engineering, 2000, Pennsylvania State University
B.S., Chemical Engineering, 1998, University of Delaware

Poli, Kimberly – Vegetation, Wildlife, Migratory Birds, Special Status Species
B.S., BioResource Research, 2013, Oregon State University
B.A., International Studies, 2013 Oregon State University