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**Dominion Energy Carolina Gas Transmission, LLC**

**Docket No. CP17-3-000**

# Line A Abandonment Project

## Environmental Assessment

Washington, DC 20426

# ENVIRONMENTAL ASSESSMENT

# LINE A ABANDONMENT PROJECT

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## ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| ACHP | Advisory Council on Historic Preservation |
| ATWS | additional temporary work space |
| BGEPA | Bald and Golden Eagle Protection Act |
| CFR | Code of Federal Regulations |
| $CH_4$ | methane |
| CO | carbon monoxide |
| $CO_2$ | carbon dioxide |
| Commission | Federal Energy Regulatory Commission |
| dBA | decibel level on the A-weighted scale |
| DECG | Dominion Energy Carolina Gas Transmission, LLC |
| EA | environmental assessment |
| EI | environmental inspector |
| EPA | U.S. Environmental Protection Agency |
| ESA | Endangered Species Act |
| FERC | Federal Energy Regulatory Commission |
| GHG | greenhouse gas |
| HUC | hydrologic unit code |
| $L_{dn}$ | day-night sound level |
| $L_{eq}$ | equivalent sound level |
| MBTA | Migratory Bird Treaty Act |
| MOU | Memorandum of Agreement |
| $N_20$ | nitrous oxide |
| NEPA | National Environmental Policy Act |
| NAAQS | National Ambient Air Quality Standards |
| NHPA | National Historic Preservation Act |
| NOAA | National Oceanic and Atmospheric Administration |
| NOI | Notice of Intent |
| $NO_x$ | nitrogen oxide |
| NRCS | Natural Resources Conservation Service |
| NRHP | National Register of Historic Places |
| OEP | Office of Energy Projects2 |
| $Pla_n$ | FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan* |
| $PM_{2.5}$ | particulate matter with a diameter of 2.5 micrometers |
| $PM_{10}$ | particulate matter with a diameter of 10 micrometers |
| Procedures | FERC's *Wetland and Waterbody Construction and Mitigation Procedures* |
| Project | DECG's Line A Abandonment Project |
| SCDNR | South Carolina Department of Natural Resources |
| SHPO | State Historic Preservation Office |
| $SO_2$ | sulfur dioxide |
| Spill Plan | Spill Prevention and Hazardous Materials Management Plan |
| THPO | Tribal Historic Preservation Office |
| USFWS | U.S. Fish and Wildlife Service |
| USGS | U.S. Geological Survey |

# ENVIRONMENTAL ASSESSMENT

## Dominion Carolina Gas Transmission, LLC
## (Docket No. CP17-3-000)

## A. PROPOSED ACTION

### 1. Introduction

On October 13, 2016, Dominion Energy Carolina Gas Transmission, LLC (DECG) filed an application with the Federal Energy Regulatory Commission (FERC or Commission) in Docket No. CP17-3-000 for authorization under Section 7(b) of the Natural Gas Act (NGA) and Part 157 of the Commission's regulations to discontinue natural gas service and abandon natural gas pipelines and aboveground facilities in York, Chester, Lancaster, and Kershaw Counties, South Carolina. DECG's proposed abandonment is referred to as the Line A Abandonment Project (Project).

We[1] prepared this environmental assessment (EA) in compliance with the requirements of the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality's regulations for implementing NEPA (Title 40 Code of Federal Regulations [CFR], Parts 1500-1508 [40 CFR 1500-1508]), and the Commission's regulations for implementing NEPA (18 CFR 380). The assessment of environmental impacts is an important and integral part of the Commission's decision-making process. As such, we prepared this EA to assess the environmental impacts that would likely occur as a result of the proposed abandonment of the identified facilities. We have developed and incorporated measures into this EA that we believe would appropriately and reasonably avoid, minimize, or mitigate environmental impacts associated with the abandonment activities.

DECG proposes to abandon in place approximately 55 miles of 10-inch-diameter pipeline in York, Chester, Lancaster, and Kershaw Counties and approximately 5 miles of 12-inch-diameter pipeline in York County. DECG does not propose to remove any portions of Line A, except at several modified aboveground meter, valve, and regulator stations.

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

Ancillary activities would be conducted at associated aboveground facilities. Appurtenant natural gas facilities that would be removed, revegetated, and restored to maintained right-of-way include five main line valve stations, one town border station, and one take off/mainline valve station. This removal also includes three farm taps. These ancillary abandonment activities would be completed under DECG's Blanket Certificate pursuant to pursuant to the regulations of the Commission, 18 C.F.R. § 157.216.

Crossover piping, new taps, regulators, or meters would be installed at 12 existing mainline valve, take off, regulation, and town border stations. As stated in the supplemental information filed on May 26, 2017, these activities surrounding the construction of new stations would be completed under DECG's Blanket Certificate pursuant to the regulations of the Commission, 18 C.F.R. § 157.208.

Even though the actions at the facilities completed under DECG's Blanket Certificate are not part of the proposed action considered in this EA, these minor facilities share workspaces with the construction areas affected by the Project. Consequently, we have included these impacts in our environmental analysis.

The general Project location is shown in figure 1. The ancillary activities to be performed at the aboveground facilities are summarized in appendix A.

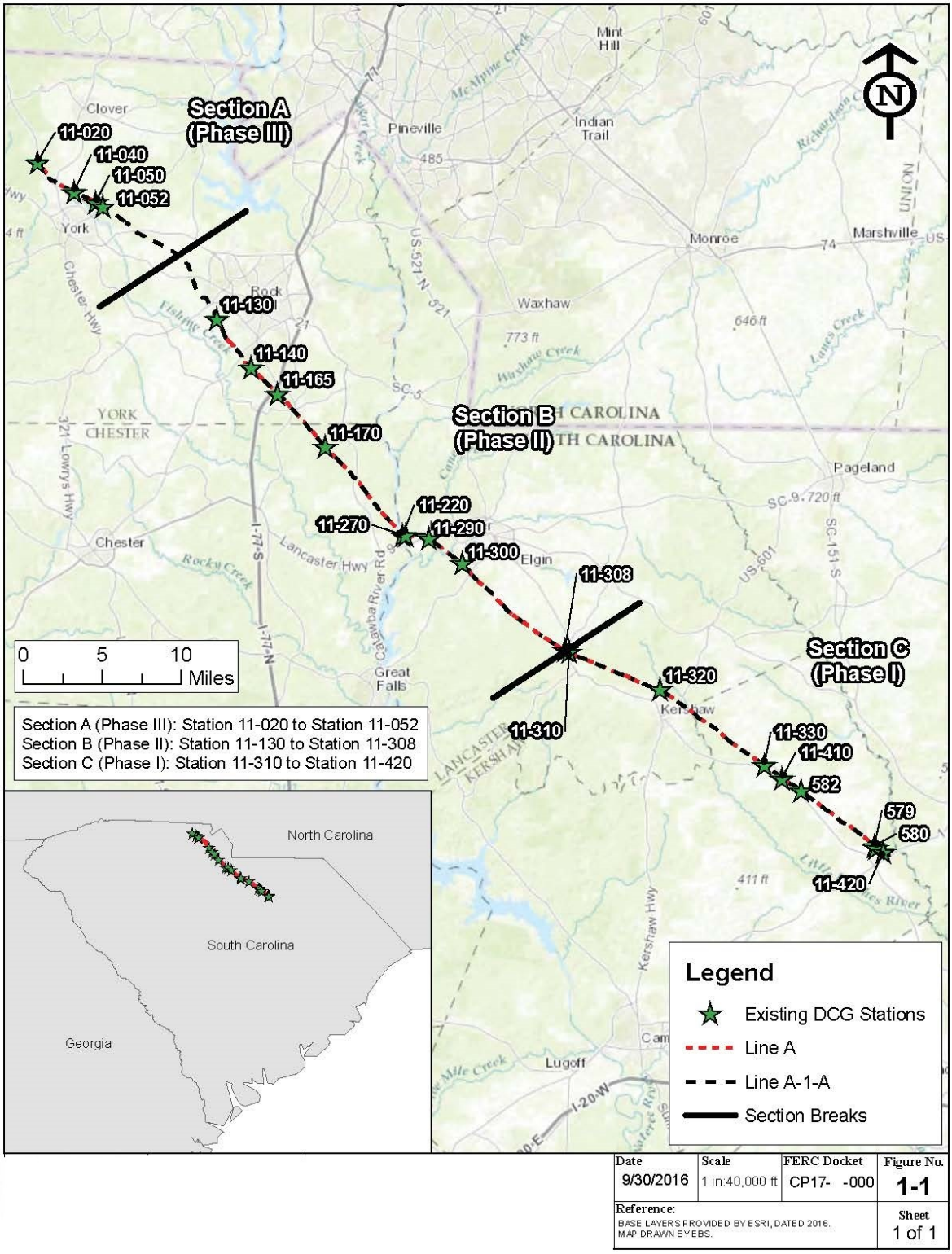


**Figure 1: General Project Overview Map**

## 2. Purpose and Need

According to DECG, the purpose of the Project is to abandon Line A pipeline facilities due to concerns relating to the integrity of the pipe seam as well as the determination that Line A is not needed to support current or future customers.

Section 7(b) of the Natural Gas Act 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 will not negatively affect the present or future public convenience and necessity. The modifications made at the aboveground facilities would transfer all station feeds from the abandoned Line A to the existing Line A-1-A which parallels Line A. This would result in no impacts to service for DECG's existing shippers.

## 3. Public Review

On February 7, 2017, the Commission issued a *Notice of Intent to Prepare an Environmental Assessment for the Line A Abandonment Project and Request for Comments on Environmental Issues* (NOI). The NOI was published in the Federal Register[2] and was mailed to interested parties, including federal, state, and local officials; agency representatives; environmental and public interest groups; Indian Tribes; local libraries and newspapers; and property owners potentially affected by the abandonment activities. Written comments were requested from the public on specific concerns about the Project or environmental issues that should be considered during the preparation of the EA.

In response to the NOI, the Commission received comments from the Muscogee Nation, Eastern Band of Cherokee Indian's Tribal Historic Preservation Office, and Chocktaw Nation. Comments are summarized below and addressed in the applicable sections of this EA (see section B.7 below). In addition, one comment was received from a landowner in support of the Project.

## 4. Land Requirements

Land requirements for the Project include land that would be used temporarily as additional temporary workspaces (ATWS) and land that would be retained for the

[2] The NOI was published in the Federal Register on February 14, 2017 (82 FR 10570).

operation for the modifications to several stations. However, the Project would not require any new permanent pipeline right-of-way. In addition, easements in areas where Line A is not collocated with Line 1-A-1 would be relinquished. This would result in a reduction of operational area of 1.4 acres. As mentioned above, five stations and two farm taps would be removed. These areas would be revegetated and restored to maintained right-of-way.

The Project is anticipated to affect approximately 7.4 acres of land which consists primarily of maintained right-of-way and aboveground facilities. All temporary areas would be restored and revegetated following construction. No new aboveground facilities are proposed for the Project. DECG would not construct any new access roads or make any improvements to existing roads for the Project. Only maintenance of existing access roads would occur as necessary.

## 5. Construction Procedures

### Pipeline Abandonment

DECG would abandon in place 55 miles of 10-inch-diameter Line A pipeline and approximately 5 miles of 12-inch-diameter Line A pipeline. Where the Line A pipeline does not parallel Line A-1-A, totaling approximately 1,200 feet of right-of-way, DECG would relinquish the easements. DECG offered to the affected landowners the option of having the pipeline removed in these areas or abandoned in place. All of the landowners agreed to the pipeline being abandoned in-place.

The abandonment activities of the Line A pipeline would occur after modifications to stations are complete under DECG's Blanket Certificate and the natural gas is supplied from Line A-1-A to all customers currently being served from Line A. The abandonment of the Line A pipeline would occur in three phases based on the section of pipeline being abandoned. These sections are:

- Section A consists of approximately 5.2 miles of 12-inch-diameter pipe extending from Station 11-020 in York County to Station 11-052 in York County, that serves four stations between Stations 11-020 and 11-052 in York County.

- Section B consists of approximately 31.4 miles of 10-inch-diameter pipe extending from Station 11-130 in York County to Station 11-308 McLwain Road

MLV in Lancaster County that serves ten stations in York, Chester, and Lancaster Counties. Where the pipeline crosses the Catawba River between Station 11-220 in Chester County and Station 11-270 in Lancaster County, the 10-inch-diameter pipe splits into two 8-inch-diameter pipelines.

- Section C consist of approximately 24.1 miles of 10-inch-diameter pipe extending outside the Project area from Station 11-310 in Lancaster County to Station 18-000 in Kershaw County that serves eight stations, including three farm taps, in Lancaster and Kershaw Counties.

Phase I includes the abandonment of Section C, Phase II includes the abandonment of Section B, and Phase III includes the abandonment of Section A.

The pipeline alignment would be surveyed prior to the abandonment and aboveground facility modification activities. This includes the staking of the centerline of the pipeline, all foreign pipeline crossings, and the extent of the construction area.

The area of ground disturbance at each aboveground station where the pipeline would be abandoned in place would be cleared of vegetation and graded. As these activities would be within existing rights-of-way or adjacent to existing rights-of-way this includes only the minimal clearing of small trees and shrubs. No clearing of mature trees would be required. All construction activities and storage of materials and equipment would occur within these construction areas. Consistent with the FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan), DECG would install temporary erosion controls immediately after initial disturbance of the soil.

DECG would then blow down and run cleaning pigs through each of the Line A sections to remove any residual fluids. The pipe sections would be purged with air or nitrogen. The pipeline would be excavated and exposed, where required, within the station footprints or right-of-way. The pipeline would then be filled with nitrogen, water, or other suitable material. Caps would then be welded onto the exposed pipeline ends.

Abandonment activities would be confined to the approved areas of disturbance and conducted in accordance with FERC's Plan.[3] The Plan and FERC *Wetland and*

[3] The FERC Plan is a set of construction and mitigation measures to minimize the potential environmental impacts of the construction of pipeline projects in general. The FERC Plan can be viewed on the FERC internet website at http//www.ferc.gov/industries/gas/enviro/plan.pdf. The FERC Procedures can be viewed on the FERC internet website at http//www.ferc.gov/industries/gas/enviro/procedures.pdf.

*Waterbody Construction and Mitigation Procedures* (Procedures) would be incorporated into contract documents. As all excavations would occur within the existing station footprints or pipeline right-of-way that is not currently active crop land, pastures, or residential areas. Therefore, topsoil would not be segregated. Minor excavations, completed possibly by hand, would be required to cut cathodic protection test station wires and to remove pipeline markers.

DECG would initiate cleanup and restoration procedures as soon as possible after backfilling or removal of aboveground facilities. The disturbed areas would be graded as practical to pre-construction contours. Waste removal, cleanup, and restoration would be performed in accordance with FERC's Plan and Procedures and other federal, state, and local agency requirements, as applicable. Organic refuse that cannot be spread over the right-of-way would be disposed of at an authorized facility. Disturbed areas, fences, and roads would be restored to their pre-constriction condition, as practicable. Permanent erosion control devices would be installed in accordance with the Plan and Procedures.

The Project would not impact wetlands or waterbodies. In addition, no rugged topography would be completed. Five existing residences occur within 50 feet of the proposed construction areas.

DECG has developed a Spill Prevention and Hazardous Materials Management Plan (Spill Plan) to ensure all hazardous liquids are handled appropriately and contained within secondary containment, and contingency plans are in place in case of accidental releases of hazardous materials into the environment. As required by FERC's Plan, DECG would designate an environmental inspector (EI) during the Project removal activities who would have the authority to stop any work activity, oversee proper installation of appropriate erosion control and pollution prevention measures and evaluate their effectiveness, and ensure all applicable environmental conditions are satisfied. The EI would also be responsible for the preparation of the environmental reports.

**Aboveground Facility Removals, Modifications, and Construction Conducted under Blanket Certificate**

Five aboveground stations, 11-050, 11-220, 11-270, 11-308, and 11-410, would be removed and pipe removal and/or modifications would be completed at the remaining seventeen stations, as identified in appendix A. To transfer all station feeds from Line A

to Line A-1-A, modifications would be made at mainline valve, take off, and town border stations along the pipeline system. The activities performed at these stations would be completed in a similar manner as stated above. This includes cutting out and removing all aboveground 10-inch-diameter Line A pipeline, and welding on cap ends to isolate all underground Line A piping at grade. DECG would also dig up pads, remove fencing, excavate around the 16-inch-diameter Line A-1-A to weld on new tap valves, weld interconnecting pipe between the new tap valves, and install new regulator and meter stations. These new stations would measure and regulate the gas supply from the Line A-1-A pipeline down to the pressure currently supplied by the Line A pipeline.

Two farm taps, Stations 579 and 580, in Kershaw County would be removed. This would be completed by removing the aboveground meter and excavating down to the pipeline to plug the tap valves. Farm tap 582 would also be modified.

### 6. Nonjurisdictional Facilities

Under Section 7 of the NGA, the Commission is required to consider, as part of its decision to approve facilities under Commission jurisdiction, all factors bearing on the public convenience and necessity. Occasionally, proposed projects have associated facilities that do not come under the jurisdiction of the Commission. These "non-jurisdictional" facilities may be integral to the need for the proposed facilities, such as a power plant at the end of a jurisdictional pipeline, or they may be minor, non-integral components of the facilities under the Commission's jurisdiction. No nonjurisdictional facilities are proposed as part of the Project.

### 7. Related Facilities

Related facilities associated with the Project include two new delivery points and associated mainline pipeline constructed by South Carolina Electric and Gas (SCE&G), a nonjurisidctional company. This would provide gas previously served by the two abandoned farm taps, 579 and 580. The locations of the new taps are currently being evaluated. As these locations have not yet been determined, they have no effect on the location or configuration of the Project facilities. In addition, these farm taps are part of a private construction project which is under state and local jurisdiction. The non-jurisdictional activity impacts are considered in Section B.10 Cumulative Impacts.

### 8. Project Schedule

DECG would complete the Project in three phases, beginning as soon as the FERC authorization is received. Phase 1 includes the abandonment in place of Section C pipeline facilities, Phase II would include the abandonment in place of Section B pipeline facilities, and Phase II would include the abandonment in place of the Section A facilities. The associated modifications to the stations in Sections A, B, and C taking place under the Blanket Certificate would be completed in each of their respective phases. The Project is expected to be completed in a total of one year.

## 9. Permits and Consultations

DECG would obtain all necessary permits, authorizations, or clearances and approvals for abandonment of Project facilities. Table 1 summarizes the applicable permits, licenses, and approvals for the Project. DECG has determined that permits from the U.S. Army Corps of Engineers are not necessary.

| Table 1: Permits and Approvals | | | |
|---|---|---|---|
| **Permit/Approval** | **Administering Agency** | **Submittal Date** | **Receipt Date (Anticipated)** |
| **FEDERAL** | | | |
| Endangered Species Act-Section 7 Consultation | United States Fish and Wildlife Service | October 6, 2016 | October 26, 2016 |
| Supplemental Information: Migratory Birds | | December 22, 2016 | December 27, 2016 |
| **TRIBAL** | | | |
| Tribal Consultations | Catawba Indian Nation | October 5, 2016 | November 15, 2016 |
| Supplemental Information: Phase I Report | | February 14, 2017 | March 20, 2017 |
| Tribal Consultations | Eastern Band of Cherokee | December 30, 2016 | January 2, 2017 |
| Supplemental Information: Phase I Report | | February 14, 2017 | March 6, 2017 |
| **STATE** | | | |
| National Historic Preservation Act Section 10 | South Carolina Department of Archives and History | October 5, 2016 | December 1, 2016 |
| Agency Comments | | - | October 12, 2016 |
| Response to Comments | | November 21, 2016 | December 1, 2016 |
| Supplemental Information: Phase I Report | | February 14, 2017 | March 23, 2017 |
| State Endangered Species Consultation | South Carolina Department of Natural Resources | October 6, 2016 | October 14, 2016 |
| Minor Land Disturbance Permits-York County | York County Environmental Services | December 2, 2016 | December 2, 2106 |

| Table 1: Permits and Approvals | | | |
|---|---|---|---|
| **Permit/Approval** | **Administering Agency** | **Submittal Date** | **Receipt Date (Anticipated)** |
| Minor Land Disturbance Permits-Chester, Lancaster, and Kershaw Counties | South Carolina Department of Health and Environmental Control | December 5, 2016 | December 26, 2016 |

## B. ENVIRONMENTAL ANALYSIS

### 1. Geology

The Project lies within the Piedmont and Coastal Plain physiographic provinces. Formations and unnamed rock units that compose the Kings Mountain Belt, Charlotte Belt, and Carolina Slate Belt make up the Charlotte Thrust Sheet. These units are primarily igneous and metamorphic rocks. Rock units that compose the Coastal Plain physiographic province are primarily unconsolidated sediments including: gravels, micaceous kaolinitic sands, and lenses of clay (United Stations Geographic Survey [USGS], 1936).

We evaluated the potential impact of the Project on mineral resources as well as geologic hazards, including seismic related hazards (e.g. earthquakes, surface faulting, and soil liquefaction); landslides; karst; and subsidence.

#### Mineral Resources

The major mineral production activities in Chester, Kershaw, Lancaster, and York Counties include construction sand and gravel, shale, common clay, mica, crushed stone, kaolin, and industrial sand and gravel. Other minerals produced state-wide include peat, mica, silver, gold, manganese, granite, and gemstones. (South Carolina Department of Natural Resources [SCDNR], 1997). Four active sand mining operations occur within 1 mile of the Project, the closest of which is 0.2 mile from the nearest proposed Project work area. There are no active mining activities in the Project area.

#### Seismicity

Between 10 and 30 earthquakes are recorded annually in South Carolina. Most of South Carolina's earthquakes occur in the southern Coastal Plain where the underlying

rocks are faulted. These earthquakes tend to be less than magnitude 3.0 on the Richter scale and cause little damage (South Carolina Geological Survey, 2017). The peak ground acceleration rating at all of the Project facilities would be 10 percent of peak acceleration of gravity (percent g) to approximately 14 percent g, which corresponds to a Modified Mercalli Scale level of VI, and would have potential to cause light damage, such as breaking windows and overturning unstable objects (USGS, 2014a); (Wald, et al. 2006). Therefore, the likelihood of damage to Project elements during a seismic event is considered to be minimal.

Secondary seismic effects may be more damaging than shaking or surface faulting. Soil liquefaction is a phenomenon which occurs when saturated, cohesionless soils are subjected to strong and prolonged shaking during seismic event. Liquefaction can lead to loss of load bearing strength and can result in lateral spreading, flow failures, and flotation of buried pipelines. Lateral spreads can develop on very gentle slopes and typically involve displacement of 3 to 6 feet. Flow failures generally occur on ground slopes ranging from 15 to 30 percent and can involve large amounts of material, thereby presenting a greater potential hazard than lateral spreading. The proposed Project area is located approximately 70 miles from the zone of South Carolina liquefaction at the Projects closest point, suggesting that liquefaction is not likely to affect the Project (SCDNR, 2012).

**Landslides**

The term “landslide” refers to the downward and outward movement of slope-forming materials reacting under the force of gravity. The term covers a range of events including falls, mudflows, mudslides, rock flows, rock slides, debris flows, and earth flows, among others. Although the various topographies of the Project components contain steep slopes; the Project’s region is categorized as having a low to moderate susceptibility and low incidence for landslides (Radbrunch-Hall, et. al., 1982). Therefore, the Project component sites are not likely to be affected by landslides.

**Karst**

Terrain with subsurface voids caused by dissolution or erosion of natural geologic materials is known as karst terrain or karst topography. Rocks susceptible to subsurface erosion or dissolution commonly have a high proportion of water-soluble minerals such as gypsum, anhydrite, and halite or acid-soluble minerals such as calcite and dolomite.

As dissolution progresses, the dissolved rock layer becomes structurally weaker and may not support the weight of verlying strata. Under the right conditions, the overlying soil and rock layers may collapse into the dissolution cavity, creating a sinkhole or cavern. The sinkholes or caverns are potential hazards, owing to the possible settlement or collapse of the land surface into the underground openings.

In South Carolina, karst topography exists or has the potential to exist within the Upper Cretaceous Coastal Plain. Approximately 20 miles of Line A (Section C) and six stations are located within the Upper Cretaceous Coastal Plain (USGS, 2014b). Within the Upper Cretacous Coastal Plain, carbonates exist only as a minor component of the subsurface geology and are composed primarily of calcareous sand and calcareous clay lenses within argillitic sands and marine clays respectively. Based on the location of the proposed Project activities at previously disturbed pipeline stations, it is unlikely that previously unidentified karst features would be encountered or would impact the Project.

Based on the minor ground disturbance associated with the Project and DECG's use of our Plan and Procedures, the Project is not expected to affect geologic resources.

**2. Soils**

The Project would disturb a total of about 7.4 acres at the various construction and abandonment sites, of which a total of about 0.7 acre would constitute agricultural land. To minimize impacts related to ground disturbing activities, DECG would implement the erosion control measures outlined in the FERC's Plan and its Stormwater Pollution Prevention Plan (SPPP).

Based on the minor ground disturbance associated with the Project and DECG's use of our Plan and Procedures, the Project is expected to have only minor and temporary impacts on soil resources.

**3. Water Use and Quality**

**Groundwater**

The proposed Line A Abandonment Project is located in the Piedmont and Coastal Plain regions of South Carolina. The USGS identifies the hard crystalline rock of the Piedmont as the predominant groundwater resource in York, Chester, and Lancaster

Counties. The Piedmont aquifer system consists of metamorphic and igneous rocks, primarily schists, gneisses, and granites (bedrock aquifer) which yield small quantities of water within fractures for domestic and agricultural use. Hydraulic conductivity is highly variable within the unconfined Piedmont aquifer, with a high dependency on fracture continuity and connectivity to other fractures. Generally, groundwater from the Piedmont aquifer system is soft, low in dissolved solids, and slightly acidic, making it corrosive to metal.

The Southeastern Coastal Plain aquifer system, the primary groundwater source for most of Kershaw County, is also underlain by igneous and metamorphic rock covered with sand, limestone, and clay sediments. Water exists present primarily within intergranular pore spaces.

There are no protected aquifers, U.S. Environmental Protection Agency (EPA) – designated sole source aquifers, or ground water source-water protection zones in the Project area. Using the South Carolina Department of Natural Resources (SCDNR) well database and results from field surveys conducted in August and September 2016, DECG did not identify any private wells within 150 feet or public wells within 500 feet of the Project construction area. Further, DECG did not identify any springs within 150 feet of the Project area.

If any wells are identified prior to or during construction of the Project, DECG would implement appropriate measures to avoid, minimize, or mitigate impacts on wells. These measures would include pre- and post-construction testing of water quality and yield, implementation of the project-specific Spill Plan restrictions on refueling and handling of hazardous substances within 200 feet of a domestic well or 400 feet of a municipal well, and timely restoration of Project work areas. If the Project inadvertently affects a domestic water supply system, DECG would ensure that a temporary source of potable water is provided to the residents. Any damaged supply well or system would be repaired and restored to its former capacity, or replaced.

DECG did not identify areas containing contaminated groundwater or hazardous waste sites within the Project area. In the event that such materials are discovered during construction of the proposed Line A Abandonment Project, DECG would stop work, notify the appropriate state and federal agencies, and proceed in accordance with local, state, and federal regulations.

The shallow excavation and other construction activities required to abandon Line A and transfer feeds to Line A- 1-A are not anticipated to adversely affect the quantity or quality of groundwater in the Project area. Abandonment activities have the potential to temporarily affect overland water flow and recharge of shallow aquifers. Clearing vegetation, soil compaction, trench excavation, and dewatering could hinder the infiltration of water into the ground and have an effect on local vegetation and hydrology. However, these minor effects would be temporary and would be mitigated through DECG's use of the FERC Plan and its SPPP.

Accidental spills and leaks could cause impacts on groundwater resources through introduction of contaminants. To minimize the potential for impact on groundwater, DECG's Spill Plan describes the management of potentially hazardous materials (*e.g.*, fuels, lubricants, and coolants) that would be implemented during construction. The Spill Plan includes procedures for spill response, training, mitigation measures/response, and storage and disposal of potentially hazardous materials. Implementation of the Spill Plan would minimize the Project's potential short- and long-term impact on groundwater resources.

Due to the limited scope of the proposed work and protection measures that DECG would use, as described in the FERC Plan and Procedures and its Spill Plan, permanent effects on groundwater are not likely. No blasting would be conducted for the Project. We conclude that the Project would not have a significant impact on groundwater resources.

**Surface Water Resources**

The Line A pipeline to be abandoned in places crosses multiple waterbodies and wetlands. However, based on a review of aerial photography, USGS topographic maps, and site visits conducted by DECG's contractor in August and September 2016, no waterbodies were identified within the Project construction areas. Further, no wetlands were delineated in the Project construction areas. As no water resources would be affected, permits from the USACE are not necessary.

Due to the small area of disturbance at each station, and with implementation of measures contained in the FERC Plan for erosion and sediment control and stormwater management measures contained in the SPPP, impacts on water quality from site stormwater are not anticipated. DECG has communicated with the York County

Stormwater Department and received an exemption from land disturbance permitting due to the small areas of disturbance and the county's consideration of the proposed activities as maintenance. DECG has submitted notices to South Carolina Department of Health and Environmental Control for the proposed activities in York, Chester, Lancaster, and Kershaw Counties as required for minor land disturbance activities for each county.

Due to the small area of disturbance, coverage of the Project under the South Carolina National Pollutant Discharge Elimination System Construction General Permit is not required. We conclude that impacts on surface water, if any, would be minimal.

**4. Vegetation, Wildlife, and Fisheries**

## Vegetation

The Project would occur mostly within existing, pre-disturbed pipeline rights-of-way maintained for herbaceous plant communities, gravel or cement foundations, cropland/agricultural fields, or scrub/shrub land. No sensitive and/or unique vegetative habitat types are located within the proposed Project areas. The Project areas are dominated by upland grasses and common field weeds. Typical species found within the rights-of-way comprise tall fescue, Bahaigrass, Bermudagrass, Johnson grass, lespedeza, dog fennel, aster, sawtooth blackberry, Eastern poison ivy, Japanese honeysuckle, goldenrod, and occasionally sweetgum seedlings and saplings, loblolly pine saplings, Eastern red cedar, winged sumac, showy crotalaria, and muscadine. The Project would not require clearing of forest. Table 2 shows acreages of each vegetation community type affected by the Project. Of the 7.4 acres affected, about 6.3 acres are vegetated.

**Table 2: Acres of Vegetative Communities Potentially Affected**

| Project Facility | Vegetative Community | | | | | |
|---|---|---|---|---|---|---|
| | Grassland | | Crops | | Scrub/Shrub | |
| | Construction | Operation | Construction | Operation | Construction | Operation |
| 11-020 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| 11-040 | 0.5 | <0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11-050 | 0.2 | (<0.1)[a] | <0.1 | 0.0 | 0.0 | 0.0 |
| 11-052 | 0.1 | <0.1 | 0.0 | 0.0 | <0.1 | 0.0 |
| 11-130 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11-140 | 0.1 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 |
| 11-165 | 0.3 | <0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11-170 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11-220 | 0.7 | (<0.1)[a] | 0.0 | 0.0 | 0.0 | 0.0 |
| 11-270 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11-280 | 0.2 | <0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11-300 | 0.2 | <0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11-308 | 0.2 | (<0.1)[a] | 0.0 | 0.0 | 0.0 | 0.0 |
| 11-310 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11-320 | 0.4 | (<0.1)[b] | 0.0 | 0.0 | 0.0 | 0.0 |
| 11-330 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| 11-410 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 582 | 0.2 | 0.0[c] | 0.0 | 0.0 | 0.0 | 0.0 |
| 579 | 0.1 | (<0.1)[a] | 0.0 | 0.0 | 0.0 | 0.0 |
| 580 | 0.3 | (<0.1)[a] | 0.0 | 0.0 | 0.0 | 0.0 |
| 11-420 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Project Totals** | **5.5** | **(<0.1)** | **<0.7** | **0.0** | **<0.1** | **0.0** |

[a] Station will be removed and area restored to maintained vegetated right-of-way.

[b] Station removal and new installation results in negative net impacts.

[c] Farm Tap will be removed and cap installed, resulting in zero net impacts.

## Invasive Species

DECG identified several noxious or invasive species typical of those found in upland, disturbed areas and common in the north-central South Carolina region (table 3).

**Table 3: Exotic and Invasive Species Identified Within the ROW**

| Common Name | Botanical Name |
|---|---|
| Japanese honeysuckle | *Lonicera japonica* |
| Lespedeza | *Lespedeza cuneate* |
| Japanese stiltgrass | *Microstegium vimineum* |
| Queen Anne's lace | *Daucus carota* |
| Bermudagrass | *Cynodon dactylon* |
| Lambsquarters | *Chenopodium album* |
| Johnsongrass | *Sorghum halepense* |
| Tall fescue | *Schedonorus arundinanceus* |
| Fennel | *Foeniculum vulgare* |
| Dandelion | *Taraxacum officinale* |
| Eastern poison ivy | *Toxicodendron radicans* |
| Chinese privet | *Ligustrum sinense* |
| English ivy | *Hedera helix* |
| Chinese holly | *Ilex cornuta* |

DECG will implement several management strategies as appropriate to minimize the spread of exotic and invasive plant species following construction, including:

- following the FERC's Plan and Procedures to assure that the movement of sediment and non-native seeds is minimized;

- using construction techniques that minimize the duration that bare soil is exposed, therefore, minimizing the opportunity for exotic species to become established;

- sowing a cover crop along exposed soil surfaces within temporary workspaces to assure that a suitable growing substrate for exotic or invasive species is unavailable;

- monitoring the restoration of disturbed sites following construction to assure that revegetation of the areas with suitable cover-plant mixtures has been successful and that invasive or exotic species have not become established; and

- following construction, DECG would conduct periodic post-construction monitoring and any exotic or nuisance species will be selectively removed or treated with herbicide as necessary.

Effects of abandonment activities on vegetation would be minor and short-term. DECG would restore all ground contours and revegetate disturbed areas in accordance with the FERC Plan. Given that the Project would require minimal ground disturbance and DECG's commitment to implementing the FERC Plan, we conclude that the Project would not have a significant impact on vegetation.

## Wildlife

Common wildlife species that could inhabit that Project area are shown in table 4. Because the Project area consists of maintained utility right-of-ways, wildlife habitat is generally of low quality. The proposed Project would not affect waterbodies. Therefore, no aquatic wildlife or fisheries would be affected.

**Table 4**
**Representative Wildlife Species with Potential of Occurrence within Project Areas**

| Species | Adjacent Forests | Maintained ROW |
|---|---|---|
| Whitetail Deer | X | X |
| Striped Skunk | X | X |
| Grey Squirrel | X | |
| Opossum | X | |
| Meadow Vole | X | X |
| Northern Yellow Bat | X | X |
| Wild Turkey | X | X |
| Eastern Cottontail | X | X |
| Red-Tailed Hawk | X | X |
| Red-Headed Woodpecker | X | |
| Eastern Rat Snake | X | X |
| Eastern Hog Nose Snake | X | X |
| Eastern Earthsnake | X | X |
| Southeastern Five Lined Skink | X | X |
| Green Anole | X | X |

| | | |
|---|---|---|
| Southern Two-lined Salamander | X | X |
| Upland Chorus Frog | X | X |
| American Toad | X | X |
| Source: NatureServe, 2012 | | |

Potential impacts on wildlife from the Project could include noise associated with the abandonment activities and the temporary decrease in the amount of available habitat. However, the effects from noise and the decrease in habitat would be temporary. During abandonment activities, more mobile wildlife such as mammals and birds could be displaced to other available nearby habitat. Some smaller, less mobile individuals such as reptiles and amphibians could be unintentionally killed by construction equipment.

Given that the Project would require minimal ground disturbance and DECG's commitment to implementing the FERC Plan, we conclude that the Project would not have a significant impact on vegetation and wildlife.

**Migratory Birds**

Migratory birds are species that nest in the United States and Canada during the summer, and make short or long-distance migrations for the non-breeding season. Neotropical migrants migrate to and from the tropical regions of Mexico, Central and South America, and the Caribbean.

Migratory birds are protected under the Migratory Bird Treaty Act ([MBTA]-16 U.S. Code 703-711), and Bald and Golden Eagles are additionally protected under the Bald and Golden Eagle Protection Act (16 U.S. Code 668-668d); (BGEPA). The MBTA, as amended, prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, or nests unless authorized under a U.S. Fish and Wildlife Service (USFWS) permit. Executive Order 13186 directs federal agencies to identify where unintentional take is likely to have a measurable negative effect on migratory bird populations and avoid or minimize adverse impacts on migratory birds through enhanced collaboration with the USFWS, and emphasizes species of concern, priority habitats, and key risk factors, and that particular focus should be given to population-level impacts.

On March 30, 2011, the USFWS and the Commission entered into a Memorandum of Understanding (MOU) that focuses on avoiding or minimizing adverse effects on

migratory birds and strengthening migratory bird conservation through enhanced collaboration between the Commission and the USFWS by identifying areas of cooperation. This voluntary MOU does not waive legal requirements under the MBTA, the Endangered Species Act (ESA), the NGA, or any other statutes and does not authorize the take of migratory birds.

The USFWS established Birds of Conservation Concern (BCC) lists for various regions in the country in response to the 1988 amendment to the Fish and Wildlife Conservation Act, which mandated USFWS to identify migratory nongame birds that, without additional conservation actions, were likely to become candidates for listing under the Endangered Species Act (ESA). The BCC lists were last updated in 2008. The BCCs that are expected to occur in the counties in which the Project would take place were identified by DECG using the USFWS ECOS-IPaC web application.

Abandonment activities that could occur during the migratory bird breeding season have the potential to affect migratory birds. However, the potential for the Project to affect migratory birds and their habitat is minimal due to the small amount of vegetation that would be disturbed by the abandonment activities. No tree clearing is proposed for the Project; however limb removal or trimming of trees may be required. DECG would implement the measures listed below to avoid impacts on migratory birds.

- DECG would have a dedicated EI on-site to monitor construction activities at each of the Project sites.
- The EI would perform a site review of each Project location prior to construction activities, with sufficient lead time prior to limb removal or mowing tasks, to ensure active bird nests are not present at the Project locations.
- If the EI identifies active bird nests or nesting activities at a Project location, limb removal and mowing tasks would be delayed or suspended, to the extent practicable, at that location until the nest is no longer active.

In addition to the MBTA, the bald eagle receives protection under the BGEPA. DECG did not discover any active bald eagle nests during field surveys. However, one abandoned nest was observed near Station 11-220 atop an electrical transmission tower on the edge of the proposed construction zone approximately 50 feet outside of the proposed area of ground disturbance. The nest is possibly that of an osprey or bald eagle. No individuals of either species were observed during field activities. Based upon both

species being migratory, and occupying the Project area in the summer (breeding) season, it is likely any potential impacts from the Project would affect each species similarly. The proposed Project activities at this site are limited to temporary minor construction for abandonment of the station facilities and would be consistent with regular facility operations or maintenance.

If DECG observes eagles, raptors, or other migratory birds utilizing the nest prior to construction, DECG would contact the local USFWS office for guidance on protection measures. Additionally, DECG would have an EI monitoring the site during construction and would conduct environmental training for construction personnel, which includes avoidance and mitigation requirements for wildlife.

On December 22, 2016, DECG conducted consultation with USFWS, specific to compliance with the BGEPA and MBTA, and measures identified to minimize potential impacts on migratory birds. The USFWS responded on December 27, 2016 that the "described conditions would be adequate to avoid or minimize potential impacts to migratory birds" (USFWS 2016a). Based on the types of activities proposed, the limited duration of the activities, the small disturbance footprint associated with each work site, and the availability of other suitable habitat in the general area, we conclude that the Project would not significantly affect migratory birds or bald eagles.

## 5. 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 and federally proposed species that are protected under the ESA, or are considered as candidates for such listing by the USFWS, and those species that are state-listed as threatened or endangered.

### Federally-listed Species

DECG, acting as the FERC's non-federal representative for the purpose of complying with Section 7(a)(2) of the ESA, initiated informal consultation with the USFWS regarding federally listed threatened and endangered species potentially affected by the Project. DECG conducted a desktop review of protected species using the USFWS ECOS-IPaC web application and SCDNR list of Rare, Threatened, Endangered Species and Communities known to occur in York, Chester, Lancaster, and Kershaw

Counties. Habitat summary tables summarizing species on the USFWS and SCDNR lists, an evaluation potential habitat within Project areas, and potential effects are included in appendix C. DECG also conducted wildlife, vegetation, and habitat surveys of the Project area, which included associated access roads. These field visits did not identify any federal or state-listed species or potential critical habitats within the Project area. No areas that are designated as sensitive or critical habitat would be affected by the Project.

There is suitable habitat present in the Project areas for three species of federally endangered plants, Michaux's sumac (*Rhus michauxii*), smoothe coneflower (*Echinacea laevigata*), and Schweinitz's sunflower (*Helianthus schweinitzii*), and one candidate species for listing under the ESA, the Georgia aster (*Symphyotrichum georgianum*). However, DECG conducted surveys during the flowering period for each of these species and did not find any present in the Project areas. Therefore, we conclude that the Project may affect, but would not likely adversely affect these species.

DECG submitted letters to the USFWS on October 5 and 6, 2016 requesting concurrence that the Project would not likely adversely affect federally listed species. In a letter dated October 26, 2016, the USFWS stated that they had no concerns with the Project as proposed (UFWS, 2016). Therefore, consultation requirements under the ESA are complete.

Per request of the USFWS, DECG evaluated the Project's impacts on At-Risk Species (ARS) recognized by the USFWS. A list of ARS in the Project area and a summary of the Project's potential impacts on these species is provided in appendix D. There is potential habitat present for the sun-facing coneflower (*Rudbeckia heliopsidis*); however, DECG conducted surveys during the flowering period and did not find any present in the Project area.

**State-listed Species**

DECG reviewed state-listed species that could occur in the Project area and evaluated whether or not suitable habitat for any of these species would be affected by construction or operation of the Project. Because there is no suitable habitat for any of the state-listed species in the Project area, we conclude that the Project would have no effect on state-listed species. DECG sent a letter to the SCDNR requesting review of the Project regarding impacts on state-listed species. DECG received a letter from the

SCDNR, on October 14, 2016 stating that there are currently no reported occurrences of state listed threatened or endangered species or "watch list" species within one kilometer of the Project.

Due to the limited scope of the Project and the absence of suitable habitat and sensitive species in the Project areas, we conclude that the Project would not likely impact any special status or sensitive species.

## 6. Land Use, Recreation, and Visual Resources

The Project is located entirely on private land. Table 5 shows the land uses affected by the Project.

Abandonment activities would cause ground disturbance at 22 aboveground stations. This would result in temporary impacts on 7.4 acres of land consisting mostly of existing rights-of-way and the aboveground facility sites. Following construction of the Project, temporary construction areas would be allowed to revegetate. Permanent impacts would result due to modifications at seven existing stations completed under the Blanket Certificate. The Project and the activities completed under the blanket certificate would result in a reduction of approximately 0.8 acre of operation impacts. This is due to approximately 1,200 feet of the existing Line A right-of-way being relinquished back to the land owner.

The lands crossed by the Project are classified by primary vegetation cover type and/or predominate land use. These lands were divided into three categories: agricultural land, residential land, and developed/open land.

Agricultural land consists of active cropland, pasture, and hayfields. Residential land consists of residential developments and includes residential lawns. Developed/open land includes land with existing commercial or industrial developments. This includes existing utility rights-of-way, non-forested lands, and fallow fields.

**Table 5**
**Land Use Impacts**

| Project Facility | Agricultural Land (acres) | | Residential Land (acres) | | Developed/Open Land (acres) | |
|---|---|---|---|---|---|---|
| **Aboveground Facilities[a]** | Const. | Oper. | Const. | Oper. | Const. | Oper. |
| Station 11-020 | 0.1 | 0.0 | 0.0 | 0.0 | 0.3 | <0.1 |
| Station 11-040 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | <0.1 |
| Station 11-050b | <0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| Station 11-052 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | <0.1 |
| Station 11-130 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 |
| Station 11-140 | 0.4 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| Station 11-165 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | <0.1 |
| Station 11-170 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 |
| Station 11-219/11-220b | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 |
| Station 11-270 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 0.0 |
| Station 11-280 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 |
| Station 11-300 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 |
| Station 11-308b | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 |
| Station 11-310 | 0.0 | 0.0 | <0.1 | 0.0 | 0.1 | 0.0 |
| Station 11-320b | 0.0 | 0.0 | 0.2 | 0.0 | 0.4 | <0.1 |
| Station 11-330 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| Station 11-410b | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 |
| Station 582 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 |
| Station 579b | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| Station 580b | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 |
| Station 11-420 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | <0.1 |
| **Pipeline Facilities** | | | | | | |
| Line A – Section A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Line A – Section B | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | (1.4) |
| Line A – Section C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Project Totals** | **<0.7** | **0.0** | **<0.3** | **0.0** | **6.4** | **(<0.8)** |

[a] Only minimal land disturbance will be required and will occur within the existing facility footprint and/or ROWs. ATWS are included in the construction impacts for the station.

[b] Station is being removed and the area will be revegetated and restored to a maintained ROW.

[c] Land disturbance associated with Line A abandonment are included in the construction impacts for the stations.

[d] ROW is being relinquished where Line A does not parallel Line A-1-A.

The ATWS associated with the construction and abandonment activities are primarily proposed adjacent to the existing right-of-way and vary in dimension depending on construction needs and the topographic conditions present at each location. DECG would restore the temporary workspaces to pre-construction land use after

completion of the Project. These additional temporary workspaces are listed in table 6 below. The land uses associated with the ATWS include utility right-of-way, residential, and agricultural.

**Table 6**
**Project Facilities and Land Requirements**

| State | County | Station | Station Milepost | Additional Temporary Workspace (acre) | Maximum General Dimensions |
|---|---|---|---|---|---|
| SC | York | 11-020 | 12.9 | 0.09 | 41' W x 118' L |
| SC | York | 11-040 | 16.1 | 0.29 | 100' W x 160' L |
| SC | York | 11-050 | 17.6 | 0.05 | 32' W x 96' L |
| SC | York | 11-052 | 18.2 | 0.11 | 83' W x 168' L |
| SC | York | 11-130 | 28.9 | 0.08 | 25'W x 107' L |
| SC | York | 11-140 | 32.8 | 0.26a | 74' W x 217' L |
| SC | York | 11-165 | 35.2 | 0.07 | 19' W x 185' L |
| SC | Chester | 11-170 | 39.7 | 0.28b | 151' W x 162' L |
| SC | Chester | 11-220 | 47.2 | 0.00 | NA |
| SC | Lancaster | 11-270 | 47.2 | 0.00 | NA |
| SC | Lancaster | 11-280 | 47.4 | 0.04c | 52' W x 75' L |
| SC | Lancaster | 11-300 | 49.0 | 0.11 | 43' W x 119' L |
| SC | Lancaster | 11-308 | 51.7 | 0.00 | NA |
| SC | Lancaster | 11-310 | 60.2 | 0.01 | 9' W x 130' L |
| SC | Lancaster | 11-320 | 60.6 | 0.00 | NA |
| SC | Kershaw | 11-330 | 66.9 | 0.05 | 24' W x 112' L |
| SC | Kershaw | 11-410 | 75.1 | 0.00 | NA |
| SC | Kershaw | 582 | 76.8 | 0.04 | 12' W x 124' L |
| SC | Kershaw | 579 | 78.0 | 0.04 | 40' W x 50' L |
| SC | Kershaw | 580 | 83.8 | 0.13 | 34' W x 117' L |
| SC | Kershaw | 11-420 | 84.0 | 0.04c | 41' W x 40' L |
| **Project Total** | | | | **1.7** | |

NA – Not Applicable
[a]Includes 0.03 ac. of existing, adjacent DECG ROW (lateral lines)
[b]Includes 0.12 ac. of existing, adjacent DECG ROW (lateral lines)
[c]Consists entirely of existing, adjacent DECG ROW (lateral lines)

Existing public and private roads would be used during construction. These roads would be used to move equipment and materials to the Project area. DECG would not

make modifications or improvements to the roads. Any maintenance and repairs to the roads would be completed within the existing footprint. No new access roads would be constructed. The proposed access roads are listed in table 7 below.

**Table 7**
**Proposed Access Roads**

| | Station No. | County | Name | Length (ft) |
|---|---|---|---|---|
| Section A | 11-020 | York | State Highway 161 | N/A |
| | 11-040 | York | Unnamed Paved Commercial Road, Existing ROW | 301 |
| | 11-050 | York | Existing ROW | 1,227 |
| | 11-052 | York | Private Drive | 70 |
| Section B | 11-130 | York | Paved Commercial Road | 171 |
| | 11-140 | York | Private Drive | 1,768 |
| | 11-165 | York | Reid Road | N/A |
| | 11-170 | Chester | Lisa Lane | 2,227 |
| | 11-219/11-220 | Chester | Private Drive | 6,419 |
| | 11-270 | Lancaster | Unnamed Road | 2,642 |
| | 11-280 | Lancaster | Unnamed Road | 1,759 |
| | 11-300 | Lancaster | Gooches Fire Department Parking Lot | 0 |
| | 11-308 | Lancaster | Unnamed Road | 324 |
| Section C | 11-310 | Lancaster | Private Drive | 39 |
| | 11-320 | Lancaster | State Road S-29-154 | NA |
| | 11-330 | Kershaw | Coats Road | 254 |
| | 11-410 | Kershaw | W Road | 1,060 |
| | 582 | Kershaw | Porter Road | NA |
| | 579 | Kershaw | Existing ROW | 807 |
| | 580 | Kershaw | Timrod Road | NA |
| | 11-420 | Kershaw | Existing ROW | 2,685 |

The abandonment activities would not impact or permanently change the current land use. In cases where facilities are removed, DECG would restore the site to the surrounding land use. Following construction activities, DECG would re-seed disturbed areas with an appropriate seed mix and allow them to revegetate.

## Existing Residences

The Project is located within a sparsely populated area. Based on a field reconnaissance and an aerial photography review, DECG identified five residences within 50 feet of the construction areas. These residences are listed in table 8 below.

**Table 8: Residential Structures Located Near Project Area**

| Station No. | Distance (feet) | Structure Type |
|---|---|---|
| 11-310 | 28 | Residence |
| | 30 | Residence |
| 11-320 | 26 | Residence |
| | 47 | Residence |
| | 48 | Residence |

Following construction the affected residential landowners may use the right-of-way if they do not interfere with the rights granted to DECG. The construction work areas would be separated at least 25 feet from any of the residential structures. All work areas within 50 feet of a structure would be fenced for a distance of 100 feet on either side of the residences. DECG submitted site-specific Residential Construction Plans for residences located within 50 feet of the Project workspace. We have reviewed the plans and determined that they are adequate. We encourage affected landowners to review these site-specific residential plans and file with the Secretary any comments or concerns during the EA comment period. Dust minimization techniques (e.g. application of water to the construction areas) would be used onsite and litter and debris would be removed daily. Property restoration would be done in accordance with the FERC Plan and with consideration to landowner requests.

## Public Land, Recreation, and Other Designated Areas

DECG reviewed USGS topographic maps and publically available information through the SCDNR and determined no Project areas were located within a 0.25-mile radius of any federal, state, or local parks. In addition no protected forests, trails, scenic

highways, nature preserves, wildlife refuges, wilderness areas, or game management areas were identified. Lastly no additional designated natural, recreational, scenic areas, Native American religious sites or reservations, schools, places of worship, Coastal Zone Management Area, private preservation group lands, or hazardous waste sites were observed.

We conclude that no significant impacts on land use would occur.

**Visual Resources**

Construction activities would be temporary and would not result in long-term changes to the visual landscape in the Project area. As mentioned above, DECG is removing five stations and two farm taps. This would reduce the visual impact to the surrounding area. In addition, the new aboveground facilities would be constructed adjacent to the existing stations and would be of a similar size. As such there would be no apparent changes at the conclusion of construction.

Based on the limited scope of the Project, we conclude that the Project would have temporary impacts during construction on visual resources, but impacts would not be significant or long-term.

## 7. Cultural Resources

The National Historic Preservation Act (NHPA) of 1966, as amended (54 U.S.C. 3001 et seq.), established the Advisory Council on Historic Preservation (ACHP), created the National Register of Historic Places (NRHP), and established State Historic Preservation Offices (SHPO).

Section 101 of the NHPA requires the identification of religious and cultural properties in the area of potential effect (APE) that may be important to Indian tribes that historically occupied or used the Project area, and may be eligible for listing on the NRHP. Indian tribes are defined in 36 CFR Part 800.16(m) as: “an Indian tribe, band, nation, or other organized group or community, including a Native village, Regional Corporation, or Village Corporation, as those terms are defined in Section 3 of the Alaska Native Claims Settlement Act (43 U.S.C. 1602), which is recognized as eligible for the special programs and services provided by the United States to Indians because of their special status as Indians.” FERC acknowledges that we have trust responsibilities to

Indian tribes; so on July 23, 2003, the Commission issued a "Policy Statement on Consultations with Indian Tribes in Commission Proceedings" in Order 635. It is the obligation of FERC to consult on a government-to-government basis with Indian tribes that may have an interest in the Project.

Section 106 of the NHPA requires that all federal agencies, including FERC, take into account the effects of their undertakings on historic properties and afford the ACHP an opportunity to comment. Historic properties are archaeological sites, historic districts, buildings, structures, objects, or properties of traditional, religious, or cultural importance that are listed on or eligible for the NRHP. DECG is assisting us by providing information, analyses, and recommendations, as allowed by the regulations for implementing Section 106 at Part 800.2(a)(3), and FERC's regulations at 18 CFR 380.12(f). FERC remains responsible for all findings and determinations under the NHPA. This section summarizes the current status of compliance with the NHPA for this Project.

**Consultations**

We sent copies of our NOI issued February 17, 2017 for the Project to a wide range of stakeholders, including other federal agencies, such as the ACHP, EPA, U.S. Army Corps of Engineers, the U.S. Department of the Interior's National Park Service and Bureau of Indian Affairs; state agencies, including the South Carolina SHPO; and Indian tribes that may have an interest in the project area. The NOI contained a paragraph about Section 106 of the NHPA, and stated that we use the notice to initiate consultations with the SHPO, and to solicit their views, and those of other government agencies, interested Indian tribes, and the public on the project's potential effects on historic properties. No federal, state, or local government agencies filed comments on cultural resources issues in response to our NOI.

The NOI was sent to the Catawba Indian Nation of South Carolina, Cherokee Nation of Oklahoma, Chickasaw Nation of Oklahoma, Choctaw Nation of Oklahoma, Eastern Band of Cherokee Indians in North Carolina, Jena Band of Choctaw Indians in Louisiana, Mississippi Band of Choctaw Indians, Muscogee Creek Nation of Oklahoma, Poarch Band of Creek Indians in Alabama, and the United Keetoowah Band of Cherokee Indians in Oklahoma. We consider this notice to constitute the initiation of government-to-government consultations between FERC and Indian tribes.

In a letter to FERC dated March 6, 2017, the Tribal Historic Preservation Officer (THPO) for the Eastern Band of Cherokee Indians stated that: "…no cultural resources important to the Cherokee people should be adversely impacted by this proposed … undertaking." The Historic Preservation Office of the Choctaw Nation, in a March 27, 2017 letter to FERC, stated that "South Carolina lies outside the Choctaw Nation's area of interest." In a March 15, 2017 letter the Muscogee Nation indicated the Project is within their area of interest and they may comment after reviewing the EA.

In addition to FERC's consultations, DECG communicated with interested Indian tribes and the South Carolina SHPO. In a letter dated October 5, 2016, DECG introduced the Project to the Catawba Nation and requested comments. In response, in a letter to DECG dated November 15, 2016, the THPO for the Catawba Nation stated that: "The Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites, or Native American archaeological sites within the boundaries of the proposed project areas." In a letter to DECG dated March 20, 2017, the THPO for the Catawba Nation requested that previously recorded archaeological sites 38CS243 and 38LA425 be avoided (see Overview below).

On October 5, 2016, DECG wrote a letter to the South Carolina SHPO requesting a review of the Project, with attached maps, photographs, and a Project Review Form, to which the SHPO responded on October 12, 2016. DECG sent another letter to the SHPO on November 21, 2016, to which the SHPO responded on December 1, 2016. In an email to DECG, dated March 23, 2017, the SHPO commented on the cultural resources report (see Inventory below).

## Cultural Resources Investigations

### Areas of Potential Effect

In its South Carolina Department of Archives and History, State Historic Preservation Office, Section 106 Project Review Form, DECG stated that the APE for the Project should be the area disturbed by removal and installation activities at 22 sites, totaling 7.4 acres.

### Overview Results

In its October 5, 2016 letter to the SHPO, DECG identified seven previously recorded historic properties located between 0.2 and 0.95-mile from seven stations proposed for modifications as part of the Line A Abandonment Project. The SHPO, in its

October 12, 2016 response, indicated that previously recorded potentially NRHP-eligible archaeological sites 38CS243 and 38LA425 are located on either side of the Catawba River, in proximity to Stations 11-219, 11-220, and 11-270.

Brockington and Associates, on behalf of DECG, conducted site file research at the South Carolina Department of History and Archives and the South Carolina Institute of Archaeology and Anthropology. In addition, historic maps of the Project area were inspected (James, 2017). The results of this research indicated that 4 previous surveys overlapped with the Project area, resulting in the recordation of 5 cultural resources within 500 feet of 4 station locations. Two historic architectural sites (1127 and 1128) were previously recorded within 500 feet of Station 11-308. These are twentieth-century houses evaluated as not eligible for the NRHP. Three pre-contact archaeological sites (38YK376, 38CS243, and 38LA425) were previously recorded during a 2002 survey of the 234-mile-long Carolina Pipeline Project. Site 38YK376 is located near Station 11-165, and was evaluated as not eligible for the NRHP. Site 38LA425 is located near Station 11-270, and was evaluated as potentially eligible for the NRHP, pending further study. Site 38CS243 is located within the APE for Stations 11-219 and 11-220, and was also evaluated as potentially eligible for the NRHP, pending further investigations.

In its November 21, 2016 reply to the SHPO, DECG agreed to have sites 38CS243 and 38LA425 identified as "sensitive areas" on the ground and on construction drawings, and have removal and construction activities at those stations monitored by its EI. DECG acknowledged that its construction areas at Stations 11-219 and 11-220 would overlap a portion of site 38CS243 (about 0.3 acre of the site area). In addition, an existing access road to station 11-270 would overlap a portion (0.05 acre) of site 38LA425. Project excavations in the site areas would be monitored by an EI and if any cultural remains are discovered, DECG would implement appropriate measures (see below). The SHPO accepted those procedures in its December 1, 2016 letter to DECG.

Inventory Results

In response to our December 16, 2016 environmental information request, DECG had a cultural resources consultant (Brockington and Associates) conduct on-the-ground investigations of areas where ground disturbing activities would occur (as listed on Table 1-1 of Environmental Resource Report 1, filed with DECG's application to the FERC). Field investigations, including pedestrian surveys and shovel testing, were performed in January 2017 at 21 stations (listed in table 9 below). With the exception of Stations 11-219, 11-220 and 11-270, no cultural resources were identified during these surveys. At

Stations 11-220 and 11-270, respectively, Brockington and Associates relocated sites 38CS243 and 38LA425, and found them to possess substantially similar integrity to their condition when originally recorded in 2002. However, site 38CS243 has been damaged in part by the construction of Station 11-219 within its site boundaries subsequent to its original recordation, apparently without documented mitigation. It should be noted that Station 11-219 was constructed in 2004, which was prior to DECG becoming a FERC regulated entity. According to DECG no cultural surveys were needed at the time of construction of Station 11-219 as it was being constructed within an existing right-of-way.

While sites 38CS243 and 38LA425 are still considered be eligible for the NRHP, nevertheless, Brockington and Associates recommended that the Project would have no effect on those historic properties (James, 2017); a finding that was concurred with by the South Carolina SHPO, provided that DECG monitors construction activities at these sites and follows the procedures of its Discovery Plan (see below) if cultural materials are uncovered. We agree.

**Table 9**
**Survey Results at Stations Where Disturbance Would Occur**

| Station | Shovel Tests | Acres | Results | Recommendations |
|---|---|---|---|---|
| 11-020 | 2 | 0.35 | Negative | No further work |
| 11-040 | 2 | 0.49 | Negative | No further work |
| 11-050 | 3 | 0.22 | Negative | No further work |
| 11-052 | 3 | 0.24 | Negative | No further work |
| 11-130 | 2 | 0.31 | Negative | No further work |
| 11-140 | 3 | 0.50 | Negative | No further work |
| 11-165 | 1 | 0.28 | Negative | No further work |
| 11-170 | 3 | 0.50 | Negative | No further work |
| 11-220 | Visual Inspection | 0.71 | Site 38CS243 | Monitor |
| 11-270 | Visual Inspection | 0.76 | Site 38LA425 | Monitor |
| 11-280 | 2 | 0.29 | Negative | No further work |
| 11-300 | 2 | 0.44 | Negative | No further work |
| 11-308 | 2 | 0.16 | Negative | No further work |
| 11-310 | 2 | 0.16 | Negative | No further work |
| 11-320 | 3 | 0.57 | Negative | No further work |
| 11-330 | 2 | 0.18 | Negative | No further work |
| 11-410 | 2 | 0.17 | Negative | No further work |
| 11-420 | 2 | 0.28 | Negative | No further work |
| 579 | 1 | 0.09 | Negative | No further work |
| 580 | 2 | 0.27 | Negative | No further work |
| 582 | 2 | 0.18 | Negative | No further work |

## Unanticipated Discovery Plan

Removal and installation activities associated with the Project have the potential to impact currently unknown archaeological sites or Native American burials not identified during overviews and surveys. To handle the contingency of finding cultural or human remains during construction or removal activities, DECG included a *Plan and Procedures for the Unanticipated Discovery of Cultural Resources and Human Skeletal Remains* (Discovery Plan) as appendix 4C attached to its application to FERC. In our December 16, 2016 EIR, FERC staff requested revisions to the Discovery Plan, which DECG filed January 5, 2017. DECG documented that it sent the revised Discovery Plan to the SHPO, Catawba Nation, and Eastern Band of Cherokee Indians for review. The SHPO approved the revised plan in an email to DECG dated December 22, 2016. The THPO for the Catawba Nation concurred with the revised Discovery Plan in an email to DECG dated January 12, 2017. We agree that the revised Discovery Plan is acceptable.

**Compliance with the National Historic Preservation Act**

We have also completed the process of compliance with Section 106 of the NHPA. In a letter to DECG dated December 1, 2016, the South Carolina SHPO stated that it "…concurs with the finding that the project will have no effect on historic properties…." We agree. In its March 23, 2017 review of the cultural resources inventory report produced by Brockington and Associates (James, 2017), the SHPO stated that it "does not have any additional comments or concerns" about the project. No additional investigations are necessary at the proposed facilities; except that construction activities must be monitored at Stations 11-219, 11-220, and 11-270 to ensure that previously recorded archaeological sites 38CS243 and 38LA425 are protected and not adversely disturbed. In accordance with 36 CFR Part 800, because no historic properties would be adversely affected by the proposed Project, we do not have to consult with the ACHP about this project.

## 8. 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 ($NO_x$) and carbon monoxide (CO), sulfur dioxide ($SO_2$), and inhalable particulate matter ($PM_{2.5}$ and $PM_{10}$). $PM_{2.5}$ includes particles with

an aerodynamic diameter less than or equal to 2.5 micrometers, and $PM_{10}$ 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) and hazardous air pollutants (HAP) are also emitted during fossil fuel combustion.

Greenhouse gases (GHG) produced by fossil-fuel combustion are carbon dioxide ($CO_2$), methane ($CH_4$), and nitrous oxide ($N_2O$). GHGs status as a pollutant is not related to toxicity. GHGs are non-toxic and non-hazardous at normal ambient concentrations, and there are no applicable ambient standards or emission limits for GHG under the Clean Air Act. GHGs emissions due to human activity are the primary cause of increased levels of all GHG since the industrial age.

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 would not have any operating emissions; therefore, the NAAQS is not applicable.

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 of Federal Actions.

The Project would not include emissions from operations. However, 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.

Based on the short duration of construction activities, 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.

**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 along the pipeline right-of-way due the construction activities 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.

Because of the temporary nature of construction activities, we conclude that no significant noise impacts are anticipated from the limited construction associated with the proposed Project. The proposed Project does not include the operation of any above ground facility; therefore, noise quality impacts form operations are not expected.

## 9. 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 Depart of Transportation (DOT) pipeline standards are published in Parts 190-199 of Title 49 of the CFR. For example, Part 192 of 49 CFR 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.

Facilities associated with DECG's Project must be designed, constructed, operated, and maintained in accordance with DOT standards, including the provisions for written emergency plans and emergency shutdowns. DECG's Project would abandon segments of natural gas pipeline and certain ancillary activities. However, the operator would continue to adhere to all applicable DOT pipeline standards and requirements.

**Polychlorinated Biphenyls and Asbestos**

DECG states it has no history of polychlorinated biphenyl (PCB) contamination in its Line A facilities at concentrations equal to or greater than 50 parts per million (ppm). If PCB concentrations greater than 50 ppm are detected during the Project activities, DECG would comply with 40 of the CFR Part 761.

## 10. Cumulative Impacts

The Project would occur in a region that has been substantially affected by previous human activity and development is expected to continue in the region. Project activities would occur almost entirely within previously developed areas. Line A was installed in 1958 and for most of its route, is parallel to another DECG pipeline right-of-way for Line A-1-A.

In accordance with NEPA, we identified other actions located in the vicinity of the Project and evaluated the potential for a cumulative impact on the environment. As defined by the Council of Environmental Quality (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 within the regions of influence 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 also considered.

Consistent with CEQ guidance and to determine cumulative impacts, we established a Project-specific geographic scope as described below. Actions located outside the geographic scope of our review are generally not evaluated because their potential to contribute to a cumulative impact diminishes with increasing distance from the Project.

As described in the environmental analysis section of this is EA, constructing and operating the Project would temporarily and permanently impact the environment. The Project could impact soils, vegetation, wildlife, visual resources, air quality, noise, and some land uses. However, we conclude that these impacts would not be significant. We also conclude that nearly all of the project-related impacts would be contained within or adjacent to the temporary construction workspace. Based on these conclusions and determinations, implementation of the Plan, and DECG's adherence to our recommendations, we conclude that the impacts of the Project would be highly localized.

Furthermore, the impacts of the Project would only contribute incrementally to a cumulative impact in the geographic scope. As a result, the scope of our analysis is consistent with the magnitude of the aforementioned environmental impacts.

No cultural resources were identified within or adjacent to Project resources at Stations 579 and 580, and as these are the only locations with other projects located within the same APE of the Project, cumulative impacts on cultural resources are anticipated. In addition, we have determined that the Project would have no cumulative impacts on geology. As such, cultural resources and geology are not discussed further.

Based on the impacts of the Project as identified and described in this EA and consistent with CEQ guidance, we have determined that the following resource-specific geographic scopes are appropriate to assess cumulative impacts:

- Impacts on vegetation, wildlife, and groundwater resources could extend outside of the workspaces, but would be contained to a relatively small area. Therefore, for these resources we evaluated other projects/actions within the Hydraulic Unit Code (HUC) 12 sub-watershed.

- We concluded in sections B.3 and B.4 that the Project would not affect wetlands, surface waterbodies, or fisheries. In addition, we conclude in section B.5 of this EA that the Project would have no adverse effect on any federally listed species. Consequently, cumulative impacts on these resources not considered further.

- Impacts on soils would be limited and within defined construction workspaces of the Project. As such the geographic scope was determined to be the construction workspaces.

- Temporary impacts on air quality, including fugitive dust, and noise would be largely limited to areas immediately around active construction. We evaluated other projects/actions within 0.25 mile that overlap in time with construction activities.

- We used 1.0-mile radius surrounding the Project areas as the geographic scope for the analysis of cumulative impacts on land use, including visual resources.

Projects Within the Geographic Scope

Table 10 identifies the past, present, and reasonably foreseeable projects or actions within the geographic resource scopes defined above. These projects were identified by a review of publicly available information; aerial and satellite imagery; consultations with federal and state, agencies/officials; and information provided by DECG. It should be noted that the actions that DECG will complete at the aboveground stations under their Blanket Certificate are not included below, as the impacts of these actions were included in section B of this EA.

**Table 10**
**Other Projects Potentially Contributing to Cumulative Impacts**

| Project Name (County) | Distance to Project (County) | Construction Years | Project Description | Acres Affected and Land Use Type | Anticipated Permits, Required | Same Sub-Watershed (HUC-12) |
|---|---|---|---|---|---|---|
| SC 72 Bridge (York) | 1.8 miles (York) | 2015-2017 | Bridge replacement over Fishing Creek | 8.1 Cropland/Pasture (Transportation) | Construction General Permit, Army Corps of Engineers Nationwide Permit | Yes |
| McConnells Hwy Widening (York) | 1.3 miles (York) | 2016-2018 | Widening of McConnell's Highway to 3 lanes between SC-901 and SC-324 | 55.2 - Cropland/pasture (Transportation)<br><br>23.0 - Mixed Forest<br><br>26.9 - Residential | Construction General Permit | Yes |
| Ahlstrom Expansion (Kershaw) | 0.4 miles (Kershaw) | 2016-2017 | Expansion of existing plant in Bethune to add new production line | Industrial | General building permits | Yes |
| Non-jurisdictional farm taps and pipeline (Kershaw) | within 0.25 mile (Kershaw) and within construction right-of-way near Stations 579 and 580 | Unknown | Installation of 2-inch-diameter pipeline to connect 2-inch pipeline to existing SCE&G local system | Utility right-of-way | Unknown | Yes |

Cumulative impacts on soils; wildlife and vegetation; air quality; noise; and land use could occur and are discussed further.

Soils

Our preliminary analysis determined that the Project would contribute either minimal or no cumulative impact on soils. However, the non-jurisdictional farm tap projects may be conducted within Project workspaces and may overlap in a temporal fashion with the Project. This could lead to an increase in the erosion of soils due to ground disturbance activities. DECG would utilize sediment and erosion controls that will be implemented in accordance with the Plan. Based on the fact that the Project would only contribute to minor impacts on soils, we conclude that cumulative impacts on soils would be minor.

Wildlife and Vegetation

The abandonment and construction activities would result in vegetation impacts ranging from temporary to permanent, dependent on the location. No forest clearing would be conducted for the Project.

The SC 72 Bridge, McConnell's Highway Widening, Ahlstrom Expansion, and non-jurisdictional farm tap projects are within the same HUC 12 watersheds of the Project. Impacts on vegetation and wildlife habitats due to the SC-72 Bridge replacement and the McConnell's Highway Widening projects may affect similar vegetative communities as the Project. Based on publically available information collected by DECG, the SC-72 Bridge replacement project may affect approximately 8.1 acres of crop/pastureland associated with transportation corridors. The McConnell's Highway Widening project may affect approximately 55 acres of cropland/pastures associated with transportation corridors, approximately 23 acres of forest, and approximately 27 acres of residential land. The Ashlstrom Expansion Project would be constructed within an existing industrial facility. The non-jurisdictional farm tap project would also be constructed entirely within existing, maintained rights-of-way.

As described in section B.3 of this EA, impacts on vegetation and wildlife would be mostly short-term. Some cumulative impacts on grassland would occur. However, this maintained vegetative community is neither limited regionally nor significant for indigenous wildlife. Based on the fact that the Project would contribute minor and mostly temporary impacts and the limited footprint of the other projects in the geographic scope, we conclude that cumulative impacts on vegetation and wildlife would be minor.

Land Use

The Project would affect temporarily approximately 7.4 acres of land consisting mostly of existing rights-of-way and the aboveground facility sites. About 86 percent of the Project's contribution to cumulative land use impacts affect existing utility rights-of-way, non-forested lands, and fallow fields. The Ahlstrom Expansion and the non-jurisdictional farm tap project would also affect these land use resources. Acreage impacts on land use from the Ahlstrom Expansion are not available. The farm tap project would be conducted entirely within maintained rights-of-way. This non-jurisdictional project would be replacing existing taps and would not result in a land use change in the general vicinity of the construction area. We conclude that based on the land use types affected by the Project and on the small size and temporary nature of the Project, that cumulative impacts would not be significant when combined with the other projects in the same geographic scope.

Air Quality

The cumulative impact area for air quality was considered to be 0.25 miles from the Project construction activities. As discussed in section B.8 of this EA, the proposed Project would result in minor and localized temporary construction emissions and dust. The non-jurisdictional farm tap project is the only project identified within this geographic scope. Cumulative impacts from construction related emissions as a result of the possible concurrent construction with the non-jurisdictional farm tap project would be minor and temporary in nature and would decrease as the distance from the source increases. Therefore, the emissions generated during construction of the proposed Project would not contribute to a significant cumulative impact on air quality.

Noise

Construction of the Project could be concurrent with construction of the non-jurisdictional farm tap project which could result in cumulative impacts on noise in the area. Though residences are located in the vicinity of the Project areas for both the Line A Project and the nonjurisdictional farm tap projects, construction activities are temporary and are expected to occur primarily during the day; therefore, cumulative impacts on noise during construction are anticipated to be minor. No operation noise is anticipated as a result of the proposed Project.

Conclusion

As discussed in this EA, the environmental impacts associated with the Project would be less than significant and we conclude that construction and operation of the Project would not result in a significant cumulative impact on any resource in the region.

## C. ALTERNATIVES

In accordance with NEPA and Commission policy, we considered alternatives to the proposed action, including the no-action alternative and a pipeline abandonment by removal alternative. These alternatives were evaluated to determine whether they would be reasonable and environmentally preferable to the proposed action.

The following evaluation criteria were used to determine whether an alternative would be environmentally preferable:

- ability to meet the Project's stated objective;
- technical and economic feasibility and practicality; and
- significant environmental advantage over the proposed action.

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, geographic information system 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). Our environmental analysis and this evaluation consider quantitative data (e.g., acreage or mileage) and use 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. These impacts were described in detail in section B of this EA. Because the alternatives represent mostly alternative locations for natural gas facilities, the specific nature of these impacts on the natural and human environments would generally be similar to the impacts described in section B. 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 and discount or eliminate factors that are not relevant or may have less weight or significance.

The purpose of the Project is to abandon a 59-year-old pipeline with concerns relating to the integrity of the pipe seam. Further, DECG has determined that Line A is not needed to support current or future customers. Project modifications at existing aboveground facilities would allow gas to be transferred from the abandoned Line A to

the existing Line A-1-A. The alternatives were reviewed against the evaluation criteria in the sequence presented above and if the alternative would not meet the Project's objective or is not feasible, it was not brought forward to the next level of review.

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.1 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 is 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. The determination must then balance the overall impacts and all other relevant considerations. In comparing the impact between resources, we also considered the degree of impact anticipated on each resource. Ultimately, an alternative that results in equal or minor advantages in terms of environmental impact would not compel us to shift the impacts from the current set of landowners to a new set of landowners.

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 the cost of relocating the route/facility to a new set of landowners was also factored into our evaluation.

## No-Action Alternative

Under the no-action alternative, DECG would not implement the proposed action, thus avoiding the potential environmental impacts associated with the Project as described in this EA; however, the Project objectives would not be met. Due to concerns relating to the integrity of the Line A pipe seam, DECG would need to hydrostatically test and modify the pipeline to accommodate an in-line inspection. As Line A is not needed to support current or future customers' needs, it would not be economical to implement the testing and modification of the pipeline necessary to keep it operational. In addition, the testing and modification of the Line A pipeline may have more environmental effects than the abandonment in-place of the pipeline.

## Pipeline Alternatives

As the Project proposes to transfer the station feeds of the abandoned Line A pipeline to the collocated existing Line A-1-A pipeline, no pipeline alternatives were identified that could meet the stated project objectives.

## Partial Removal of Line A Pipeline

As an alternative to the proposed action, the removal of segments of Line A at waterbodies, wetlands, and other sensitive resources was considered. We determined that based on data from publically available sources, including the National Wetlands Inventory Mapping, the Cultural Resource Mapping from the South Carolina Institute of Archaeology and Anthropology, and the South Carolina Department of Archives and History that increased impacts to these sensitive resources would occur if the pipeline would be physically removed in these areas. A summary of the potential impacts to the sensitive resources is presented in table 11 below.

**Table 11**
**Potential Impacts to Sensitive Resources due to Removal of Line A**

| Line Segment | Features | Amount of Impacts | Units |
|---|---|---|---|
| Section A | Streams[1] | 635 | linear feet |
| | Wetlands[1] | 0.03 | acres |
| | Cultural Resources[2] | 0 | acres |
| Section B | Streams[1] | 5,760 | linear feet |
| | Wetlands[1] | 0.92 | acres |
| | Open Water[1] | 0.29 | acres |
| | Cultural Resources[2] | 0 | acres |
| Section C | Streams[1] | 1,035 | linear feet |
| | Wetlands[1] | 6.9 | acres |
| | Open Water[1] | 0.47 | acres |
| | Cultural Resources[2] | 3.4 | acres |

References

[1]USFWS provided the National Wetland Inventory shapefile dated 2016.
[2]South Carolina Institute of Archaeology & Anthropology and SC Department of Archives and History provided the shapefile, dated 2017.

As no impacts to streams and wetlands are anticipated in the construction and operation of the proposed Project, the alternative above does not provide a significant environmental advantage and is not considered further.

## Conclusion

Our analysis of alternatives did not identify any siting alternatives that could reduce impacts while still meeting the Project's stated objectives. Further, we received no comments from stakeholders requesting our review of an alternative for the Project. In summary, we have determined that DECG's proposed project is the preferred alternative than can meet the Project objectives.

## D. STAFF'S CONCLUSION AND RECOMMENDATIONS

Based on the above environmental analysis, the staff has determined that approval of the Project would not constitute a major federal action significantly affecting the quality of the human environment. The staff recommends that the Commission Order contain a finding of no significant impact and include the mitigation measures listed below as conditions to the certificate the Commission may issue to DECG.

1. DECG 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. DECG 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 the Office of Energy Projects (OEP) **before using that modification**.

2. The Director of OEP has delegated authority to take whatever steps are necessary to ensure the protection of all environmental resources during activities associated with abandonment and restoration. This authority shall allow:

    a. the modification of conditions of the Order; and
    b. the design and implementation of any additional measures deemed necessary (including stop-work authority) to assure continued compliance with the intent of the environmental conditions as well as the avoidance or mitigation of adverse environmental impact resulting from abandonment activities.

3. **Prior to any construction**, DECG shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, EIs, and contractor personnel will be informed of the EI's authority and have been or will be trained on the implementation of the environmental mitigation measures

appropriate to their jobs **before** becoming involved with construction and restoration activities.

4. The authorized facility locations shall be as shown in the EA. **As soon as they are available, and before the start of construction**, DECG shall file with the Secretary any revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for all facilities approved by the Order. All requests for modifications of environmental conditions of the Order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

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

5. DECG 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 FERC'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 or abandonment activities begin**, DECG shall file an Implementation Plan with the Secretary for review and written approval by the Director of OEP. DECG must file revisions to the plan as schedules change. The plan shall identify:

a. how DECG 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 DECG 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 DECG 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 DECG's organization having responsibility for compliance;
g. the procedures (including use of contract penalties) DECG 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. DECG 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. a full-time position, separate from all other activity inspectors;
e. responsible for documenting compliance with the environmental conditions of the Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
f. responsible for maintaining status reports.

8. Beginning with the filing of its Implementation Plan, DECG shall file updated status reports with the Secretary on a **biweekly** basis until all construction and restoration activities are complete. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:

a. an update on DECG's efforts to obtain the necessary federal authorizations;
b. the construction status of 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, and their cost;
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 DECG from other federal, state, or local permitting agencies concerning instances of noncompliance, and DECG's response.

9. **Prior to receiving written authorization from the Director of OEP to commence construction or abandonment activities**, DECG shall file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof).

10. **Within 30 days of completing Project abandonment**, DECG shall file an affirmative statement with the Secretary, certified by a senior company official:

a. that the facilities have been 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 DECG 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.

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# APPENDIX A

## Station Removal and Modification Description

| Station | Milepost | Equipment to be Removed | | | Pipeline to be Removed | | Removal Method | Disturbance Area [feet] | Acres Affected |
|---|---|---|---|---|---|---|---|---|---|
| | | Quantity | Size (inches) | Type | Size (inches) | Length (feet) | | | |
| 11-020 | 12.9 | 1 | 1 | Valve | 2 | 20 | Line A Abandonment: Excavation will be needed to cap Line A and abandon above ground and below grade 4-inch-diameter piping between Line A and the station piping.<br><br>Line A-1-A Modifications: Installation of crossover piping and a new regulator and meter station for Line A-1-A. | 48 x 73 | 0.4 |
| | | 3 | 2 | Valve | 4 | 5 | | | |
| | | 2 | 4 | Valve | | | | | |
| | | 1 | 2 | Regulator | | | | | |
| | | 1 | 2 | Strainer | | | | | |
| 11-040 | 16.1 | 3 | 2 | Valve | 2 | 10 | Line A Abandonment: Excavation will be needed to cap Line A and abandon above ground and below grade 4-inch-diameter piping between Line A and the station piping.<br><br>Line A-1-A Modifications: Installation of crossover piping and a new regulator and meter station for Line A-1-A. | 42 x 106 | 0.5 |
| | | 2 | 4 | Valve | 4 | 5 | | | |
| | | 1 | 2 | Regulator | | | | | |
| | | 1 | 4 | Strainer | | | | | |

| Station | Milepost | Equipment to be Removed | | | Pipeline to be Removed | | Removal Method | Disturbance Area [feet] | Acres Affected |
|---|---|---|---|---|---|---|---|---|---|
| | | Quantity | Size (inches) | Type | Size (inches) | Length (feet) | | | |
| 11-050 [1] | 17.6 | 11 | 2 | Valve | 2 | 20 | Line A Abandonment: Removal and abandonment of the entire station. Excavation required around the entire station to remove station piping, appurtenances, existing concrete and gravel pad, fencing, and electrical equipment. Site will be revegetated and restored to a maintained ROW. | 48 x 70 | 0.2 |
| | | 2 | 3 | Valve | 4 | 30 | | | |
| | | 4 | 4 | Valve | 6 | 20 | | | |
| | | 4 | 2 | Regulator | | | | | |
| | | 2 | 2 | Strainer | | | | | |
| | | 1 | 6 | Meter | | | | | |
| 11-052 | 18.2 | 1 | 1 | Valve | 2 | 20 | Line A Abandonment: Excavation will be needed to cap Line A and abandonment of above ground and below grade 4-inch-diameter piping between Line A and the station piping.<br><br>Line A-1-A Modifications: Installation of crossover piping and a new regulator and meter station for Line A-1-A. | 37 x 61 | 0.2 |
| | | 3 | 2 | Valve | 4 | 5 | | | |
| | | 2 | 4 | Valve | | | | | |
| | | 1 | 2 | Regulator | | | | | |
| | | 1 | 2 | Strainer | | | | | |

| Station | Milepost | Equipment to be Removed | | | Pipeline to be Removed | | Removal Method | Disturbance Area [feet] | Acres Affected |
|---|---|---|---|---|---|---|---|---|---|
| | | Quantity | Size (inches) | Type | Size (inches) | Length (feet) | | | |
| 11-130 | 28.9 | 1 | 12 | Valve | 4 | 20 | Line A Abandonment: Excavation will be needed to cap Line A and abandon above ground 10-inch-diameter piping for Line A and appurtenances.<br><br>Line A-1-A Modifications: Installation of new regulator station, gas heater, and crossover piping for Line A-1-A. | 52 x 85 | 0.3 |
| | | 3 | 4 | Valve | 6 | 30 | | | |
| | | 1 | 6 | Valve | 12 | 15 | | | |
| | | 2 | 6 | Regulator | | | | | |
| | | 2 | 3 | Regulator | | | | | |
| 11-140 | 32.8 | 1 | 10 | Valve | 3 | 15 | Line A Abandonment: Abandonment of above ground 10-inch-diameter piping for Line A. | 68 x 120 | 0.5 |
| | | 2 | 4 | Valve | 4 | 10 | | | |

| Station | Milepost | Equipment to be Removed | | | Pipeline to be Removed | | Removal Method | Disturbance Area [feet] | Acres Affected |
|---|---|---|---|---|---|---|---|---|---|
| | | Quantity | Size (inches) | Type | Size (inches) | Length (feet) | | | |
| | | | | | 10 | 10 | Line A-1-A Modifications: Installation of crossover piping and a new regulator station for Line A-1-A, excavation within the station and outside of the station to construct a new feed to the 3-inch-diameter lateral line to Chester TB from Line A-1-A. A temporary stopple and bypass on the 3-inch-diameter line to Chester TB will be required to maintain uninterrupted service during station modifications. | | |
| 11-165 | 35.2 | 2 | 2 | Regulator | 2 | 15 | Line A Abandonment: Excavation will be needed to cap the line below grade.<br><br>Line A-1-A Modifications: Installation of a new regulator station, crossover piping, gas heater, disconnection and modification of 2-inch-diameter tap off Line A and the station connection. A temporary stopple and bypass on the 2- | 49 x 137 | 0.3 |
| | | | | | 4 | 600 | | | |

| Station | Milepost | Equipment to be Removed | | | Pipeline to be Removed | | Removal Method | Disturbance Area [feet] | Acres Affected |
|---|---|---|---|---|---|---|---|---|---|
| | | Quantity | Size (inches) | Type | Size (inches) | Length (feet) | | | |
| | | | | | | | inch-diameter tap will be required to maintain uninterrupted service during station construction. | | |
| 11-170 | 39.7 | 4 | 4 | Valve | 4 | 10 | Line A Abandonment: Abandonment of above ground 10-inch-diameter piping and appurtenances for Line A.<br><br>Line A-1-A Modifications: Installation of a new regulator station and modifications to station components. | 47 x 152 | 0.5 |
| | | 7 | 6 | Valve | 6 | 35 | | | |
| | | 1 | 8 | Valve | 8 | 15 | | | |
| | | 1 | 10 | Valve | 10 | 20 | | | |
| | | 1 | 16 | Valve | 16 | 50 | | | |
| | | 4 | 6 | Regulator | | | | | |
| 11-219[2] | 47.2 | - | - | - | 3 | 120 | Line A Abandonment: No above ground station work. Underground 3" lateral from station 11-220 shall be cut and capped below grade. Ground disturbance outside of the station footprint will be required to disconnect the current secondary feed from Station 11-220. | 121 x 174 | 0.8 |

| Station | Milepost | Equipment to be Removed | | | Pipeline to be Removed | | Removal Method | Disturbance Area [feet] | Acres Affected |
|---|---|---|---|---|---|---|---|---|---|
| | | Quantity | Size (inches) | Type | Size (inches) | Length (feet) | | | |
| 11-220[1] | 47.2 | 2 | 2 | Valve | 3 | 40 | Line A Abandonment: Removal and abandonment of the entire station. Excavation will be needed to cap Line A, two 8-inch-diameter underground pipes from Station 11-270, and 3-inch-diameter underground branch line to Station 11-219. A temporary bypass will be required to maintain station feed to station 11-219 during construction. | | |
| | | 3 | 3 | Valve | 4 | 15 | | | |
| | | 3 | 4 | Valve | 6 | 10 | | | |
| | | 2 | 8 | Valve | 8 | 15 | | | |
| | | | | | 10 | 10 | | | |
| 11-270[1] | 47.4 | 2 | 8 | Valve | 8 | 35 | Line A Abandonment: Removal and abandonment of the entire station. Excavation will be needed to cap Line A and two 8-inch-diameter underground pipes from Station 11-220. | 76 x 130 | 0.7 |
| | | | | | 10 | 10 | | | |

| Station | Milepost | Equipment to be Removed | | | Pipeline to be Removed | | Removal Method | Disturbance Area [feet] | Acres Affected |
|---|---|---|---|---|---|---|---|---|---|
| | | Quantity | Size (inches) | Type | Size (inches) | Length (feet) | | | |
| 11-280 | 49 | 3 | 2 | Valve | 3 | 30 | Line A Abandonment: Abandonment of above ground piping.<br><br>Line A-1-A Modifications: Installation of new tap off of Line A-1-A, new regulator station, and new gas heater adjacent to the existing station. A temporary stopple and bypass will be required to maintain station feed during construction. | 50 x 135 | 0.3 |
| | | 4 | 4 | Valve | 6 | 15 | | | |
| | | 1 | 8 | Valve | 8 | 20 | | | |
| | | | | | 10 | 15 | | | |
| 11-300 | 51.7 | 7 | 2 | Valve | 2 | 20 | Line A Abandonment: Abandonment of above ground piping.<br><br>Line A-1-A Modifications: Installation of new tap off of | 50 x 236 | 0.4 |
| | | 3 | 4 | Valve | 4 | 15 | | | |

| Station | Milepost | Equipment to be Removed | | | Pipeline to be Removed | | Removal Method | Disturbance Area [feet] | Acres Affected |
|---|---|---|---|---|---|---|---|---|---|
| | | Quantity | Size (inches) | Type | Size (inches) | Length (feet) | | | |
| | | 1 | 10 | Valve | 6 | 5 | Line A-1-A, a new regulator station, meter station, and gas heater adjacent to the existing station, and modification of station piping. | | |
| | | 2 | 2 | Regulator | 10 | 20 | | | |
| | | 1 | 4 | Strainer | | | | | |
| | | 1 | 4 | Meter | | | | | |
| 11-308[1] | 60.2 | 1 | 10 | Valve | 10 | 15 | Line A Abandonment: Removal and abandonment of the entire station. Excavation will be needed to cap Line A at grade. | 50 x 83 | 0.2 |
| 11-310 | 60.6 | 2 | 2 | Valve | 2 | 40 | Modification of the aboveground 10-inch- diameter piping for Line A. | -- | 0.2 |
| | | 2 | 4 | Valve | 4 | 10 | | | |
| | | 1 | 10 | Valve | 10 | 15 | | | |
| 11-320 | 66.9 | 2 | 2 | Valve | 2 | 15 | Line A Abandonment: Abandonment of above ground 10-inch-diameter piping and appurtenances.<br><br>Line A-1-A Modifications: Excavation to bring the Line A-1-A aboveground, installation of a new regulator station and gas heater, and modification of station piping. | 46 x 492 | 0.6 |
| | | 2 | 4 | Valve | 4 | 10 | | | |
| | | 1 | 10 | Valve | 10 | 20 | | | |
| | | 1 | 2 | Meter | 2 | 20 | | | |

| Station | Milepost | Equipment to be Removed | | | Pipeline to be Removed | | Removal Method | Disturbance Area [feet] | Acres Affected |
|---|---|---|---|---|---|---|---|---|---|
| | | Quantity | Size (inches) | Type | Size (inches) | Length (feet) | | | |
| 11-330 | 75.1 | 1 | 4 | Strainer | 4 | 5 | Line A Abandonment: Abandon aboveground 10-inch-diameter piping and appurtenances. Excavation will be needed to cap Line A.<br><br>Line A-1-A Modifications: Piping modification, installation of a new underground 10-inch-diameter pipe to connect separated segments below grade. | 48 x 120 | 0.2 |
| | | 4 | 4 | Valve | 10 | 20 | | | |
| | | 1 | 10 | Valve | | | | | |
| 11-410[1] | 76.8 | 2 | 4 | Valve | 4 | 15 | Line A Abandonment: Removal and abandonment of the entire station. Excavation will be needed to cap Line A at grade. | 37 x 47 | 0.2 |
| | | 1 | 10 | Valve | 10 | 20 | | | |
| 582 | 78 | 1 | 1 | Valve | - | - | Line A Abandonment: Abandonment of the existing station piping.<br><br>Line A-1-A Modifications: Installation of new tap off of Line A-1-A and new station piping. | 48 x 114 | 0.2 |
| 579 | 83.8 | 1 | 1 | Valve | - | - | Line A Abandonment: Removal and abandonment of the entire station. Excavation at the farm tap to cap Line A. | 48 x 49 | 0.1 |

| Station | Milepost | Equipment to be Removed | | | Pipeline to be Removed | | Removal Method | Disturbance Area [feet] | Acres Affected |
|---|---|---|---|---|---|---|---|---|---|
| | | Quantity | Size (inches) | Type | Size (inches) | Length (feet) | | | |
| 580 | 84 | 1 | 1 | Valve | - | - | Line A Abandonment: Removal and abandonment of the entire station. Excavation at the farm tap to cap Line A. | 47 x 106 | 0.3 |
| 11-420 | 84.5 | 3 | 2 | Valve | 2 | 10 | Line A Abandonment: Excavation will be needed to cap 3-inch-diameter tap off Line A.<br><br>Line A-1-A Modifications: Installation of a new tap off Line A-1-A to feed the station, a new regulator station, and gas heater, and modification of the remaining 3-inch-diameter piping. | 50 x 152 | 0.3 |
| | | 1 | 3 | Valve | 3 | 10 | | | |

[1] Station to be removed

[2] Disturbance area and acres affected are merged with station 11-220

Notes:

Line A Abandonment activities will be completed under 7b/157.216.

Line A-1-A Modifications will be completed under 157.208.

# APPENDIX B

## Rare, Threatened, and Endangered State and Federally Listed Species

| Rare, Threatened, and Endangered Species with Known Records of Occurrence in York County, South Carolina | | | | | | |
|---|---|---|---|---|---|---|
| **Species** | **Common Name** | **Federal Status[1]** | **State Status[2]** | **Habitat Requirements** | **Site Supports Requirements** | **Effect Determination[3]** |
| **Plants** | | | | | | |
| *Hexastylis naniflora* | Dwarf-flowered heartleaf | LT | -- | Oak-hickory-pine plant communities, on slopes near streams in moist, acidic soils. | No: site consists of a maintained right-of-way. The site contains no potential habitat and this species does not appear to be present. | No Effect |
| *Amphianthus pusillus* | Little amphianthus | LT | -- | Shallow, flat-bottomed depressions on granite outcrops, in full sun, with thin, gravelly soils and seasonal winter-spring inundation. | No: site consists of a maintained right-of-way. The site contains no potential habitat and this species does not appear to be present. | No Effect |
| *Symphyotrichum georgianum* | Georgia aster | C | -- | Sunny areas and edges/openings in rocky, upland oak-hickory-pine forests, and rights-of-way through these habitats. | Yes: however a site visit was conducted no flowers were identified and this species does not appear to be present. | May Affect, but is Not Likely to Adversely Affect |
| *Helianthus schweinitzii* | Schweinitz's sunflower | LE | -- | Areas with poor soils in full to partial sun, often in disturbed areas such as along roadsides and rights-of-way. | Yes: however a site visit was conducted during the flowering period and no flowers were identified and this species does not appear to be present. | May Affect, but is Not Likely to Adversely Affect |
| **Mussels** | | | | | | |
| *Lasmigona decorata* | Carolina heelsplitter | LE | -- | Along shorelines with well vegetated stream banks; cool, clean, oxygenated waters with stable, silt-free bottoms. | No: there are no streams located on site. The site contains no potential habitat and this species does not appear to be present. | No Effect |
| **Vertebrates** | | | | | | |
| *Corynorhinus rafinesquii* | Rafinesque's big-eared bat | LT | -- | Summer roosts in trees or snags, and winter roosts in abandoned buildings, wells, under bridges, and caves. | No: site consists of a maintained right-of-way. The site contains no potential habitat and this species does not appear to be present. | No Effect |
| *Birds* | | | | | | |
| *Haliaeetus leucocephalus* | Bald eagle | MBTA4, BGEPA5 | ST | Nesting sites are usually found in tall pines or cypress trees along or near waterbodies. | No: site consists of a maintained right-of-way. The site contains no potential habitat and this species does not appear to be present. | No Effect |

Notes: (1) Federal status (USFWS): LE = listed endangered; LT = listed threatened; C = candidate. (2) South Carolina state status (SC Heritage Trust, SCDNR): SE = endangered; ST = threatened; SR = rare; U = unusual. (3) Endangered Species Act Effects Determination; No effect; May affect, but is not likely to adversely affect; May affect, and is likely to adversely affect. (4) Federal protection under the Migratory Bird Treaty Act. (5) Federal protection under the Bald and Golden Eagle Protection Act.

| Rare, Threatened, and Endangered Species with Known Records of Occurrence in Chester County, South Carolina | | | | | | |
|---|---|---|---|---|---|---|
| **Species** | **Common Name** | **Federal Status[1]** | **State Status[2]** | **Habitat Requirements** | **Site Supports Requirements** | **Effect Determination[3]** |
| **Plants** | | | | | | |
| *Hexastylis naniflora* | Dwarf-flowered heartleaf | LT | -- | Oak-hickory-pine plant communities, on slopes near streams in moist, acidic soils. | No: site consists of a maintained right-of-way. The site contains no potential habitat and this species does not appear to be present. | No Effect |
| *Amphianthus pusillus* | Little amphianthus | LT | -- | Shallow, flat-bottomed depressions on granite outcrops, in full sun, with thin, gravelly soils and seasonal winter-spring inundation. | No: site consists of a maintained right-of-way. The site contains no potential habitat and this species does not appear to be present. | No Effect |
| *Echinacea laevigata* | Smooth coneflower | LE | -- | Open woods, glades, roadsides, clearcuts, dry limestone bluffs, and power line rights- of-way; usually on magnesium and calcium rich soils | Yes: however a site visit was conducted during the flowering period and no flowers were identified and this species does not appear to be present. | May Affect, but is Not Likely to Adversely Affect |
| *Helianthus schweinitzii* | Schweinitz's sunflower | LE | -- | Areas with poor soils in full to partial sun, often in disturbed areas such as along roadsides and rights-of-way. | Yes: however a site visit was conducted during the flowering period and no flowers were identified and this species does not appear to be present. | May Affect, but is Not Likely to Adversely Affect |
| *Symphyotrichum georgianum* | Georgia aster | C | -- | Sunny areas and edges/openings in rocky, upland oak-hickory-pine forests, and rights- of-way through these habitats. | Yes: however a site visit was conducted and no flowers were identified and this species does not appear to be present. | May Affect, but is Not Likely to Adversely Affect |
| *Isoetes melanospora* | Black spored quillwort | LE | -- | Shallow, flat-bottomed pools on granite outcrops. The pools are seasonally inundated in winter and spring, and dry during the summer and fall | No: site consists of a maintained right-of-way. The site contains no potential habitat and this species does not appear to be present. | No Effect |
| **Mussels** | | | | | | |
| *Lasmigona decorata* | Carolina heelsplitter | LE | SE | Along shorelines with well vegetated streambanks; cool, clean, oxygenated waters with stable, silt-free bottoms. | No: there are no streams located on site. The site contains no potential habitat and this species does not appear to be present. | No Effect |
| **Vertebrates** | | | | | | |
| *Corynorhinus rafinesquii* | Rafinesque's big-eared bat | LT | -- | Summer roosts in trees or snags, and winter roosts in abandoned buildings, wells, under bridges, and caves. | No: site consists of a maintained right-of-way. The site contains no potential habitat and this species does not appear to be present. | No Effect |
| **Birds** | | | | | | |
| *Picoides borealis* | Red-Cockaded woodpecker | LE | -- | Mature longleaf pine and (occasionally) loblolly pine stands with an open understory within sandhill communities. | No: site consists of a maintained right-of-way. The site contains no potential habitat and this species does not appear to be present. | No Effect |

| | | | | | | |
|---|---|---|---|---|---|---|
| *Haliaeetus leucocephalus* | Bald eagle | MBTA[4], BGEPA[5] | ST | Nesting sites are usually found in tall pines or cypress trees along or near waterbodies. | No: site consists of a maintained right-of-way. The site contains no potential habitat and this species does not appear to be present. | No Effect |
| Notes: (1) Federal status (USFWS): LE = listed endangered; LT = listed threatened; C = candidate. (2) South Carolina state status (SC Heritage Trust, SCDNR): SE = endangered; ST = threatened; SR = rare; U = unusual. (3) Endangered Species Act Effects Determination; No effect; May affect, but is not likely to adversely affect; May affect, and is likely to adversely affect. (4) Federal protection under the Migratory Bird Treaty Act. (5) Federal protection under the Bald and Golden Eagle Protection Act. | | | | | | |

| Rare, Threatened, and Endangered Species with Known Records of Occurrence in Lancaster County, South Carolina | | | | | | |
|---|---|---|---|---|---|---|
| **Species** | **Common Name** | **Federal Status[1]** | **State Status[2]** | **Habitat Requirements** | **Site Supports Requirements** | **Effect Determination[3]** |
| **Plants** | | | | | | |
| *Amphianthus pusillus* | Little amphianthus | LT | -- | Shallow, flat-bottomed depressions on granite outcrops, in full sun, with thin, gravelly soils and seasonal winter-spring inundation. | No: site consists of a maintained right-of-way. The site contains no potential habitat and this species does not appear to be present. | No Effect |
| *Echinacea laevigata* | Smooth coneflower | LE | -- | Open woods, glades, roadsides, clearcuts, dry limestone bluffs, and power line rights-of-way; usually on magnesium and calcium rich soils | Yes: however a site visit was conducted during the flowering period and no flowers were identified and this species does not appear to be present. | May Affect, but is Not Likely to Adversely Affect |
| *Helianthus schweinitzii* | Shweinitz's sunflower | LE | -- | Areas with poor soils in full to partial sun, often in disturbed areas such as along roadsides and rights-of-way. | Yes: however a site visit was conducted during the flowering period and no flowers were identified and this species does not appear to be present. | May Affect, but is Not Likely to Adversely Affect |
| *Isoetes melanospora* | Black spored quillwort | LE | -- | Shallow, temporarily flooded, flat-bottomed pools on granite outcrops. Pools are inundated in winter and spring and dry in the summer and fall. | No: site consists of a maintained right-of-way. The site contains no potential habitat and this species does not appear to be present. | No Effect |
| **Mussels** | | | | | | |
| *Lasmigona decorata* | Carolina heelsplitter | LE | SE | Along shorelines with well vegetated streambanks; cool, clean, oxygenated waters with stable, silt-free bottoms. | No: there are no streams located on site. The site contains no potential habitat and this species does not appear to be present. | No Effect |
| **Birds** | | | | | | |
| *Haliaeetus leucocephalus* | Bald eagle | MBTA[4], BGEPA[5] | ST | Nesting sites are usually found in tall pines or cypress trees along or near waterbodies. | No: site consists of a maintained right-of-way. The site contains no potential habitat and this species does not appear to be present. | No Effect |

Notes: (1) Federal status (USFWS): LE = listed endangered; LT = listed threatened; C = candidate. (2) South Carolina state status (SC Heritage Trust, SCDNR): SE = endangered; ST = threatened; SR = rare; U = unusual. (3) Endangered Species Act Effects Determination; No effect; May affect, but is not likely to adversely affect; May affect, and is likely to adversely affect. (4) Federal protection under the Migratory Bird Treaty Act. (5) Federal protection under the Bald and Golden Eagle Protection Act.

| Rare, Threatened, and Endangered Species with Known Records of Occurrence in Kershaw County, South Carolina | | | | | | |
|---|---|---|---|---|---|---|
| **Species** | **Common Name** | **Federal Status[1]** | **State Status[2]** | **Habitat Requirements** | **Site Supports Requirements** | **Effect Determination[3]** |
| **Plants** | | | | | | |
| *Rhus michauxii* | Michaux's sumac | LE | -- | Dry open woods, roadsides and other easements. | Yes: however a site visit was conducted during the flowering period and no flowers were identified and this species does not appear to be present. | May Affect, but is Not Likely to Adverseley Affect |
| *Isoetes melanospora* | Black spored quillwort | LE | -- | Shallow, temporarily flooded, flat-bottomed pools on granite outcrops. Pools are inundated in winter and spring and dry in the summer and fall. | No: site consists of a maintained right-of-way. The site contains no potential habitat and this species does not appear to be present. | No Effect |
| **Vertebrates** | | | | | | |
| *Hyla andersonii* | Pine barrens treefrog | -- | ST | Prefer brush areas near peat bogs and shallow ponds, with areas carpeted with thick moss. Lay eggs in low pH ponds. | No: site consists of a maintained right-of-way. The site contains no potential habitat and this species does not appear to be present. | No Effect |
| *Corynorhinus rafinesquii* | Rafinesque's big-eared bat | -- | ST | Roosts in forests, caves, abandoned buildings, and under bridges. | No: site consists of a maintained right-of-way. The site contains no potential habitat and this species does not appear to be present. | No Effect |
| *Elassoma boehlkei* | Carolina pygmy sunfish | C | ST | Fresh water fish found in the Waccamaw and Santee River basins. Prefers cover in dense vegetation. | No: site consists of a maintained right-of-way and no water resources are present. The site contains no potential habitat and this species does not appear to be present. | No Effect |
| *Acipenser brevirostrum* | Shortnose sturgeon | LE | -- | Nearshore marine, estuarine, and riverine habitat of large river systems; prefer deep pools with soft substrates and vegetated bottoms. | No: site consists of a maintained right-of-way and no water resources are present. The site contains no potential habitat and this species does not appear to be present. | No Effect |
| *Picoides borealis* | Red-Cockaded woodpecker | LE | SE | Mature longleaf pine and (occasionally) loblolly pine stands with an open understory; usually within sandhill communities. | No: site consists of a maintained right-of-way. The site contains no potential habitat and this species does not appear to be present. | No Effect |
| *Mycteria americana* | Wood stork | LT | -- | Forage habitat includes freshwater or brackish wetlands; nesting habitat typically includes bald cypress or other forested swamps/wetlands. | No: site consists of a maintained right-of-way. The site contains no potential habitat and this species does not appear to be present. | No Effect |
| *Haliaeetus leucocephalus* | Bald eagle | MBTA[4], BGEPA[5] | ST | Nesting sites are usually found in tall pines or cypress trees along or near waterbodies. | No: site consists of a maintained right-of-way. The site contains no potential habitat and this species does not appear to be present. | No Effect |
| **Mussels** | | | | | | |
| *Lasmigona decorata* | Carolina heelsplitter | LE | SE | Along shorelines with well vegetated streambanks; cool, clean, oxygenated waters with stable, silt-free bottoms. | No: there are no streams located on site. The site contains no potential habitat and this species does not appear to be present. | No Effect |

Notes: (1) Federal status (USFWS): LE = listed endangered; LT = listed threatened; C = candidate. (2) South Carolina state status (SC Heritage Trust, SCDNR): SE = endangered; ST = threatened; SR = rare; U = unusual. (3) Endangered Species Act Effects Determination; No effect; May affect, but is not likely to adversely affect; May affect, and is likely to adversely affect. (4) Federal protection under the Migratory Bird Treaty Act. (5) Federal protection under the Bald and Golden Eagle Protection Act.

# APPENDIX C

## USFWS At Risk Species Potentially Occurring in Project Area

| Species | Common Name | County | Habitat Requirements | Site Supports Requirements | Effect Determination |
|---|---|---|---|---|---|
| **Plants** | | | | | |
| *Symphyotrichum georgianum* | Georgia aster | York, Chester, Lancaster, Kershaw | Upland-oak hickory-pine forests, thrives when exposed to natural disturbances such as fire or grazing | No –Project area consists of maintained rights- of-way and existing aboveground facilities. Prescribed burns are not active maintenance procedures on rights-of-way. Potential habitat for this species does not appear to be present. | No Effect |
| *Hymenocallis coronaria* | Rocky shoal spider lily | York, Chester, Lancaster | Swift, shallow waters of rocky shoals on large streams and rivers. Prefers direct sunlight | No –Project area consists of maintained rights- of-way and existing aboveground facilities. Construction area will not occur in streams, rivers, or waterbodies. | No Effect |
| *Rudbeckia heliopsidis* | Sun-facing coneflower | York | Limestone or sandstone outcrops and nearby streamsides, prairies, roadsides, and rights-of-ways. | Yes – however a site was conducted during the flowering period and no flowers were identified and this species does not appear to be present | May Affect, but is Not Likely to Adversely Affect |
| *Macbridea caroliniana* | Carolina-birds-in-a-nest | Kershaw | Requires consistently moist soil. Found predominately in shallow blackwater swamps that are frequently flooded | No –Project area consists of maintained rights- of-way and existing aboveground facilities. Construction area will not occur within or near wetlands. | No Effect |
| *Lilium pyrophilum* | Sandhill lily | Kershaw | Frequently burned brush uplands in dry sandy areas, slopes, and hill sides | No –Project area consists of maintained rights- of-way and existing aboveground facilities Prescribed burns are not active maintenance procedures on rights-of-way. Potential habitat for this species does not appear to be present. | No Effect |
| *Sporobolus teretifolius* | Wire-leaved dropseed | Kershaw | Wet savannas with longleaf pine, slopes, bogs, and other wet edges of streamside thickets | No –Project area consists of maintained rights- of-way and existing aboveground facilities. Construction area will not occur within or near wetlands. | No Effect |
| **Vertebrates** | | | | | |
| *Anguilla rostrate* | American eel | York, Chester, Lancaster, Kershaw | Freshwater systems and estuaries with direct access to open sea | No –Project area consists of maintained rights- of-way and existing aboveground facilities. Construction will not occur in streams, rivers, or waterbodies. | No Effect |
| *Alosa aestivalis* | Blueback herring | York, Chester, Lancaster, Kershaw | Saltwater fish which migrates into fresh or brackish water rivers and lakes for spawning | No –Project area consists of maintained rights- of-way and existing aboveground facilities. Construction will not occur in streams, rivers, or waterbodies. | No Effect |
| *Corynorthinus rafinesquii* | Rafinesque's big-eared bats | York, Kershaw | Older growth bottomland hardwood forest with many mature, hollow, roost-trees | No –Project area consists of maintained rights- of-way and existing aboveground facilities. Potential habitat for this species does not appear to be present. | No Effect |
| *Perimyotis subflavus* | Tri-colored bat | York, Chester, Lancaster, Kershaw | Found in mines and caves. Prefer edge habitat near areas of mixed agricultural use. | No –Project area consists of maintained rights- of-way and existing aboveground facilities. Potential habitat for this species does not appear to be present. | No Effect |

| | | | | | |
|---|---|---|---|---|---|
| *Elassoma boehikei* | Carolina pygmy sunfish | Kershaw | Fresh water fish found in the Waccamaw and Santee River basins. Prefer cover in dense vegetation | No –Project area consists of maintained rights- of-way and existing aboveground facilities. Construction area will not occur on streams, rivers, or any waterbodies. | No Effect |
| *Moxostoma robustum* | Robust redhorse | Kershaw | Main-stem rivers, riffles, runs, and pools. Prefers deeper waters near shore with moderate to swift currents | No –Project area consists of maintained rights- of-way and existing aboveground facilities. Construction areas will not occur on streams, rivers, or any waterbodies. | No Effect |
| *Heterdon simus* | Southern hognose snake | Kershaw | Dry sandy areas, found exclusively in sandhill, pine flatwoods, and coastal dune habitats | No –Project area consists of maintained rights- of-way and existing aboveground facilities. Potential habitat for this species does not appear to be present. | No Effect |
| **Mussels** | | | | | |
| *Alasmidonta varicose* | Brook floater | Lancaster, Kershaw | Consistently flowing river systems like streams and rivers. Favors clean water in gravel or sand and gravel substrates | No –Project area consists of maintained rights- of-way and existing aboveground facilities. Construction areas will not occur on streams, rivers, or any waterbodies. | No Effect |

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