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Enbridge – Texas Eastern  
Transmission, LP

Docket No. CP18-10-000

# TX – LA Markets Project

Environmental Assessment

Washington, D.C. 20426

## TABLE OF CONTENTS

|  |    |
|--|----|
| SECTION A – PROPOSED ACTION .....                          | 1  |
| A.1 Introduction.....                                      | 1  |
| A.2 Purpose and Need .....                                 | 1  |
| A.3 Proposed Facilities .....                              | 2  |
| A.3.1 Access Roads and Staging/Contractor Yards .....      | 2  |
| A.4 Public Review and Comment.....                         | 2  |
| A.5 Construction, Operation, and Compliance.....           | 4  |
| A.6 Aboveground Facility Construction Procedures .....     | 5  |
| A.7 Land Requirements .....                                | 5  |
| A.8 Permits, Approvals, and Regulatory Consultations ..... | 5  |
| SECTION B – ENVIRONMENTAL ANALYSIS.....                    | 7  |
| B.1 Geology.....   | 7  |
| B.2 Soils .....  | 9  |
| B.3 Water Resources.....                                   | 10 |
| B.4 Vegetation and Wildlife.....                           | 12 |
| B.5 Cultural Resources .....                               | 14 |
| B.6 Land Use, Recreation, and Aesthetics .....             | 15 |
| B.7 Air Quality and Noise .....                            | 16 |
| B.8 Reliability and Safety.....                            | 21 |
| B.9 Cumulative Impacts .....                               | 22 |
| SECTION C – ALTERNATIVES .....                             | 24 |
| C.1 No-Action Alternative .....                            | 25 |
| C.2 System Alternatives .....                              | 25 |
| C.3 Compressor Station Alternatives .....                  | 26 |
| SECTION D – STAFF CONCLUSIONS AND RECOMMENDATIONS.....     | 27 |
| SECTION E – REFERENCES .....                               | 32 |
| SECTION F – LIST OF PREPARES .....                         | 34 |

## TABLES

|  |    |
|--|----|
| Table A-1 – Permits and Approvals for Construction of the Project..... | 5  |
| Table B-1 – Potential Construction Emissions from Project (tpy).....   | 18 |
| Table B-2 – Potential Operation Emissions from Project (tpy).....      | 18 |
| Table B-3 – Noise Analysis for the Gillis CS .....                     | 20 |

## FIGURES

|                                 |   |
|---------------------------------|---|
| Figure A-1 – Location Map ..... | 3 |
|---------------------------------|---|

## TECHNICAL ACRONYMS AND ABBREVIATIONS

|                   |  |
|-------------------|--|
| BGEPA             | Bald and Golden Eagle Protection Act   |
| CAA               | Clean Air Act of 1970  |
| Certificate       | Certificate of Public Convenience and Necessity  |
| CEQ               | Council on Environmental Quality   |
| CFR               | Code of Federal Regulations  |
| CO                | carbon monoxide  |
| CO <sub>2</sub>   | carbon dioxide   |
| CO <sub>2</sub> e | carbon dioxide equivalents   |
| Commission        | Federal Energy Regulatory Commission   |
| dB                | decibel  |
| dBA               | A-weighted decibel   |
| EA                | environmental assessment   |
| EIs               | environmental inspectors   |
| ESA               | Endangered Species Act   |
| EO                | Executive Order  |
| EPA               | United States Environmental Protection Agency  |
| FERC              | Federal Energy Regulatory Commission   |
| GHG               | greenhouse gas   |
| GWP               | global warming potential   |
| HAP               | hazardous air pollutants   |
| hp                | horsepower   |
| L <sub>dn</sub>   | day-night sound level  |
| L <sub>eq</sub>   | equivalent sound level   |
| LDEQ              | Louisiana Department of Environmental Quality  |
| LDWF              | Louisiana Department of Wildlife and Fisheries   |
| MBTA              | Migratory Bird Treaty Act  |
| MOU               | Memorandum of Understanding  |
| N <sub>2</sub> O  | nitrous oxide  |
| NAAQS             | National Ambient Air Quality Standards   |
| NEPA              | National Environmental Policy Act of 1969  |
| NESHAPs           | National Emissions Standards for Hazardous Air Pollutants  |
| NGA               | Natural Gas Act  |
| NNSR              | Nonattainment New Source Review  |
| NO <sub>2</sub>   | nitrogen dioxide   |
| NOI               | <i>Notice of Intent to Prepare an Environmental Assessment for the Proposed TX-LA Markets Project and Request for Comments on Environmental Issues</i> |
| NO <sub>x</sub>   | oxides of nitrogen   |
| NSA               | Noise Sensitive Area   |
| NSR               | New Source Review  |
| OEP               | Office of Energy Projects  |
| PHMSA             | Pipeline and Hazardous Materials Safety Administration   |

|                   |   |
|-------------------|---|
| Plan              | <i>Upland Erosion Control, Revegetation, and Maintenance Plan</i>                 |
| PM                | particulate matter  |
| PM <sub>2.5</sub> | particulate matter with an aerodynamic diameter less than or equal to 2.5 microns |
| PM <sub>10</sub>  | particulate matter with an aerodynamic diameter less than or equal to 10 microns  |
| Procedures        | <i>Wetland and Waterbody Construction and Mitigation Procedures</i>               |
| PTE               | potential-to-emit   |
| PSD               | Prevention of Significant Deterioration   |
| Secretary         | Secretary of the Commission   |
| SHPO              | State Historic Preservation Office  |
| SO <sub>2</sub>   | sulfur dioxide  |
| SPCC Plan         | Spill Prevention Containment and Countermeasure Plan                              |
| T&E               | Threatened and Endangered species   |
| Texas Eastern     | Enbridge – Texas Eastern Transmission, LP   |
| tpy               | tons per year   |
| USDA              | United States Department of Agriculture   |
| USDOT             | United States Department of Transportation  |
| USFWS             | United States Fish and Wildlife Service   |
| USGS              | United States Geological Survey   |
| VOC               | volatile organic compounds  |

## **SECTION A – PROPOSED ACTION**

### **A.1 INTRODUCTION**

The staff of the Federal Energy Regulatory Commission (Commission or FERC) has prepared this environmental assessment (EA) to assess the environmental effects of constructing and operating the natural gas facilities proposed by Enbridge – Texas Eastern Transmission, LP (Texas Eastern). We<sup>1</sup> prepared this EA in compliance with the requirements of the National Environmental Policy Act of 1969 (NEPA), according to the regulations issued by the Council on Environmental Quality (CEQ) at Title 40 Code of Federal Regulations (CFR), Parts 1500–1508 (40 CFR 1500–1508), and the Commission’s regulations at 18 CFR 380.

On October 19, 2017, Texas Eastern filed an application with the Commission in Docket No. CP18-10-000 for the TX-LA Markets Project (Project) under Section 7(c) of the Natural Gas Act (NGA) and Part 157 of the Commission's regulations. Texas Eastern seeks to modify and operate an interstate natural gas transmission facility in Beauregard Parish, Louisiana.

The EA is an important and integral part of the Commission's decision on whether to issue Texas Eastern a Certificate of Public Convenience and Necessity (Certificate) to construct and operate the proposed facilities. Our principal purposes in preparing this EA are to:

- 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 impact; and
- facilitate public involvement in the environmental review process.

### **A.2 PURPOSE AND NEED**

Texas Eastern states that the purpose of the Project is to provide an additional 157,500 dekatherms per day of firm capacity to its existing 30-inch-diameter pipeline. This service is needed to meet its contractual obligations with Entergy Louisiana, LLC and Natgasoline, LLC.

Under Section 7 of the NGA, the Commission determines whether interstate natural gas transportation facilities are in the public convenience and necessity and, if so, grants a Certificate to construct and operate them. The Commission bases its decisions

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<sup>1</sup> “We,” “us,” and “our” refers to environmental staff of the Office of Energy Projects

on technical competence, financing, rates, market demand, gas supply, environmental impact, long-term feasibility, and other issues concerning a proposed project.<sup>2</sup>

### **A.3 PROPOSED FACILITIES**

The Project would involve modifications to Texas Eastern's existing Gillis Compressor Station (Gillis CS) in Beauregard Parish. The modification would include replacing two impellers and installing two gas cooling bays. The increased efficiencies in the new impellers would allow for the proposed gains in capacity.

Texas Eastern proposes to use existing public roadways and use driveways that are currently used to access the Gillis CS. No improvements or modifications to these existing roadways or driveways would be required for this Project. In addition, the Project would require no integral support facilities that are not under the jurisdiction of the Commission.

### **A.4 PUBLIC REVIEW AND COMMENT**

On December 6, 2017, the Commission issued a *Notice of Intent to Prepare an Environmental Assessment for the Proposed TX-LA Markets Project and Request for Comments on Environmental Issues* (NOI). The NOI was mailed to federal, state, and local government representatives and agencies; elected officials; Native American tribes; newspapers and libraries in the project area. No other public comment have been received to date.

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<sup>2</sup> Commission Policy Statement PL99-3

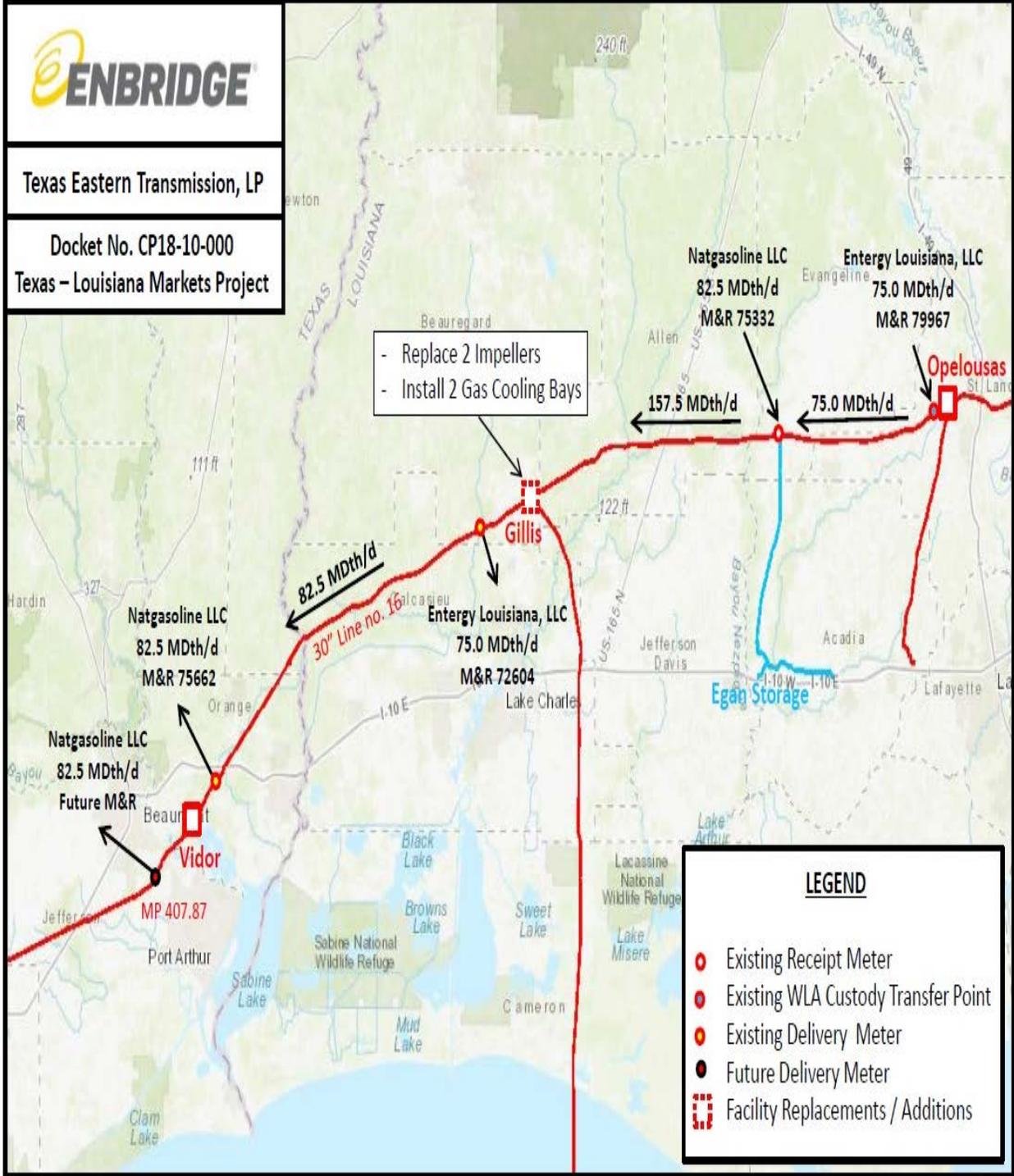


Figure A-1 – Location Map

## A.5 CONSTRUCTION, OPERATION, AND COMPLIANCE

Texas Eastern would construct, operate, and maintain the proposed Project in compliance with all applicable federal permit requirements, regulations, and environmental guidelines. Specifically, Texas Eastern would construct the Project in compliance with 49 CFR 192 – Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards which is administered by the United States Department of Transportation (USDOT) and was developed to ensure adequate protection for the public and prevent natural gas facility accidents and failures.

Texas Eastern has indicated that it would construct the Project consistent with FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan) and *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures).<sup>3</sup>

Additionally, Texas Eastern would implement its *Unanticipated Discovery and Emergency Procedures*, as well as, Texas Eastern's *Spill, Prevention, Control, and Countermeasures Plan* (SPCC Plan) and adhere to all applicable federal, state, and local regulations. Texas Eastern has requested no modifications to FERC's Plan and Procedures.

Texas Eastern would use a full-time environmental inspector (EI) that would be trained in, and responsible to ensure that construction of the Project complies with the construction procedures and mitigation measures identified in the Texas Eastern's application, the FERC Certificate, other environmental permits and approvals, and environmental requirements in landowner easement agreements. The EI would have peer status with all other activity inspectors, and have the authority to stop activities that violate the environmental conditions of the FERC Certificate, other permits, or landowner requirements, and to order the appropriate corrective action. The EIs would also be responsible for maintaining status reports and training records. In addition, the EIs would be responsible for advising the chief construction inspector when conditions (such as wet weather) make it advisable to restrict construction activities.

Texas Eastern would conduct training sessions in advance of construction to ensure that all contractor and Texas Eastern personnel working on the Project are familiar with the environmental mitigation measures appropriate to their jobs.

Texas Eastern has no definitive future plans for expansion or abandonment of the Project facilities. Future expansion or abandonment activities would require new, separate applications to the FERC.

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<sup>3</sup> The Plan and Procedures include best management practices for pipeline facility construction to minimize resource impacts. Copies of the Plan and Procedures may be accessed on our website (<http://www.ferc.gov/industries/gas/enviro/guidelines.asp>).

Construction of the Project is expected to last approximately 10 months. Texas Eastern is expected to place the Project in-service by August 1, 2019. Nighttime noise is not expected to increase during construction because construction activities are expected to be limited to daytime hours.

## **A.6 ABOVEGROUND FACILITY CONSTRUCTION PROCEDURES**

During construction, Texas Eastern would clear the sites around the aboveground facility. Erosion control devices would be installed as needed to prevent erosion and offsite impacts in accordance with Texas Eastern’s Erosion and Sediment Control Plan (E&SCP), FERC’s Plan and Procedures, and applicable state permit requirements. After construction, all temporary workspaces would be revegetated in accordance with FERC’s Plan and Procedures.

## **A.7 LAND REQUIREMENTS**

Constructing the Project would temporarily affect about 39 acres; no acres would be permanently affected by operation of the Project. All modifications at the existing Gillis CS would be conducted entirely within the existing fenced boundary. All temporary affected land would be allowed to revert to previous industrial use.

## **A.8 PERMITS, APPROVALS, AND REGULATORY CONSULTATIONS**

Texas Eastern would obtain all necessary permits, licenses, clearances, and approvals related to construction and operation of the Project. Table A-1 below summarizes the major federal and state permits for the Project.

| <b>Table A-1<br/>Permits and Approvals for Construction of the Project</b>        |   |                                      |
|---|---|--------------------------------------|
| <b>Administering Agency</b>   | <b>Permit/Approval</b>  | <b>Status</b>                        |
| <b>Federal</b>  |   |                                      |
| Federal Energy Regulatory Commission  | Certificate of Public Convenience and Necessity to construct, install, own, operate, and maintain the Project under Section 7 (c) of the NGA  | Application filed October 2017       |
| United States Department of the Interior, United States Fish and Wildlife Service | Consultation under Section 7 of the Endangered Species Act; the Migratory Bird Treaty Act; the Bald and Golden Eagle Protection Act; and the Fish and Wildlife Coordination Act (16 USC §§ 661et seq.). | Consultation completed June 27, 2017 |

| <b>Table A-1<br/>Permits and Approvals for Construction of the Project</b> |   |                                       |
|--|---|---------------------------------------|
| <b>Administering Agency</b>  | <b>Permit/Approval</b>  | <b>Status</b>                         |
| <b>State of Louisiana</b>  |   |                                       |
| Louisiana Department of Environmental Quality                              | LDEQ Insignificant Activity Determination (LAC 33:III.501.B5) and title V Minor Modification (delegated authority from EPA) | Submit Applications, March 2019       |
| Louisiana Department of Environmental Quality                              | Louisiana Pollutant Discharge Elimination System General Permit LAG670000 for Hydrostatic Testing Discharge.                | Anticipate receiving by December 2018 |
| Louisiana Department of Environmental Quality                              | Louisiana Pollutant Discharge Elimination System General Permit LAG670000 for Hydrostatic Testing Discharge.                | Consultation Completed July 19, 2017  |
| Louisiana Department of Wildlife and Fisheries                             | Review and consultation regarding state-listed threatened and endangered species.   | Consultation completed May 31, 2017   |

## **SECTION 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. Short-term impacts are defined as lasting between two and five years. Long-term impacts are defined as lasting five years or more. Permanent impacts are defined as lasting throughout the life of the Project. We use the term “Project area” to characterize the geographic scope of impacts caused by construction and operation of the proposed facilities. Direct and indirect impacts that may occur in combination with other projects in the area are discussed in the cumulative impact section of the EA, section B.9.

### **B.1 GEOLOGY**

The Project is in southwestern Louisiana within the West Gulf Coastal Plain section of the Coastal Plain Physiographic Province (U.S. Geological Survey [USGS], 2015a). The West Gulf Coastal Plain section is characterized by nearly level to moderately rolling irregular plains, which were formed by the deposition and subsequent uplift of continental marine sediments from the end of the Cretaceous period to the Pleistocene (The Nature Conservancy, 2003). The Project area is characterized by low topographic relief, dipping seaward. Elevations in the Project area range from approximately 35 to 75 feet above mean sea level. The Project area overlies unconsolidated terrace deposits of clay or mud, and silt (USGS, 2017a).

Louisiana’s primary geological resources include oil and gas production, and non-fuel mineral resources including salt, sand and gravel, crushed stone, and lime. Information regarding mining activities and locations was obtained from the USGS Mineral Resources Online Spatial Data and the Louisiana Department of Natural Resources (LDNR). Information on the presence of oil and gas fields adjacent to the Project was obtained from the LDNR. Based upon this review, no active oil and gas wells or active or inactive mines were located within 1 mile of the Project area. One dry hole with the status “plugged and abandoned” is registered 280 feet west of the Gillis CS (USGS, 2017b; LDNR, 2017). Because Project construction activities would take place entirely on previously disturbed land within an existing facility owned by Texas Eastern, and construction depths would be limited to about 6 feet, as well as the distance from mining and active oil and gas extraction facilities, we conclude that the Project would not affect mineral resource extraction activities.

## **Geologic Hazards**

Geologic hazards are natural, physical conditions that can result in damage to land and structures or injury to people. Such hazards typically are seismic-related, including earthquakes, surface faulting, and soil liquefaction; landslides, and karst terrain; or ground subsidence hazards.

## **Seismic Hazards**

Project facilities are not anticipated to be affected by induced seismicity given the distance from areas of current potentially induced seismicity and underground injection wells. Furthermore, there is very little historic seismic activity in the Project area and Project facilities do not overlie known active faults (USGS, 2017c; McCulloh, 2012).

The Project is in an area with low seismicity, including potentially induced seismicity and, as such, the potential for soil liquefaction to occur is negligible. Given these conditions, we conclude that there is a low potential for damage due to prolonged ground shaking, ground rupture, or soil liquefaction to occur within the Project area.

## **Landslides and Slope Stability**

The Project vicinity is relatively flat and areas of disturbance are limited to existing facilities which have been previously graded; therefore, hazard posed to the Project by landslides or unstable slopes is negligible. Furthermore, Texas Eastern does not anticipate using blasting during Project construction activities.

## **Ground Subsidence**

Ground subsidence, involving the localized or regional lowering of the ground surface, may be caused by karst dissolution, sediment compaction due to oil and gas and/or groundwater extraction, and the occurrence of underground mines. No karst terrain is present and the lithology that could lead to bedrock dissolution and karst development do not generally occur within the Project area.

The Project overlies the Chicot aquifer. The unconsolidated nature of this aquifer makes overlying land susceptible to subsidence from over-pumping of groundwater (USGS, 2000). We are not aware of any incidences of ground subsidence in the Project vicinity during the operational history of the existing Gillis CS and Project activities would not significantly increase groundwater withdrawals. Therefore, the Project is not anticipated to be affected by ground subsidence.

## **Floodplain**

The Project area would be outside of the 100-year and 500-year floodplains (Zone X) as determined by the Federal Emergency Management Agency (2010). Furthermore, the nearest perennial waterbody is more than 1,000 feet west of the Project. Therefore, the Project is not anticipated to adversely impact the function of the floodplain and we do not anticipate that flooding would adversely impact Project facilities.

## **B.2 SOILS**

Descriptions of the soil series crossed by the Project were obtained from the Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS, 2016). There are three soil series within the Project area: Glenmora silt loam (slopes from 1 to 3 percent), Caddo-Messer complex (slopes from 0 to 1 percent), and Guyton silt loam (slopes from 0 to 1 percent). Glenmora silt loam comprises the majority of the Project area (38.6 acres) and is not considered to be hydric or compaction prone. All soil types are classified as highly water erodible and moderately wind erodible, with a depth to bedrock of greater than 80 inches.

All construction activities would occur within the limits of the existing Gillis CS; therefore, the Project would not result in new impacts to soils.

To minimize or avoid potential impacts due to soil erosion, Texas Eastern would utilize controls that would be implemented in accordance with its E&SCP and measures within the FERC's Plan and Procedures. Temporary erosion controls would be installed immediately following land disturbing activities. These devices would be inspected on a regular basis and after each rainfall event of 0.5 inch or greater to ensure proper function. Texas Eastern would additionally utilize dust-control measures, as outlined in its Dust Control Plan including routine wetting of the construction workspace as necessary where soils are exposed. Temporary erosion control devices would be maintained until the Project area is successfully stabilized/revegetated. Disturbed areas would be reseeded following construction in accordance Texas Eastern's E&SCP and FERC's Plan and Procedures. Revegetation would be consistent with ongoing operation and maintenance of the Gillis CS.

Given Texas Eastern's proposed mitigation measures and that disturbed areas would be returned to pre-construction conditions, maintained in an herbaceous state, or stabilized with gravel cover, permanent impacts due to soil erosion or poor revegetation are not anticipated.

Contamination from spills or leaks of fuels, lubricants, and coolant from construction equipment could adversely affect soils. However, the impacts of such contamination are typically minor because of the low frequency and volumes of spills

and leaks. Measures outlined in Texas Eastern's SPCC plan would be implemented to reduce potential impacts on soils from spills of the hazardous materials used during construction. These measures include regularly inspecting equipment to ensure it is in good working order, properly training employees regarding the handling of fuels and other hazardous materials, implementing appropriate clean-up protocols, and promptly reporting any spills to the appropriate agencies.

Given the minimization and mitigation measures described above, we conclude that soils would not be significantly affected by Project construction and operation.

### **B.3 WATER RESOURCES**

#### **Surface Water and Wetlands**

No waterbodies are located within the proposed Project workspace. According to LDEQ, there are no known potable water intakes or known designated groundwater or surface water protection areas within 3 miles of the proposed Project.

Construction and operation of the Project is not anticipated to impact surface water. Texas Eastern would install erosion and sediment control devices in accordance with FERC's Plan and Procedures and its E&SCP to prevent sediment runoff from migrating off-site during construction. Further, construction workspaces would be revegetated in accordance with the E&SCP and FERC's Plan and Procedures to prevent migration of sediment offsite during operations. Texas Eastern would implement its SPCC Plan to reduce the potential for impacts on surface water from spills or leaks of hazardous liquids during construction.

No wetlands are within the Project workspace. There is one forested wetland located 30 feet away from workspace boundaries. Texas Eastern would implement the measures in its E&SCP and FERC's Plan and Procedures to avoid impacts on offsite wetlands, including restrictions on storing hazardous materials and refueling within 100 feet of a wetland.

#### *Hydrostatic Test Water*

The Project would require an estimated 15,000 gallons of water for hydrostatic testing, which would be obtained from an existing groundwater well owned by Enbridge. Texas Eastern would not use chemicals for testing hydrostatic test water would be discharged to well-vegetated and stabilized upland areas. Texas Eastern would minimize environmental impacts from the discharge of hydrostatic test water by implementing FERC's Plan and Procedures and the measures prescribed in Texas Eastern's E&SCP such as:

- locating hydrostatic test manifolds outside of riparian areas (and wetlands);
- complying with all appropriate permit requirements;
- discharging test water to a well-vegetated and stabilized area; and
- regulating the discharge rate using energy dissipation device(s), and installing sediment barriers, as necessary, to prevent erosion and sedimentation.

## **Groundwater**

The existing Gillis CS is underlain by the Chicot and the Evangeline aquifers. The Evangeline is separated in most areas from the overlying Chicot aquifer by clay beds; in some areas the clays are missing and the upper sands of the Evangeline are in direct contact with the lower sands and gravels of the Chicot (LDEQ, 2010).

Recharge to the Chicot and Evangeline aquifers primarily occurs through direct infiltration of precipitation and streamflow (LDEQ, 2010). About 15.66 million gallons of groundwater from the Chicot Aquifer and 4.23 million gallons of groundwater from the Evangeline Aquifer are withdrawn daily in Beauregard Parish (USGS, 2014b).

The U.S. Environmental Protection Agency (EPA) oversees the Sole Source Aquifer Protection Program to protect high production aquifers that supply 50 percent or more of the region's water supply. The Chicot Aquifer is a sole-source aquifer. The Project does not involve federal financial assistance and, therefore, does not require EPA review.

Texas Eastern consulted with LDEQ regarding surface water intakes and designated groundwater or surface water protection areas associated with the Project. According to LDEQ, there are no known potable water intakes or known designated groundwater or surface water protection areas within 3 miles of the proposed Project (LDEQ, 2017).

Private or public water supply wells and springs were not identified within 150 feet of the Project area with the exception of one industrial water well located within the Gillis CS fenceline. This water well is located more than 150 feet from areas planned for disturbance by construction and is protected by bollards.

The existing water well at the Gillis CS was installed in 2008 for the purpose of hydrotesting and is not connected to any water systems at the facility. Approximately 200 gallons of water each month are withdrawn from the well for operational testing. An estimated 15,000 gallons of water would be withdrawn for Project hydrostatic testing and a nominal quantity of water may also be withdrawn from this water well for dust suppression. Project groundwater usage would be negligible in comparison to the 15.66 million gallons of groundwater withdrawn daily from the Chicot Aquifer in Beauregard Parish (USGS, 2014b). Project activities would not increase operational water usage at

the Gillis CS. Based on this analysis, adverse groundwater supply impacts are not anticipated.

Texas Eastern would implement the measures outlined in its SPCC Plan to minimize the risk of potential impacts from fuel or hazardous material spills and would prohibit storage of hazardous materials and re-fueling within 200 feet of this water well. In the event that the well is damaged by construction and cannot be repaired, Texas Eastern would plug, abandon, and replace the well in accordance with applicable permits through the LDNR.

Groundwater contamination could occur from accidental spills of fuels, solvents, and lubricants used during construction at the Project sites. Texas Eastern would minimize spill-related impacts through implementation of the measures included in its SPCC plan. Therefore, we conclude that the Project would not have a significant impact on groundwater resources.

## **B.4 VEGETATION, FISHERIES, AND WILDLIFE**

### **Vegetation and Wildlife**

The Gillis CS is an existing industrial site that is fully fenced. Vegetation within the fence line consists of maintained grassy areas and sporadic mature longleaf pine. The general Project area is bordered by a mosaic of forested, agricultural, open, and developed/residential land. No invasive plant species were identified on the site. Texas Eastern would prevent the establishment of invasive species by maintaining areas with a native herbaceous cover or gravel.

No vegetation would be disturbed outside of the existing fenced and maintained areas associated with the Gillis CS, which encompasses a 39-acre commercial/industrial area. Texas Eastern would limit construction personnel and equipment to those areas within the facility fence line and existing roads that are currently used for operation of the facility. Initial clearing operations would include the removal of herbaceous vegetation within the fenced property line, using mechanical equipment. No trees would be cleared during construction. Texas Eastern would implement its E&SCP and FERC's Plan and Procedures to stabilize and revegetate construction areas to reduce disturbed soil exposure to invasive species.

Wildlife is generally not present within the fence line of the existing facility, although small animals, such as squirrels and reptiles, may occasionally occur within the maintained grasses and scattered trees that occur on the property. Species that generally occur in the Project area include American crow, European starling, common grackle, white-tailed deer, rabbits, eastern fox squirrels, armadillo, coyote, gray fox, several pocket gopher species, and opossum. Some amphibians and species adapted to wetlands may be present in the forested wetland adjacent to the facility site.

Direct mortality of small mammals, reptiles, and amphibians that are less mobile could occur during clearing activities at the facility; however, due to the disturbed nature of the limited habitat present, impacts would be negligible. Indirect wildlife impacts associated with construction noise and increased activity could occur in areas adjacent to the site. Indirect impacts could include displacement from immediately adjacent habitat and avoidance of work areas. These impacts would be temporary and wildlife would be able to return to normal activities after construction activities are complete. No significant impacts on wildlife and vegetation are anticipated during construction and operation of the proposed Project.

### **Migratory Birds**

Migratory birds are species that nest in the United States and Canada during the summer, and migrate south to 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). Executive Order (EO) 13186 directs federal agencies to identify where unintentional take is likely to have a measurable negative effect on migratory bird populations and to avoid or minimize adverse impacts on migratory birds through enhanced collaboration with the U.S. Fish and Wildlife Service (USFWS). EO 13186 states that emphasis should be placed on species of concern, priority habitats, and key risk factors, and that particular focus should be given to addressing population-level impacts. On March 30, 2011, the USFWS and the FERC entered into a Memorandum of Understanding (MOU) that focuses on avoiding or minimizing adverse impacts on migratory birds and strengthening migratory bird conservation through enhanced collaboration between the two agencies. No trees would be cleared for the Project. Therefore, impacts on migratory birds would be negligible.

Bald eagles are protected under both the MBTA and the Bald and Golden Eagle Protection Act (BGEPA). No large reservoirs or bodies of waters that could serve as bald eagle foraging habitat were identified within the Project area. No bald eagle nests were observed in the Project area during surveys conducted during May, 2017. Therefore, impacts on bald eagles are not likely. In the event that a bald eagle is encountered, construction would be conducted in compliance with the National Bald Eagle Management Guidelines.

### **Threatened and Endangered Species**

The Endangered Species Act (ESA) of 1973 protects federally listed threatened and/or endangered (T&E) species. Texas Eastern consulted with the USFWS and Louisiana Department of Wildlife and Fisheries (LDWF) to determine if any federally or state-listed T&E species (including federal candidate and/or federal and state species of special concern) or federally designated critical habitats occur within the Project area.

Two federally and/or state-listed endangered species were identified as potentially occurring in the Project area during review of applicable federal and state databases: the federally and state-listed red-cockaded woodpecker and the state-listed bald eagle.

The red-cockaded woodpecker (*Calidris canutus rufa*), listed in 1970, historically occurred in open pine forest throughout the southeastern coastal states from eastern Texas to southern Maryland, as well as certain south-central states. The woodpecker is a territorial, non-migratory species that primarily uses mature pine trees in large stands for nesting. Typically, a mature pine tree is 80 years old, and while the red-cockaded woodpecker uses different species of pine trees, the longleaf pine is preferred. Foraging habitat for the red-cockaded woodpecker is in forests of older pines with little or no mid-story. No trees would be cleared for Project construction at the Gillis CS and no mature stands of pine trees are present within the facility boundaries. The Project area is bordered by a mosaic of forested, agricultural, open, and developed/residential land. No pristine open and mature pine forests are present in the immediate vicinity of the Project. Therefore, since suitable habitat is not present, the Project would have no effect on the red-cockaded woodpecker.

As stated above, the Project is not likely to affect bald eagles, as there is limited suitable habitat and no nests mapped within the vicinity of the Project. On June 27, 2017, the USFWS concurred that the Project would have no effect on federally listed species (EDGE, 2017). In addition, the LDWF indicated that the Project would have no impacts on state-listed rare, threatened, or endangered species and their associated critical habitats (LDWF, 2017).

## **B.5 CULTURAL RESOURCES**

Texas Eastern consulted with the Louisiana State Historic Preservation Officer (SHPO) regarding the need for a cultural resources survey at the existing Gillis CS. Since the station was previously surveyed in 2003 and no sites were identified, and all of the work proposed for this project would take place within disturbed areas, Texas Eastern recommended that no survey be required for the project. On July 19, 2017 the SHPO concurred. We also concur.

On May 30, 2017 Texas Eastern wrote to the Caddo Nation, the Alabama Coushatta Tribe of Texas, the Chitimacha Tribe of Louisiana, the Choctaw Nation of Oklahoma, the Coushatta Tribe of Louisiana, the Jena Band of Choctaw Indians, the Mississippi Band of Choctaw Indians, and the Tunica Biloxi Tribe of Louisiana to request their comments on the project. In an email dated July 27, 2017 the Choctaw Nation of Oklahoma responded to Texas Eastern that there were no known Choctaw-related sites in the Project area. On December 6, 2017 we sent our NOI to the same tribes to notify them of the project. No other responses have been received to date.

Texas Eastern has prepared a plan in the event that any unanticipated historic properties or human remains were encountered during construction. We requested revisions to the plan which Texas Eastern has made. We find the revised plan to be acceptable.

Therefore, we have determined based on information provided by Texas Eastern and consultations with the SHPO and Indian Tribes that no properties listed in or eligible for listing in the National Register of Historic Places would be affected by the Project.

## **B.6 LAND USE, RECREATION, AND AESTHETICS**

### **Land Use**

Land uses in the Project areas consist only of commerce/industrial land. In total, about 39 acres of land would be disturbed during construction and no land outside the existing compressor station fenceline would be disturbed.

The Project would not affect any federally-designated or recognized natural, recreational, or scenic areas, wildlife refuges, National Parks, state parks, golf courses, public or private hunting areas, Indian reservations, wild and scenic rivers, trails, wilderness areas, or natural landmarks or other public lands. The Project would not cross or impact coastal zone management areas.

Commerce/industrial land use would be temporarily affected by construction activities. However, no permanent impacts would occur to wetlands, open land, forested land, residential land or agricultural land. Furthermore, there are no residences within 50 feet of the Project.

### **Visual Resources**

The Project could alter existing visual resources during construction activity and equipment may temporarily alter the viewshed. However, the proposed Project would have no added visual impact once construction is complete. Therefore, we conclude that the Project would not have a significant impact on visual resources.

Based on the proximity of existing industrial infrastructure and the limited scope of activity, we do not anticipate that the Project would have a significant impact on land use, recreational activities, or visual resources.

## **B.7 AIR QUALITY AND NOISE**

### **Air Quality**

Federal and state air quality standards are designed to protect human health. The EPA has developed National Ambient Air Quality Standards (NAAQS) for criteria air pollutants such as oxides of nitrogen (NO<sub>x</sub>) and carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), and inhalable particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>). PM<sub>2.5</sub> includes particles with an aerodynamic diameter less than or equal to 2.5 micrometers, and PM<sub>10</sub> includes particles with an aerodynamic diameter less than or equal to 10 micrometers. The NAAQS were set at levels the EPA believes are necessary to protect human health and welfare. Volatile organic compounds (VOC) are regulated by EPA mostly to prevent the formation of ozone, a constituent of photochemical smog. Many VOCs form ground-level ozone by reacting with sources of oxygen molecules such as NO<sub>x</sub> in the atmosphere in the presence of sunlight. NO<sub>x</sub> and VOCs are referred to as ozone precursors. Hazardous air pollutants (HAP) are also emitted during fossil fuel combustion and are suspected or known to cause cancer or other serious health effects; such as reproductive effects or birth defects; or adverse environmental effects.

During construction of the Project, GHGs would be emitted from construction equipment. Emissions of GHGs are typically expressed in terms of CO<sub>2</sub> equivalents (CO<sub>2e</sub>).

If measured ambient air pollutant concentrations for a subject area remain below the NAAQS criteria, the area is considered to be in attainment with the NAAQS. The Project area is in attainment for all NAAQS.

The Clean Air Act is the basic federal statute governing air pollution in the United States. We have reviewed the following federal requirements and determined that they are not applicable to the proposed Project:

- New Source Review;
- Title V;
- National Emissions Standards for Hazardous Air Pollutants;
- New Source Performance Standards;
- Greenhouse Gas Reporting Rule; and
- General Conformity.

During construction, a temporary reduction in ambient air quality may result from criteria pollutant emissions and fugitive dust generated by construction equipment. The quantity of fugitive dust emissions would depend on the moisture content and texture of the soils that would be disturbed. Fugitive dust and other emissions due to construction activities generally do not pose a significant increase in regional pollutant levels;

however, local pollutant levels could increase. Dust suppression techniques, such as watering the right-of-way may be used as necessary in construction zones near residential and commercial areas to minimize the impacts of fugitive dust on sensitive areas.

### **State Air Quality Regulations**

This section discusses the potentially applicable state air regulations for the proposed facility. In addition to federal standards, the State of Louisiana has established permit requirements under Louisiana Administrative Code Title 33 (LAC 33:III.501.B.5) for insignificant activities. Copies of any updates to the facility's air permit would be filed with the FERC once it becomes available.

### **Construction Impacts and Mitigation**

The construction phase of the proposed Project would result in the generation of diesel and gasoline combustion emissions associated with the operation of construction equipment and vehicles. Texas Eastern would use construction equipment and vehicle engines that are properly maintained and comply with EPA mobile and non-road emission regulations. Equipment would be operated on an as-needed basis.

Project construction would occur over an approximate 10-month period commencing in the fall of 2018. These construction emissions would occur over the duration of construction activity and would be emitted at different times and locations throughout the Project. Fugitive dust would result 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 activity, soil type, soil moisture content, wind speed, precipitation, vehicle traffic, vehicle types, and roadway characteristics. Emissions would be greater during dry periods and in areas of fine-textured soils subject to surface activity. Texas Eastern has prepared a Dust Control Plan<sup>4</sup> that describes the mitigation measures that would be implemented to control fugitive dust during Project construction. We have reviewed the Dust Control Plan and find it acceptable.

Based on the short duration of construction activities, and our review of the estimated emissions from construction of the proposed Project, we do not believe there would be regionally significant impacts on air quality from construction. Below in table B-1 are the construction emissions.

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<sup>4</sup> The Applicants' Dust Control Plan was included as appendix 1D to Resource Report 1 in its October 2017 application (Accession No. 20171019-5164). The Dust Control Plan can be viewed on the FERC website at <http://www.ferc.gov>. Using the "eLibrary" link, select "Advanced Search" from the eLibrary menu and enter 20171019-5164 in the "Numbers: Accession Number" field.

| <b>Table B-1</b>   |             |             |                       |             |                        |                         |                        |             |
|--|-------------|-------------|-----------------------|-------------|------------------------|-------------------------|------------------------|-------------|
| <b>Potential Construction Emissions from Project (tpy)</b> |             |             |                       |             |                        |                         |                        |             |
| <b>Source</b>  | <b>NOx</b>  | <b>CO</b>   | <b>SO<sub>2</sub></b> | <b>VOC</b>  | <b>PM<sub>10</sub></b> | <b>PM<sub>2.5</sub></b> | <b>CO<sub>2e</sub></b> | <b>HAPs</b> |
| <b>Gillis Compressor Station</b>                           |             |             |                       |             |                        |                         |                        |             |
| <b>2018 Project Construction Emissions</b>                 |             |             |                       |             |                        |                         |                        |             |
| Fugitive dust emissions                                    | 0           | 0           | 0                     | 0           | 6.43                   | 0.64                    | 0                      | 0           |
| Construction engine emissions                              | 1.44        | 0.66        | 0                     | 0.19        | 0.08                   | 0.08                    | 501                    | 0.16        |
| Emissions from commuting                                   | 0.49        | 0.91        | 0                     | 0.1         | 0.03                   | 0.03                    | 146                    | 0           |
| <b>Total (TPY)</b>   | <b>1.93</b> | <b>1.58</b> | <b>0</b>              | <b>0.3</b>  | <b>6.54</b>            | <b>0.75</b>             | <b>647</b>             | <b>0.18</b> |
| <b>2019 Project Construction Emissions</b>                 |             |             |                       |             |                        |                         |                        |             |
| Fugitive dust emissions                                    | 0           | 0           | 0                     | 0           | 15                     | 1.5                     | 0                      | 0           |
| Construction engine emissions                              | 2.43        | 1.18        | 0.01                  | 0.33        | 0.13                   | 0.13                    | 845                    | 0.29        |
| Emissions from commuting                                   | 1.14        | 2.13        | 0                     | 0.24        | 0.07                   | 0.07                    | 341                    | 0.04        |
| <b>Total (TPY)</b>   | <b>3.57</b> | <b>3.31</b> | <b>0.01</b>           | <b>0.57</b> | <b>15.2</b>            | <b>1.7</b>              | <b>1186</b>            | <b>0.33</b> |

## Operational Impacts and Mitigation

Table B-2 below show the emissions from the proposed Project.

| <b>Table B-2</b>  |               |              |                       |              |                        |                         |                        |             |
|---|---------------|--------------|-----------------------|--------------|------------------------|-------------------------|------------------------|-------------|
| <b>Potential Operational Emissions from the Project (tpy)</b> |               |              |                       |              |                        |                         |                        |             |
| <b>Source</b>   | <b>NOx</b>    | <b>CO</b>    | <b>SO<sub>2</sub></b> | <b>VOC</b>   | <b>PM<sub>10</sub></b> | <b>PM<sub>2.5</sub></b> | <b>CO<sub>2e</sub></b> | <b>HAPs</b> |
| <b>Gillis CS</b>  |               |              |                       |              |                        |                         |                        |             |
| Fugitive Emissions  | 0             | 0            | 0                     | 1.5          | 0                      | 0                       | 132                    | 0.25        |
| Existing Gillis CS  | 247.59        | 0.66         | 4.43                  | 46.39        | 2.09                   | 2.09                    | 56,337                 | 6.07        |
| <b>Total (TPY)</b>  | <b>247.59</b> | <b>72.89</b> | <b>4.43</b>           | <b>47.89</b> | <b>2.09</b>            | <b>2.09</b>             | <b>56,469</b>          | <b>6.32</b> |
| <b>PSD/NNSR Permitting Thresholds</b>                         | <b>250</b>    | <b>250</b>   | <b>250</b>            | <b>250</b>   | <b>250</b>             | <b>250</b>              | <b>N/A</b>             | <b>N/A</b>  |

The Project would result in direct and indirect GHG emissions. GHG emissions were included in table B-2. The modification to Gillis CS would result no changes to operational emissions; however, there would be a minor increase of fugitive emissions of VOC, HAPs, and GHG; from the new piping, due to the increase in volume and pressure from the two new impellers. However, based on our analyses, we conclude that the Project would not result in any significant operational emission impacts on the surrounding air quality.

## Noise

The noise environment can be affected both during construction and operation of pipeline projects. The magnitude and frequency of environmental noise may vary considerably over the course of the day, throughout the week, and across seasons, in part due to changing weather conditions and the effects of seasonal vegetative cover. Two measures to relate the time-varying quality of environmental noise to its known effect on people are the 24-hour equivalent sound level ( $L_{eq}$ ) and day-night sound level ( $L_{dn}$ ). The  $L_{eq}$  is the level of steady sound with the same total (equivalent) energy as the time-varying sound of interest, averaged over a 24-hour period. The  $L_{dn}$  is the  $L_{eq}$  plus 10 decibels on the A-weighted scale (dBA) added to account for people's greater sensitivity to nighttime sound levels (between the hours of 10 p.m. and 7 a.m.). The A-weighted scale is used because human hearing is less sensitive to low and high frequencies than mid-range frequencies. The human ear's threshold of perception for noise change is considered to be 3 dBA; 6 dBA is clearly noticeable to the human ear, and 10 dBA is perceived as a doubling of noise.

Construction noise is highly variable. Many construction machines operate intermittently, and the types of machines in use at a construction site change with the construction phase. The sound level impacts on residences would depend on the type of equipment used, the duration of use for each piece of equipment, the number of construction vehicles and machines used simultaneously, and the distance between the sound source and receptor. Nighttime noise due to construction would be limited since construction generally occurs during daylight hours, Monday through Saturday.

### Federal and State Noise Regulations

In 1974, the EPA published *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 dBA protects the public from indoor and outdoor activity interference. We have adopted this criterion and use it to evaluate the potential noise impacts from the proposed Project at noise-sensitive areas (NSAs). Due to the 10 dBA nighttime penalty added prior to the calculation of the  $L_{dn}$ , for a facility to meet the 55 dBA  $L_{dn}$  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.

No other state or local noise regulations were identified for the Project.

### Ambient Noise Conditions

Land use in the vicinity of the Gillis CS consists of agricultural land, forested land, open land, industrial/commercial land, and residential land. An acoustical analysis of the

ambient noise at the nearest noise sensitive areas (NSAs) near the Gillis CS was completed on February 15, 2018 and the results are summarized in table B-3.

### Construction Noise Impacts and Mitigation

Noise would be generated during construction of the Project. Construction activities in any one area could last from several weeks to several months on an intermittent basis. Construction equipment would be operated on an as-needed basis during this period. While individuals in the immediate vicinity of the construction activities would experience an increase in noise, this effect would be temporary and local. Noise mitigation measures that would be employed during construction include ensuring that the sound muffling devices, which are provided as standard equipment by the construction equipment manufacturer, are kept in good working order. If needed, additional noise abatement techniques and other measures could be implemented during the construction phase to mitigate construction noise disturbances at NSAs.

### Operational Noise Impacts and Mitigation

The proposed modification would generate some noise when operating. The noise impacts associated with the gas coolers and impellers would attenuate with distance from the Gillis CSs. The specific operational noise sources associated with the gas coolers and the estimated impacts at the nearest NSAs are described below. Texas Eastern provided an acoustical analyses for NSAs nearest to each Project. The results of the noise surveys are presented in table B-3.

| <b>NSA</b> | <b>Distance and Direction of Closest NSAs</b> | <b>Maximum Sound Levels at Gillis CS Operating at Full Load (<math>L_{dn}</math>) Ambient</b> | <b>Estimated Sound Levels of Proposed Gas Coolers (<math>L_{dn}</math>)</b> | <b>Total Estimated Sound Levels (<math>L_{dn}</math>)</b> | <b>Estimated Potential Noise Increase (dB)</b> |
|------------|---|---|---|---|--|
| NSA #1     | 400 feet (East)                               | 69.0  | 48.1  | 69.0  | 0  |
| NSA #2     | 1,050 feet (West)                             | 63.5  | 38.8  | 63.4  | 0  |
| NSA #3     | 850 feet (Northeast)                          | 64.0  | 44.4  | 64.0  | 0  |

The proposed modification are unlikely to result in an increase in noise level. However, because the existing noise levels exceeds an  $L_{dn}$  of 55 dBA, we are recommending a condition to ensure Texas Eastern conducts the noise survey.

**Texas Eastern shall conduct a noise survey at the Gillis CS 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 of the Commission (Secretary) no later than 60 days after placing the modified units in service. If any of these noise levels are exceeded, Texas Eastern shall, within 1 year of the in-service date, implement additional noise control measures to reduce the operating noise level at the NSAs to or below the previously existing noise level. Texas Eastern shall 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.**

The acoustical analysis shows that there would be no increase in noise due to the additional equipment at Gillis CS. Therefore, based on the analyses, and our recommendation, we conclude that the Project would not result in significant noise impacts on residents, and the surrounding communities.

## **B.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.

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 Part 192. The regulations are intended to ensure adequate protection for the public and to prevent natural gas facility accidents and failures.

The USDOT standards are published in Parts 190-199 of Title 49 of the CFR. Part 192 of 49 CFR specifically addresses natural gas safety issues, prescribes the minimum standards for operating and maintaining facilities, and incorporates compressor station design, including emergency shutdowns and safety equipment.

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.

The Project's facilities associated must be designed, constructed, operated, and maintained in accordance with USDOT standards, including the provisions for written emergency plans and emergency shutdowns. Texas Eastern 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 minimum increase in risk to the public and we are confident that with the options available in the detailed design of the Project's facilities, that they would be constructed and operated safely.

## **B.9 CUMULATIVE IMPACTS**

The Project area was settled by American and European settlers in the 1800s, during which the primary industries were cattle ranching and agriculture. This continued and by 1900s most of the Project area's labor force worked in cattle ranching and agriculture. By the first quarter of the 20<sup>th</sup> century, farming had overtaken the region, with cotton becoming the most important cash crop. Today, the Project area economy is supported by energy, chemical and maritime industries, agriculture, and industrial manufacturing.

In accordance with NEPA, we identified other actions located in the vicinity of the Project facilities and evaluated the potential for a cumulative impact on the environment. As defined by the CEQ, a cumulative effect is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. 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 as part of the affected environment (environmental baseline) which was described and evaluated in the preceding environmental analysis. However, present effects of past actions that are relevant and useful are considered.

As described in the environmental analysis section of this EA, constructing and operating the Project would temporarily and permanently impact the environment. The Project would not impact geology, wetlands, or cultural resources and we do not consider these resources further. The Project would impact soils, water resources, vegetation, wildlife, visual resources, air quality, noise, and some land uses. However, we conclude that these impacts would not be significant.

Construction and operation of the Project would not go beyond the existing industrial boundary of the facility. Therefore, we have determined, based on the scope and location of the Project that the impacts of the Project on soils, groundwater, vegetation, operational air emissions, and wildlife, when added to the impacts of other present and reasonably foreseeable future actions would not result in a discernable cumulative impact on these resources.

Cumulative impacts on land use; construction air quality; and noise could occur and are discussed further. The geographic scope boundary for each remaining resource as well as regulatory guidance to determine the geographic scope for each resource was used to define the scope of this analysis.

Based on the impacts of the Project as identified and described in this EA, a discussion of our analysis was based on the following resource-specific geographic scopes appropriate to assess cumulative impacts for the Project area. Actions located outside these geographic scopes are not evaluated because their potential to contribute to a cumulative impact diminishes with increasing distance from the Project.

Temporary impacts on air quality, including fugitive dust, would be largely limited to areas immediately around active construction, within about a 0.25-mile radius.

Land use impacts are highly localized. Therefore, we evaluated projects/actions that are within 0.5 mile of the Project.

Noise impacts are highly localized and attenuates quickly; therefore, we used a geographical scope of 1 miles.

We identified no projects or actions within the defined geographic scopes. Therefore, we concluded that the Project would contribute to cumulative impacts on the affected resources.

## **SECTION C – ALTERNATIVES**

In accordance with NEPA, we evaluated alternatives to Texas Eastern’s proposed action. Our evaluation criteria for selecting potentially preferable alternatives are:

- ability to meet the objectives of the proposed action (i.e., providing additional capacity to transport 157,000 dekatherms per day of natural gas);
- technically and economically feasible and practical; and
- provides a significant environmental advantage over the proposed action.

Our evaluation of alternatives is based on project-specific information provided by the applicant and publicly available information; our consultations with federal and state resource agencies; and our expertise and experience regarding the siting, construction, and operation of natural gas facilities and their potential impact on the environment.

### **Evaluation Process**

Through environmental comparison and application of our professional judgment, 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 general workspace requirements. Where appropriate, we also use site-specific information (e.g., field surveys or detailed designs). Our environmental analysis and this evaluation consider quantitative data (e.g., acreage or mileage) and uses common comparative factors such as engineering constraints and land requirements.

The alternatives were reviewed against the evaluation criteria in the sequence presented above. The first consideration for including an alternative in our analysis is whether or not it could satisfy the stated purpose of the project. An alternative that cannot achieve the purpose for the project cannot be considered as an acceptable replacement for the project. All of the alternatives considered here are able to meet the project purpose stated in section A.2 of this EA.

Many alternatives are technically and economically feasible. Technically practical alternatives, with exceptions, would generally require the use of common construction methods. An alternative that would require the use of a new, unique or experimental construction method may not be technically practical because the required technology is not available or unproven. Economically practical alternatives would result in an action that generally maintains the price competitive nature of the proposed action. Generally, we do not consider the cost of an alternative as a critical factor unless the added cost to design, permit, and construct the alternative would render the project economically impractical.

Determining if an alternative provides a significant environmental advantage requires a comparison of the impacts on each resource as well as an analysis of impacts on resources that are not common to the alternatives being considered. In comparing the impact between resources, we also considered the degree of impact anticipated on each resource. Ultimately, an alternative that results in equal or minor advantages in terms of environmental impact would not compel us to shift the impacts from the current set of landowners to a new set of landowners.

One of the goals of an alternatives analysis is to identify alternatives that avoid significant impacts. In section B of this EA, 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 the cost of relocating the facility to a new set of landowners was also factored into our evaluation.

## **C.1 NO-ACTION ALTERNATIVE**

Under the no-action alternative, modifications to the existing compression or appurtenant facilities would not be constructed and the Project objectives to provide additional natural gas supplies and firm transportation services would not be met. The existing facilities would continue to operate under current conditions and the environmental impacts identified in this EA would not occur. If the Project is not built, Texas Eastern's customers would likely seek alternatives to meet increasing demand of natural gas supplies, which could include the construction and operation of other facilities. Because of the limited footprint of the proposed action, we conclude that it is likely that the other facilities that would need to be constructed to replace the Project would have equal or greater impacts. Therefore, the no-action alternative would not offer a significant environmental advantage over the proposed Project. In addition, the no-action alternative would not meet the objectives of the proposed action.

## **C.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 other existing, modified, or other proposed facilities rather than modifying the existing Gillis CS. We did not identify system alternatives that would meet the Project objectives and provide a significant environmental advantage.

### **C.3 COMPRESSOR STATION ALTERNATIVES**

The capacity of a pipeline is primarily a function of the diameter of the pipeline. Once the capacity of the pipeline is reached, the pipeline capacity needs to be expanded in order to transport additional gas. This expansion can be achieved by building a new compressor station or adding a new pipeline parallel to the existing pipeline (i.e., looping). We evaluated both approaches to the additional capacity provided by Texas Eastern's proposed Project.

We did not consider alternative locations for the proposed modifications to existing compressor stations because we did not identify alternative locations that could provide a significant environmental advantage over work proposed within an existing developed environment. No public comments or stakeholders suggested an alternative location for our consideration.

#### **Conclusion**

We reviewed alternatives to Texas Eastern's proposal based on our independent analysis. During our review, we received no requests from stakeholders to consider alternatives. Our analysis concludes that no system or alternative site alternatives provide a significant environmental advantage over the Project. In summary, we have determined that the proposed action, along with our recommended mitigation measures, is the preferred action that can meet the Project's objectives.

## SECTION D – STAFF CONCLUSIONS AND RECOMMENDATIONS

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

1. Enbridge - Texas Eastern Transmission, L.P. (Texas Eastern) shall follow the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests) and as identified in the EA, unless modified by the Order. Texas Eastern must:
  - a. request any modification to these procedures, measures, or conditions in a filing with the Secretary of the Commission (Secretary);
  - b. justify each modification relative to site-specific conditions;
  - c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
  - d. receive approval in writing from the Director of Office of Energy Projects (OEP) **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 all environmental resources during construction and operation of the Project. This authority shall allow:
  - a. the modification of conditions of the Order;
  - b. stop-work authority; and
  - c. the imposition of any additional measures deemed necessary to ensure continued compliance with the intent of the conditions of the Order as well as the avoidance or mitigation of unforeseen adverse environmental impact resulting from Project construction and operation activities.
  
3. **Prior to any construction**, Texas Eastern shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, environmental inspectors (EIs), and contractor personnel will be informed of the EI's authority and have been or will be trained on the implementation of the environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.

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

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

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

- a. implementation of cultural resources mitigation measures;
  - b. implementation of endangered, threatened, or special concern species mitigation measures;
  - c. recommendations by state regulatory authorities; and
  - d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.
- 
6. **Within 60 days of the acceptance of the authorization and before construction** begins, Texas Eastern shall file an Implementation Plan with the Secretary for review and written approval by the Director of OEP. Texas Eastern must file revisions to the plan as schedules change. The plan shall identify:

- a. how Texas Eastern 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 Texas Eastern 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 Texas Eastern 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 Texas Eastern's organization having responsibility for compliance;
  - g. the procedures (including use of contract penalties) Texas Eastern 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. Texas Eastern shall employ at least one EI for the Project. 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, Texas Eastern shall file updated status reports with the Secretary on a **monthly basis until all construction and restoration activities are complete**. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:
  - a. an update on Texas Eastern's efforts to obtain the necessary federal authorizations;
  - b. the construction status of the Project, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally sensitive areas;
  - c. a listing of all problems encountered and each instance of noncompliance observed by the EI during the reporting period both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies;
  - d. a description of the corrective actions implemented in response to all instances of noncompliance;
  - e. the effectiveness of all corrective actions implemented;
  - f. a description of any landowner/resident complaints that 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 Texas Eastern from other federal, state, or local permitting agencies concerning instances of noncompliance, and Texas Eastern's response.
9. Texas Eastern must receive written authorization from the Director of OEP **before commencing construction of any Project facilities**. To obtain such authorization, Texas Eastern must file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof).
10. Texas Eastern must receive written authorization from the Director of OEP **before placing the Project into service**. Such authorization would only be granted following a determination that rehabilitation and restoration of the areas affected by the project are proceeding satisfactorily.
11. **Within 30 days of placing the authorized facilities in service**, Texas Eastern shall file an affirmative statement with the Secretary, certified by a senior company official:
  - a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities would be consistent with all applicable conditions; or

- b. identifying which of the Certificate conditions Texas Eastern 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. Texas Eastern shall conduct a noise survey at the Gillis 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 decibels on the A-weighted scale at the nearby noise sensitive areas. The results of this noise survey shall be filed with the Secretary **no later than 60 days** after placing the modified units in service. If any of these noise levels are exceeded, Texas Eastern shall, within 1 year of the in-service date, implement additional noise control measures to reduce the operating noise level at the NSAs to or below the previously existing noise level. Texas Eastern shall 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.

## SECTION E – REFERENCES

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