Office of Energy Projects

October 2019

Columbia Gulf Transmission, LLC

Docket No. CP19-193-000

MAINLINE 100 AND MAINLINE 200 REPLACEMENT PROJECT

Environmental Assessment

Cooperating Agencies:

U.S. Army Corps of Engineers

U.S. Fish & Wildlife Service

Washington, DC 20426

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TECHNICAL ABBREVIATIONS AND ACRONYMS

APE	area of potential effects
AQCRs	Air quality control regions
CAA	Clean Air Act
Certificate	Certificate of Public Convenience and Necessity
CFR	Code of Federal Regulations
CH_4	Methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalents
Columbia	Columbia Gulf Transmission, LLC
Commission	Federal Energy Regulatory Commission
CWA	Construction work area
dBA	A-weighted decibel
DOT	U.S. Department of Transportation
EA	environmental assessment
ECS	Environmental Construction Standards
EI	environmental inspector
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESCP	Erosion and Sediment Control Plan
FERC	Federal Energy Regulatory Commission
GHG	greenhouse gas
GWP	global warming potential
HAPs	hazardous air pollutants
KDEP	Kentucky Department of Environmental Protection
KGS	Kentucky Geological Survey
L_{dn}	Day-night sound level
L_{eq}	equivalent sound level
MSHCP	Multi-Species Habitat Conservation Plan
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NGA	Natural Gas Act
NHPA	National Historic Preservation Act
NOI	*Notice of Intent to Prepare an Environmental Assessment for the Mainline 100 and Mainline 200 Replacement Project and Request for Comments on Environmental Issues*
NO_x	nitrogen oxides
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places

OEP	Office of Energy Projects
PEM	palustrine emergent wetland
Plan	FERC's 2013 *Upland Erosion Control, Revegetation, and Maintenance Plan*
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than or equal
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to 10 microns
Procedures	FERC's 2013 *Wetland and Waterbody Construction and Mitigation Procedures*
Project	Mainline 100 and Mainline 200 Replacement Project
psig	pounds per square inch gauge
Secretary	Secretary of the Commission
SHPO	State Historic Preservation Officer
SO_2	sulfur dioxide
SPCC Plan	Spill Prevention Control and Countermeasure Plan
U.S.	United States
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	volatile organic compound

A. PROPOSED ACTION

The Federal Energy Regulatory Commission (Commission or FERC) staff has prepared this environmental assessment (EA) to assess the environmental impacts of the Columbia Gulf Transmission LLC (Columbia) Mainline 100 and Mainline 200 Replacement Project (Project) in Docket No. CP19-193-000. We[1] prepared this EA in compliance with the National Environmental Policy Act (NEPA) according to the regulations issued by the Council on Environmental Quality at Title 40 Code of Federal Regulations (CFR) 1500–1508 (40 CFR 1500-1508) and the Commission's regulations at 18 CFR 380.

Columbia is proposing the abandonment and replacement of approximately 0.50 mile of pipeline associated with the Project in Montgomery and Menifee Counties, Kentucky. The new replacement pipelines would retain the maximum allowable operating pressure of 935 pounds per square inch gauge (psig) for Mainline 100 and 1,007 psig for Mainline 200, which the existing pipelines to be abandoned currently operate.

1.0 Introduction

On April 18, 2019, Columbia filed an application with FERC in Docket No. CP19-193-000 for a Certificate of Public Convenience and Necessity (Certificate) and abandonment authorization under sections 7(b) and 7(c) of the Natural Gas Act (NGA) for the replacement of segments of two existing high pressure pipelines all located in Menifee and Montgomery Counties, Kentucky.

FERC is the lead federal agency for the Project and for the preparation of this EA, as described in 40 CFR 1501.5. The principal purposes for preparing this EA are to:

- identify and assess potential impacts on the natural and human environment which could result from the proposed action; and
- identify and recommend alternatives and specific mitigation measures, as necessary, to avoid and minimize project related environmental impacts.

2.0 Purpose and Need

Mainline 100 and Mainline 200, both located in Menifeand Montgomery Counties, Kentucky, were originally constructed in the 1950s by Gulf Interstate Gas Company, a Columbia predecessor. Due to increased population density in the area along certain discrete sections of these pipelines, Columbia is required,

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

pursuant to Part 192 of the United States (U.S.) Department of Transportation (DOT) regulations to remediate the pipelines. Columbia has indicated that the purpose of the replacement of these existing pipeline segments is to enable Columbia to continue providing safe and reliable transportation service to its customers. Therefore, Columbia has determined that it will pursue replacement of the pipelines with pipe containing thicker walls in the affected sections to allow continued operation at the current maximum allowable operating pressures. As such, Columbia proposes to replace segments of its existing Class 2 Mainline 100 and Mainline 200 pipelines with Class 3 pipelines.

Under section 7(c) of the Natural Gas Act, the Commission determines whether proposed interstate natural gas transportation facilities would be in the interest of public convenience and necessity and, if so, grants a Certificate to construct and operate them.

The Commission bases its decisions on financing, rates, market demand, gas supply, environmental impact, and other issues concerning a proposed project. Section 7(b) of the NGA specifies that no natural gas company shall abandon any portion of its facilities subject to the Commission's jurisdiction without the Commission first finding that the abandonment will not negatively affect the present or future public convenience and necessity.

3.0 Scope of the Environmental Assessment

As the lead federal agency for the Project, FERC is required to comply with Section 7 of the Endangered Species Act (ESA) and Section 106 of the National Historic Preservation Act (NHPA). These statutes have been considered in the preparation of this EA. The Commission will use this document to consider the environmental impacts that could result if it authorizes the Project.

In addition to FERC, other federal, state, and local agencies may use this EA for issuing permits for all or part of the proposed Project. The U.S. Army Corps of Engineers (COE) and the U.S. Fish and Wildlife Service (USFWS) participated as cooperating agencies in the preparation of the EA. Cooperating agencies have jurisdiction by law or special expertise with respect to resources potentially affected by the proposal and participate in the NEPA analysis. The COE may adopt the EA to fulfill the agency's NEPA obligations. The COE will use the EA and supporting documentation to consider the issuance of Clean Water Act Section 404 and Rivers and Harbors Act Section 10 permits. Although the cooperating agencies provided input to the conclusions and recommendations presented in the EA, the agencies will present their own conclusions and recommendations in their respective decisions for the project. Permits, approvals, and consultations for the Project are discussed in section A.8.

The topics addressed in this EA include geology, soils, water resources, wetlands, wildlife, vegetation, species of special concern, cultural resources, air quality, noise, land use, aesthetics, reliability and safety, and cumulative impacts. This EA describes the affected environment as it currently exists and the environmental consequences of the Project, and compares the Project's potential impact with that of various alternatives. This EA also presents our recommended mitigation measures.

4.0 Public Comment

On July 12, 2019, the Commission issued *a Notice of Intent to Prepare an Environmental Assessment for the Mainline 100 and Mainline 200 Replacement Project and Request for Comments on Environmental Issues* (NOI). The NOI was published in the Federal Register and mailed to federal, state, and local officials; Native American tribes; agency representatives; potentially affected landowners; environmental groups; and local libraries. On August 8, 2019 , the Office of Kentucky Nature Preserves informed Columbia that none of the endangered, threatened, or special concern plants and animals or exemplary natural communities monitored by their office occur within the general Project area. On May 8, 2019, the USFWS commented on Columbia's Multi-Species Conservation Plan (MSCP), noting that of the species listed, the snuffbox mussel (*Epioblasma triquetra*) was not included in the MSCP. In accordance with ESA consultation regulations (50 CFR 402), FERC will make a determination as to whether or not he proposed action will affect the snuffbox. To date, the Commission has not received any additional comments in response to the NOI.

5.0 Proposed Facilities

Columbia proposes replacing segments of existing Class 2 Mainline 100 and Mainline 200 pipelines with Class 3 pipelines. The Project consists of the abandonment and replacement of approximately 2650 feet of pipeline associated with Mainline 100 and 1300 feet of pipeline associated with Mainline 200. The replacement of the existing Mainline 100 and Mainline 200 pipelines would require the installation of replacement pipelines within the existing pipeline right-of-way. New pipeline facilities include the construction and operation of two sections of Mainline 100 and two sections of Mainline 200, which represent approximately 0.50 mile of new 30-inch-diameter natural gas transmission pipe, within Montgomery and Menifee Counties, Kentucky. The new pipelines would be installed within the existing pipeline rights-of-way using "lift and lay" construction within the same trench as the existing pipelines.

On Mainline 100, two sections of pipeline would be replaced, including approximately 1,000 feet of existing 30-inch-diameter pipeline with approximately

1,000 feet of new, 30-inch-diameter natural gas transmission pipeline. For the other section, approximately 350 feet of existing 30-inch-diameter pipeline would be replaced with approximately 350 feet of new, 30-inch-diameter natural gas transmission pipeline. Two sections of Mainline 200 would also be replaced. At the first section, approximately 1,000 feet of existing 30-inch-diameter pipeline would be replaced with approximately 1,000 feet of new, 30-inch-diameter natural gas transmission pipeline. For the second section, approximately 300 feet of existing 30-inch-diameter pipeline would be replaced with approximately 300 feet of new, 30-inch-diameter natural gas transmission pipeline.

The Project would not require modifications to any existing major natural gas aboveground facilities. No new compressor or meter stations, or modifications to existing compressor or metering facilities, would be necessary for the Project. In addition, no minor aboveground facilities (e.g., mainline valves, taps valves, regulator stations, launcher/receivers, tie-ins, etc.) are proposed to be installed or modified for this Project.

An overview map of the Project is provided on figure 1.

6.0 Land Requirements

The land requirements for the Project include the existing permanent right-of-way, temporary construction right-of-way/temporary workspace (TWS) areas, additional temporary workspace (ATWS) areas, and temporary and permanent access roads. These areas are collectively referred to as the construction work area (CWA). The Project would temporarily impact 10.6 acres, 8.5 acres of which are existing pipeline right-of-way or existing graveled facilities, 1.0 acre of new temporary workspace and 1.1 acres of access roads. Operation of the Project would affect 8.5 acres of existing pipeline right-of-way or existing graveled facilities and 0.8 acres of permanent access road.

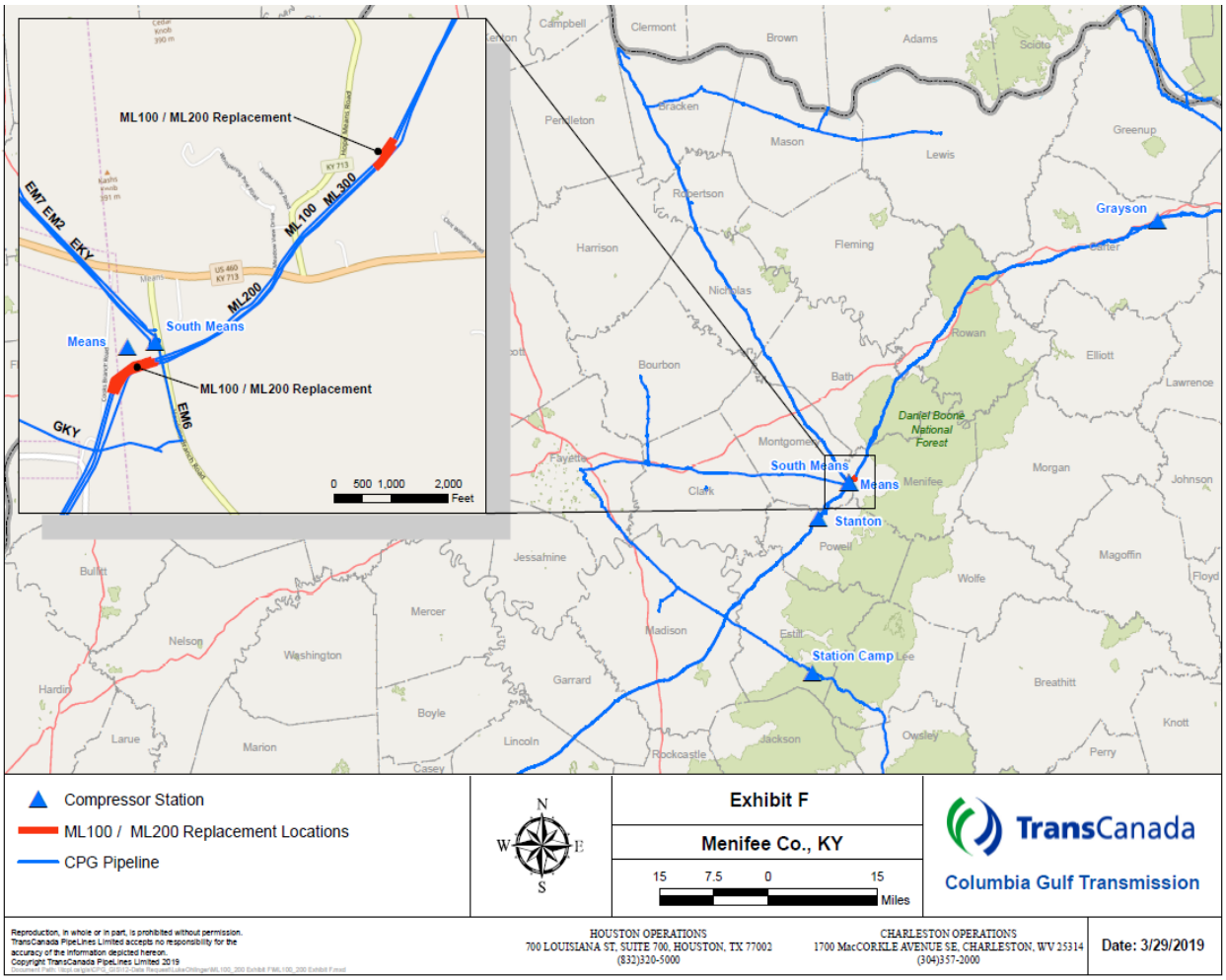
Construction of the Project would result in both temporary and permanent land disturbance. Due to the presence of three high pressure transmission pipelines within a single right-of-way, the CWA would vary in width. Construction of the new pipelines adjacent to the Means Compressor Station wold utilize a 165-foot-wide construction right-of-way, while construction right-of-way of the new pipelines to the east of Kentucky Route 713 would vary from 180 feet to 240 feet wide. A majority of these workspace areas are within Columbia's existing, cleared, and maintained right-of-way. An approximately 25-foot-wide TWS and limited ATWS are also proposed at resource crossings.

Columbia would use existing public roads for construction access to Project work areas. Where public access is unavailable, Columbia has identified three

access roads necessary for construction. A total of two proposed temporary access roads (TAR-01 and TAR-02) and one existing permanent access road (PAR-03) would be used for construction and operation of the Project.

The proposed new pipeline facilities would be constructed and operated within the existing operational right-of-way. Columbia would maintain the existing right-of-way and permanent access roads during operation. Following construction, land affected during construction would be restored to preconstruction contours, except for permanent roads needed for operations of the pipeline.

Figure 1. Project Overview Map



7.0 Construction Procedures

7.1. Construction Schedule

Pending receipt of all necessary authorizations and permits, Columbia anticipates mobilization and construction of the Project to begin in March 2020 in order to meet a planned in-service date of July 2020. Restoration activities would continue after the Project is placed in-service and until disturbed areas are stabilized in accordance with Columbia's Environmental Construction Standards (ECS) and applicable permit requirements.

7.2. Construction, Operation, and Maintenance Procedures

Columbia would design, construct, test, operate, and maintain the proposed pipelines to conform with or exceed federal, state, and local requirements, including the DOT Minimum Safety Standards in 49 CFR 192, *Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards*, and 18 CFR 380.15, *Siting and Maintenance Requirements*.

Columbia is proposing to remove all pipeline segments in accordance with existing landowner agreements. The flow of gas through the existing pipeline would be shut off. Columbia would then blow down the pipe to evacuate the remaining gas and a narrow trench would be mechanically dug within the existing right-of-way to remove the pipe. The pipeline would be exposed and removed by joints, segments, or long sections. The ditch would remain open in order to install the new pipe using lift and lay construction, after which it would be backfilled, leveled, and restored in accordance with landowner requests and Columbia's ECS.

Construction would involve a series of discrete activities typically conducted in a linear sequence. These include survey and staking; clearing and grading; installation erosion control measures; pipe stringing, bending, and welding; trenching; lowering-in and backfilling; hydrostatic testing; final tie-in; commissioning; and right-of-way cleanup and restoration. Areas that typically require special construction techniques include: agricultural areas, utility crossings; waterbodies and wetlands; unusual topographies such as unstable soils or trench conditions, residential areas, and areas requiring rock removal. The majority of the Project would not be crossing any areas requiring special construction techniques.

During construction and restoration for the proposed Project, Columbia would implement the measures contained in its Erosion and Sediment Control Plan (ESCP) and Spill Prevention Control and Countermeasure Plan (SPCC Plan). The ESCP is inclusive of all of the requirements of FERC's 2013 Upland Erosion Control, Revegetation, and

Maintenance Plan (Plan)and FERC's 2013 Wetland and Waterbody Construction and Mitigation Procedures (Procedures) without modification.

8.0 Permits, Approvals, and Regulatory Consultations

Table 1 provides a list of federal, state, and local permits for the Project, as well as tribal consultations and any responses received to date. Columbia would be responsible for obtaining all permits and approvals required for the Project regardless of their listing in the table.

Table 1
Federal and State Permits and Approvals

Agency	Permit/Approval/ Consultation	Filing Date (Anticipated)	Receipt Date (Anticipated)
Federal			
FERC	Section 7 of the Natural Gas Act, Certificate of Public Convenience and Necessity and Abandonment Authorization	April 18, 2019	November 2019
COE, Louisville District	Section 404 of the Clean Water Act (below reporting threshold for NWP-12)	February 7, 2019	April 11, 2019
USFWS	Section 7 of the Endangered Species Act	January 8, 2019	January 8, 2019
USFWS, Kentucky Field Office	Migratory Bird Treaty Act and Bald Eagle Consultation	November 15, 2018	November 29, 2019
State			
Kentucky State Historic Preservation Office	Section 106 of the NHPA Consultation	October 24, 2018 January 3, 2019	January 9, 2019
Kentucky Department of Environmental Protection (KDEP) Division of Water	Clean Water Act Section 401 Water Quality (with COE Pre-Construction Notification)	February 27, 2019	April 11, 2019
KDEP Division of Water	Kentucky Pollutant Discharge Elimination System Construction Stormwater General Permit	(January 2020)	(January 2020)
KDEP Division of Water	Permit to Construct Across or Along a Stream (i.e. Floodplain construction permit)	(January 2020)	(March 2020)
KDEP Division of Water	One-Time/Temporary Discharge Request for Off-Permit Authorization (i.e. hydrostatic test water discharge permit)	(January 2020)	(March 2020)
Kentucky State Nature Preserves Commission	State Threatened and Endangered Species Consultation and Clearance	September 26, 2018	September 26, 2018
Tribal			
Absentee-Shawnee Tribe of Indians of Oklahoma	Section 106 of the National Historic Preservation Act	September 25, 2018	No response to date
Delaware Nation, Oklahoma	Section 106 of the National Historic Preservation Act	September 25, 2018	No response to date
United Keetoowah Band of Cherokee Indians	Section 106 of the National Historic Preservation Act	September 25, 2018	No response to date

Table 1 Federal and State Permits and Approvals			
Agency	**Permit/Approval/ Consultation**	**Filing Date (Anticipated)**	**Receipt Date (Anticipated)**
Delaware Tribe of Indians	Section 106 of the National Historic Preservation Act	September 25, 2018	No response to date
Eastern Band of Cherokee Indians	Section 106 of the National Historic Preservation Act	September 25, 2018	No response to date
Eastern Shawnee Tribe of Oklahoma	Section 106 of the National Historic Preservation Act	September 25, 2018	No response to date
Peoria Tribe of Indians of Oklahoma	Section 106 of the National Historic Preservation Act	September 25, 2018	No response to date
Local			
Montgomery County	Floodplain Construction Permit	(January 2020)	(April 2020)
Menifee County	Floodplain Construction Permit	(January 2020)	(April 2020)

9.0 Non-jurisdictional Facilities

Non-jurisdictional facilities are those facilities related to the Project that are constructed, owned, and operated by other entities that are not subject to FERC jurisdiction. There are no non-jurisdictional facilities that would be constructed as a result of this Project.

B. ENVIRONMENTAL ANALYSIS

This analysis generally describes temporary, short-term, long-term, and permanent impacts and effects caused by the Project's construction and operation. A temporary effect generally occurs during construction with the resource returning to pre-construction condition immediately after restoration or within a few months. A short-term effect could continue for up to three years following construction. Long-term effects would last more than three years, but the affected resource would eventually recover to pre-construction conditions. A permanent effect would result from an activity that modifies a resource to the extent that it would not return to pre-construction conditions during the life of the Project. In the following sections, we address direct and indirect effects collectively, by resource. There would be no impact on the following resources:

- national or state wild or scenic rivers, fisheries, or essential fish habitat;
- recreation or scenic places;
- state parks, national trails, nature preserves, wilderness areas, or registered landmarks;
- coastal zone management areas; or
- socioeconomics.

These resources will not be discussed further in this EA. Section B.9 of this EA analyzes the Project's contribution to cumulative impacts.

1.0 Geology

The Project area is on the border of the Appalachian Plateau and the Interior Low Plateau physiographic provinces (Fennerman and Johnson, 1946), as well as on the eastern edge of the Outer Bluegrass and western edge of the Eastern Kentucky Coal Field physiographic regions (Kentucky Geological Survey [KGS], 2016; 2018a). The Outer Bluegrass region is characterized by deep valleys, with little flat land, due to primary bedrock composition (Ordovician age shales and easily eroded limestones) (KGS, 2016). The western edge of the Eastern Kentucky Coal Field is an escarpment formed from resistant Pennsylvanian age sandstones and conglomerates (KGS, 2018a). Topography in the immediate Project area is characterized by gently sloping (0 to 5 percent) valley bottoms; elevations range from 810 to 860 feet above mean sea level.

1.1. Mineral Resources and Non-Mineral Resources

Information regarding mining activities and locations was obtained from the U.S. Geological Survey (USGS) Mineral Resources Online Spatial Database (2011) and the KGS (2018b). Information on oil and gas wells adjacent to the Project was obtained from the KGS (2018b). Based upon this review, no oil and gas exploration/extraction or active

or inactive surface or subsurface mines were identified within 0.25 mile of the Project area. Given the limited depth of proposed disturbance and the distance to mineral resource extraction, we conclude that the Project would not affect mineral resources.

1.2. Geologic Hazards

Geologic hazards are natural, physical conditions that can result in damage to land and structures or injury to people. Such hazards typically are seismic-related, including earthquakes, surface faulting, and soil liquefaction; landslides, and karst terrain; or ground subsidence hazards. Topography in the immediate Project area is characterized by gently sloping (0 to 5 percent) valley bottoms, therefore landslides and slope stability hazards are negligible.

1.2.1. Seismicity

The shaking during an earthquake can be expressed in terms of the acceleration as a percent of gravity (g), and seismic risk can be quantified by the motions experienced at the ground surface or by structures during a given earthquake expressed in terms of g. USGS National Seismic Hazard Probability Mapping shows that for the Project area, within a 50-year period, there is a 2 percent probability of an earthquake with an effective peak ground acceleration (PGA) of 10 to 12 percent g; and a 10 percent probability of an earthquake with an effective PGA of 3 to 4 percent g being exceeded (USGS, 2014). For reference, a PGA of 10 percent g (0.1g) is generally considered the minimum threshold for damage to older structures or structures not constructed to resist earthquakes. Based on the USGS Quaternary Fold and Fault Database, there are no active faults in the vicinity of the Project (USGS, 2019a) and since 1900, the nearest earthquake to the Project was a magnitude 3.3 earthquake that occurred in September 1990 approximately 10 miles from the Project area (USGS, 2019b).

Soil liquefaction is a phenomena associated with seismic activity in which saturated, non-cohesive soils temporarily lose their strength and liquefy (i.e., behave like a viscous liquid) when subjected to forces such as intense and prolonged ground shaking. All three of these conditions (non-cohesive soils, near surface saturation, and seismicity) are necessary for soil liquefaction to occur. Soil conditions necessary for liquefaction to occur are likely present within the Project area; however, given the seismic hazard risk for this region, it is unlikely that ground shaking strong enough to cause soil liquefaction would occur in the vicinity of the Project. Further, in the event of soil liquefaction, the pipeline may be subjected to several inches of permanent settlement of soils; however, modern steel pipelines are designed and constructed to absorb this amount of settlement without experiencing stresses exceeding the pipe's elastic range. Based on this assessment, we conclude that the Project would not be significantly impacted by seismic hazards during construction or operation.

1.2.2. Ground Subsidence, Karst, and Floodplains

Ground subsidence, involving the localized or regional lowering of the ground surface, may be caused by karst dissolution, sediment compaction due to oil and gas and/or groundwater extraction, and the occurrence of underground mines. Project areas do not overlie aquifers susceptible to subsidence from excessive pumping, and oil and gas extraction and subsurface mines do not occur in the Project area.

The Outer Bluegrass physiographic region is an area with moderate to high potential for karst development (KGS, 2001; 2018b). According to the KGS, the closest known karst feature (i.e. sinkhole) is over five miles to the east of the northern replacement sections and locations with elevated potential for karst development in the immediate Project vicinity are mapped on hilltops and the upper elevations of hill slopes, the nearest of which is approximately 0.5 mile from the Project area (KGS, 2018b). Based on the distance to known karst features and the shallow excavations proposed to replace the existing pipelines using lift and lay construction, we conclude that the Project would not be significantly impacted by karst hazards or significantly contribute to karst development.

Approximately 4.8 acres (45 percent) of the Project area would be within the 100-year floodplain of East Fork Slate Creek (Federal Emergency Management Agency [FEMA], 2019). During Project construction, Columbia would install super silt fence along the edge of the construction work area adjacent to streams; make pumps available to dewater open trenches and the overall construction work area in the event of a flood; and place temporarily stabilized topsoil stockpiles on the stream side of the construction work area in order to provide a secondary barrier to flood waters, and to contain sediment laden water from leaving the trench side of the construction work area. Flooding is not expected to impact operation of the pipeline, as it would be installed subsurface and land surface contours would be restored following the completion of construction activities.

Based on the above assessment we conclude the Project would not significantly impact or be significantly impacted by geologic hazards.

2.0 Soils

Soil characteristics in the Project area were assessed using the Natural Resources Conservation Service (NRCS) Soil Survey geographic database (2018). Soils were evaluated according to the characteristics that could affect construction or increase the potential for impacts. These characteristics include prime farmland designation, compaction potential, highly erodible soils, revegetation potential, and the presence of stones and shallow bedrock (bedrock within 60 inches of the ground surface).

All Project area soils are considered not highly compaction prone, not highly erodible by wind, and are not considered to have low revegetation potential. With the exception of approximately 0.2 acre underlying TAR-02 and the existing portion of PAR-03, Project area soils are classified as non-hydric and as having a depth to bedrock of greater than 60 inches. All but less than 0.1 acre of the Project area (a portion of existing PAR-03) is classified as prime farmland.

Construction activities such as clearing, grading, trench excavation, backfilling, heavy equipment traffic, and restoration along the construction right-of-way have the potential to adversely affect natural soil characteristics such as water infiltration, storage and routing, and soil nutrient levels, thus reducing soil productivity. Clearing removes protective vegetative cover and exposes soils to the effects of wind and water which increases the potential for soil erosion and the transport of sediment to sensitive resource areas.

The United States Department of Agriculture defines prime farmland as land that has the best combination of physical and chemical characteristics for growing food, feed, forage, fiber, and oilseed crops. Unique farmland is land, other than prime farmland, that is used for production of specific high-value food and fiber crops. Soils that do not meet all of the requirements to be considered prime or unique farmland may be considered farmland of statewide or local importance if soils are capable of producing a high yield of crops when treated or managed according to accepted farming methods.

Approximately 4.9 acres of prime farmland that would be impacted by construction are in current agricultural use. However, prime farmland soils would not be permanently impacted by the Project as the Project would not preclude any area from future agricultural land use. Columbia would minimize impacts to agricultural areas during construction in accordance with measures in its ECS. These include measures to conserve and segregate the upper 12 inches of topsoil, alleviate soil compaction, protect and maintain existing drainage tile and irrigation systems, prevent the introduction of weeds, and retain existing soil productivity, thereby minimizing the potential for long-term impacts on agricultural lands.

The majority of soils are not highly susceptible to erosion by wind or water; however, clearing, grading, and equipment movement can accelerate the erosion process. To minimize or avoid potential impacts due to soil erosion, Columbia would implement measures in accordance with the FERC Plan and its ECS. Temporary erosion controls, including interceptor diversions and sediment filters, would be installed immediately following land disturbing activities. Temporary erosion controls would be inspected on a regular basis and after each rainfall event of 0.5 inch or greater to ensure proper functioning, and would be maintained until the Project area is successfully revegetated. Columbia would additionally utilize dust-control measures, including routine wetting of work areas, as needed.

Columbia reviewed state and federal regulatory databases to identify potentially contaminated sites within 0.25 mile of the Project area. Based on this review, one environmental remediation site (the Gulf S Means Compressor Station) was identified. The Gulf S Means Compressor Station is listed on the State Hazardous Waste Site database, regulated by the Kentucky State Superfund Program. This site is a former Columbia office that was converted to a compressor station in 1989. The site is at the eastern end of the southern replacements. Based on the results of site characterization, completed per a U.S. Environmental Protection Agency (EPA)-approved General Sampling and Analysis Plan finalized in February 2002, no further action was recommended and the site was listed as "Closed" on February 26, 2013.

Based on this assessment, Columbia does not anticipate encountering existing contaminated soils or groundwater during construction. If encountered, Columbia would adhere to its Unexpected Contamination Discovery Plan, which identifies the steps to be followed in the event that contaminated sediments or soils, as identified by evidence of subsoil discoloration, odor, sheen, or other such indicators, are encountered during construction.

Contamination from spills or leaks of fuels, lubricants, and coolant from construction equipment could adversely affect soils. Columbia's SPCC Plan specifies measures to prevent contamination from accidental spills or leaks of fuels, and lubricants, as well as cleanup procedures in the event of inadvertent spills during Project construction.

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

3.0 Water Resources and Wetlands

3.1. Groundwater Resources

The Project is underlain by the Mississippian aquifer and Pennsylvanian principal aquifer of the Appalachian Plateaus Province The Mississippian Aquifer consists mostly of limestone and sandstone. The Project Area is located in the Licking River Watershed. No U.S. Environmental Protection Agency (EPA) sole source aquifers (aquifers that supply at least 50 percent of the drinking water consumed in an area) were identified within the Project area. The nearest sole source aquifer, the Greater Miami Buried Aquifer & OKI Extension (Southern Portion), is located approximately 80 miles north of the proposed Project (USEPA, 2019a).

Based on review of information obtained from the Kentucky Geological Survey (KGS) Kentucky Groundwater Data Repository (KGS, 2019), landowners, and field surveys, no public or private water supply wells, springs, or seeps are located within 150

feet of the Project areas. Columbia reviewed the Kentucky Department of Environmental Protection (KDEP) Division of Water data available online and did not identify wellhead protection areas within 3 miles of the Project facilities (KDEP, 2019).

Clearing, grading, excavating, and dewatering activities could each temporarily alter overland flow and change groundwater recharge resulting in minor fluctuations in groundwater levels and turbidity. Impacts on groundwater resources are expected to be minimal because the proposed construction activities will involve shallow excavation, typically less than 10 feet deep. However, accidental spills or leaks of hazardous liquids when refueling construction vehicles or storing fuel, oil, and other fluids during construction could contaminate shallow groundwater and impact local groundwater. To minimize the potential impacts associated with inadvertent spills, Columbia has prepared an acceptable SPCC Plan. This plan includes measures designed to prevent hazardous materials from reaching groundwater, such as scheduling equipment and vehicle inspections to identify leaks, storing fuels within secondary containment structures, and refueling equipment at least 100 feet away from waterbodies and wells. In the event that a spill should occur, Columbia's SPCC Plan identifies appropriate actions that would be taken to remediate and clean up the spill.

Based on Columbia's proposed construction techniques and the implementation of minimization and mitigation measures, we conclude that construction and operation of the Project would not result in significant long-term or permanent impacts on the quality of groundwater resources proximate to the Project area.

3.2. Surface Waters

The Project lies within two sub-watersheds of the greater Kentucky River watershed: Headwaters of Slate Creek (hydrologic unit code [HUC] 051001010701) and Spruce Creek – Slate Creek (HUC 051001010702) (USGS 2015). During field surveys conducted on September 5, 2018, Columbia identified three waterbodies within and immediately adjacent to the Project areas (table 2).

Based on Columbia's review of Kentucky Department of Environmental Protection (KDEP) Division of Water data, the Project is located within one source water protection area: Mount Sterling Water Works (SWPA ID 0870298). However, no surface water intakes were identified within five miles of the Project area.

Table 2 Waterbodies within 25 Feet of the Project						
Waterbody ID/ Waterbody Name	**Approximate Milepost (MP)**	**State Water Quality Classification**	**Fishery Type**	**Flow Regime**	**FERC Waterbody Classification**	**Impact Type**
Stream 1 UNT to East Fork Slate Creek	TAR-02	None	WWF	Ephemeral	Minor	None; outside CWA
Stream 2 East Fork Slate Creek	MP 7.55	None	WWF	Perennial	Intermediate	Flume or dam and pump
	PAR-03					Temporary construction equipment bridge
Stream 3 UNT East Fork Slate Creek	PAR-03	None	WWF	Ephemeral	Minor	Temporary construction equipment bridge

Section 303(d) of the Clean Water Act and the implementing regulations at 40 CFR 130.7 require states to identify those waterbodies that are not expected to meet state water quality standards after the implementation of technology-based controls and to prioritize and schedule them for the development of total maximum daily loads. None of the three waterbodies in or adjacent to Project workspaces are listed as impaired per Section 303(d) of the Clean Water Act. However, Slate Creek, which is located within 0.2 mile south of Project is included on the state list of impaired waters with an unknown impairment (Kentucky Energy and Environment Cabinet 2016).

Waterbody impacts would be limited to pipeline installation and temporary crossings of a permanent access road. Columbia proposes to install the pipeline across Stream 2 near milepost 7.55 using a dry-ditch method (flume or dam and pump). A dry-ditch crossing involves installation of a flume pipe(s) and/or dam-and-pump system prior to trenching to divert the stream flow over the construction area and allow trenching of the stream crossing in drier conditions isolated from the stream flow. The remaining two crossings (Streams 2 and 3) would be crossed via the installation of temporary equipment bridges to accommodate the temporary 450-foot extension of permanent access road PAR-03. Stream 1 runs adjacent to temporary access road TAR-02 and would not be directly impacted.

The greatest impacts associated with a dry-ditch open-cut crossing would be during the installation and removal of in-waterbody dams and water diversion structures. These impacts include increases in local sediment loading and turbidity from in-waterbody construction activities, or construction adjacent to waterbody channels. Clearing and grading of waterbody banks and in-waterbody construction could result in temporary modifications of aquatic habitat and decreased dissolved oxygen concentration. In addition, backfilling and settling of the streambed trench over time could result in modified contours that lead to minor changes in waterbody flow patterns

and velocity. These changes could further result in waterbody bed scouring and/or deposition in new areas.

In general, impacts would be limited to the in-waterbody construction period and immediately thereafter. Columbia would restore the bed and banks and conditions are expected to return to normal after waterbody restoration activities. Where access roads cross waterbodies, Columbia would install a temporary equipment bridge, which would allow construction equipment and personnel to cross the waterbodies and avoid direct impacts. Stream banks and riparian zones impacted by the bridge would be restored to pre-construction conditions immediately following completion of construction.

Indirect impacts during construction would be avoided by implementation of Columbia's ECS, the Project-specific ESCP. Further, Columbia would adhere to measures in its SPCC Plan to prevent and clean up inadvertent spills of hazardous materials that may be used during construction, such as fuels, lubricants, and coolants. Specific measures include instructing personnel on the operation and maintenance of equipment to prevent the accidental discharge or spill of fuel, oil, and lubricants and parking equipment overnight, refueling, and storing hazardous materials at least 100 feet from a waterbody boundary.

Given Columbia's proposed waterbody crossing methods and mitigation measures, we conclude that the Project's impacts on surface water quality would be adequately minimized.

Hydrostatic Testing

In compliance with DOT regulations (49 CFR 192, Subpart J), Columbia would perform hydrostatic testing of new pipeline prior to placing the Project facilities into service. Hydrostatic testing would require a total of about 91,089 gallons of water, which would be trucked to the Project area from a municipal source. Test water would be containerized in tanks for reuse, when practicable, in subsequent tests for this Project. Following hydrostatic testing, the water would be discharged on-site in accordance with Columbia's ECS and applicable authorizations.

Given that Columbia would obtain test water from municipal sources and water would be disposed onsite in accordance with its ECS, we conclude that hydrostatic testing would not result in significant impacts.

3.3. Wetlands

Columbia conducted field surveys on September 5, 2018 to identify wetlands located within and immediately adjacent to the Project areas. Wetlands were delineated in accordance with the *Corps of Engineers Wetland Delineation Manual* (Corps, 1987)

and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountain and Piedmont Region (Version 2.0)* (COE, 2012). The wetlands that were identified were further classified according to the USFWS classification system (Cowardin et al., 1979). A total of 4 palustrine emergent (PEM) wetlands were identified (see table 3).

Table 3
Wetlands Crossed by the Project

Wetland ID	NWI Classification	Crossing Method/ Workspace Type	Crossing Length (feet)	Area Affected During Construction (acres)	Area Affected During Operation (acres)
Wetland A[a]	PEM	ML 100 Pipeline Crossing	20	0.04	0.04[c]
		ML 200 Pipeline Crossing	20	0.05	0.05[c]
Wetland B[b]	PEM	N/A	20	0.00	0.00
Wetland C[b]	PEM	N/A	N/A	0.00	0.00
Wetland D[b]	PEM	N/A	N/A	0.00	0.00
TOTAL				**0.09**	**0.00**

[a]Columbia plans to complete the Project in phases: one pipeline would be replaced and restored followed by replacement and restoration of the second pipeline.
b Wetlands B, C, and D are not directly crossed and are located outside of construction workspaces.
[C] While Wetland A is located within the operational right-of-way, it would be restored to preconstruction conditions.

In wetlands where soils are non-saturated and able to support construction equipment at the time of crossing, topsoil would be segregated from the subsoil along the trenchline. If saturated soils are present or if construction equipment causes ruts or mixing of the topsoil and subsoil, construction would be conducted using low-weight equipment or would operate normal equipment on timber mats. Columbia would use a 75-foot-wide construction right-of-way through wetlands to allow for equipment crossings and to safely perform construction. All additional temporary workspaces would be located minimum of 50 feet from wetlands.

Temporary wetland impacts may include soil disturbance, temporary alteration of hydrology, and loss of vegetation during construction. Indirect impacts on adjacent wetlands would be avoided by the placement of erosion and sediment controls (e.g. silt fence) in accordance with Columbia's ECS. Columbia would adhere to measures in its SPCC Plan to prevent and clean up inadvertent spills or leaks of hazardous materials that may be used during construction, such as fuels, lubricants, and coolants. Following construction, all construction workspaces, including wetlands, would be restored to pre-conditions. Given Columbia's proposed measures, we conclude that the Project would not result in significant impacts on wetlands.

4.0 Vegetation, Wildlife, and Threatened and Endangered Species

4.1. Vegetation

The Project is located in the Western Alleghany Plateau ecoregion (Ecoregion 70). The general cover types in the Project areas include upland forest, upland herbaceous, and PEM wetlands. Forest in the Project area consists mostly of trees that have encroached on the existing permanent right-of-way from adjacent forested areas. Upland herbaceous land includes non-forested upland areas used for open space, grass and shrubs on previously disturbed areas (i.e. existing rights-of-way), and uncultivated pasture and hayfields. The wetland type found in the Project area is PEM (see section 3.2). No vegetation communities of special concern would be affected by the Project. Representative vegetation species with potential to occur in each habitat type are identified in table 4.

Table 4
Representative Vegetation and Wildlife Species

Vegetation/Habitat Category	Representative Vegetation Species	Representative Wildlife Species
Upland forest	red maple, sycamore, black cherry, black walnut, boxelder, tulip poplar, slippery elm, yellow buckeye	tufted titmouse, Downy woodpecker, wild turkey, little brown bat, big brown bat, southern flying squirrel, worm snake, eastern box turtle
Upland herbaceous	dogbane, timothy, deer-tongue grass, tall ironweed, reed canary grass, spotted touch-me-not, spotted lady's thumb, multiflora rose, wingstem	eastern cottontail, white-tailed deer, groundhog, northern short-tailed shrew, striped skunk, raccoon
PEM wetlands	softstem bulrush, blunt spike rush, yellow nutsedge, spotted lady's thumb, soft rush	bullfrog, four-toed salamander, Fowler's toad, red-winged black bird, eastern box turtle

The Projects would primarily impact upland herbaceous vegetation. About 3.8 acres of upland herbaceous vegetation would be impacted by construction. While 3.0 acres would be within the permanent right-of-way, all disturbed areas of herbaceous vegetation would revert to preconstruction conditions following construction.

Additionally, over 0.1 acre of upland forest would be impacted by construction, most of which would be maintained within the permanent right-of-way. Further, the Project would impact about 0.1 acre of PEM wetlands, all of which would be restored to preconstruction conditions (see table 5).

Table 5
Vegetation Impacts During Construction And Operation Of The Project

Workspace	Upland Forest (acres)		Upland Herbaceous (acres)		Wetland (acres)		Total (acres)	
	Constr.	Oper.	Constr.	Oper.	Constr.	Oper.	Constr.	Oper.
New Permanent Easement	0	0	0	0	0	0	0	0
Existing right-of-way	0.10	0.10	2.90	2.90	0.09	0.09	3.10	3.10
Existing Facility	0	0	0.09	0.09	0	0	0.09	0.09
TWS	0	0	0.71	0	0	0	0.71	0
ATWS	0	0	0.07	0	0	0	0.07	0
Access Roads	0.04	0.04	0.01	.01	0	0	0.05	.05
Staging Area	0	0	0	0	0	0	0	0
Total	**0.14**	**0.14**	**3.78**	**3.00**	**0.09**	**0.09**	**4.02**	**3.24**

The primary impact on vegetation from the Project would be the new permanent conversion of about 0.1 acre of upland forest to upland herbaceous vegetation due to routine vegetation maintenance of the permanent right-of-way. However, most of this consists of trees that have encroached on the existing permanent right-of-way from adjacent forested areas over time, where routine vegetation maintenance should have precluded the growth of these to prevent damage to the pipelines. Additionally, the temporary extension of PAR-03 would impact less than 0.1 acre of upland forest, but would be allowed to revert to reconstruction conditions following construction. This is considered a long-term impacts, as trees could take decades to be restored to preconstruction conditions. Upland herbaceous and PEM wetland vegetation would likely return to their preconstruction conditions relatively quickly (within 1 to 5 years).

Noxious weeds and invasive plants can disrupt native ecosystems by displacing native species and altering habitat characteristics. Noxious weeds identified during field surveys include reed canary grass and multiflora rose. Removal of existing vegetation and disturbance of soils during construction of the Project could create conditions conducive to the establishment of noxious weeds and invasive species. Columbia would implement best management practices within its ECS to minimize the spread of invasive plants during construction and operation. Specific measures include quickly restoring

and seeding all disturbed areas, which would minimize the establishment of weed species, and monitoring for successful revegetation following restoration. We find these measures acceptable.

Given that the Project consists of lift-and-lay replacement of pipe (replacing pipe within the trench of the existing pipeline), the Project is designed to minimize the amount of disturbance and clearing. Following construction, Columbia would revegetate the right-of-way and construction workspaces according to its ECS. For these reasons, we conclude that the Project would not have a significant impact on vegetation.

4.2. Wildlife

Vegetation cover types in the Project area include habitat for a wide variety of mammal, amphibian, birds, and reptile species. No significant wildlife habitats were identified in the area of the Projects. Table 4 describes examples of species found within each habitat type.

Potential short-term impacts on wildlife include the temporary displacement of individuals from construction areas and adjacent habitats and the direct mortality of small, less-mobile mammals, reptiles, and amphibians that are unable to leave the construction area. Construction of the Project could also impact nearby wildlife due to the increase in noise from construction equipment and increased human activity. The Project is located within existing rights-of-way that already undergo ongoing disturbance. Following construction activities, Columbia would implement the restoration measures within its ECS to ensure that all disturbed areas are properly restored and revegetated. There is an abundance of similar habitat for displaced wildlife to utilize during construction of the Project.

Vegetation removal and increased presence of humans and noise, during construction would likely cause displacement and avoidance of the area by any birds in the Project area, including migratory birds,[2] which are protected under the Migratory Bird Treaty Act. Birds fleeing an area of disturbance could be injured or suffer mortality, or abandon nests, affecting egg-laying and potentially causing the mortality of young. However, this impact would only occur during work hours and would cease after construction activities.

The proposed Project involves very little forest clearing, where most bird nesting in the area occurs. Implementation of the construction and restoration measures in Columbia's ECS would reduce the extent and duration of impacts on migratory bird habitat by restoring all areas not necessary to be maintained for operation to preconstruction conditions. During operation of the Project, routine vegetation

[2] The Project falls within Bird Conservation Region 24: Central Hardwoods; however, no part of the Project is within a designated Important Bird Area.

maintenance would occur outside of the nesting season (generally April 1-August 15). Further, Columbia proposes to begin construction as early as March 2020, and would adhere to tree clearing timing restrictions for federally listed bats (April 1 – November 14), which would also be protective of migratory birds.

While impacts resulting from clearing of upland and wetland herbaceous vegetation are expected to be short term, vegetation clearing within upland forests would be long-term or permanent. Impacts on upland forest vegetation resulting from the temporary extension of PAR-03 would be long-term as trees could take decades to be restored to preconstruction conditions. Within the permanent right-of-way, routine vegetation maintenance would preclude the growth of trees. However, the limited tree removal is located within or adjacent to existing rights-of-way, which minimizes impacts on nearby forested communities.

While bald eagles have potential to occur in each Project site year-round, no eagle nests were identified during surveys. In a letter dated November 15, 2018, Columbia requested comments from the USFWS regarding the Project's potential impacts on migratory birds and bald eagles. The USFWS responded in an email communication dated November 29, 2018 stating that it was not aware of any bald eagle nests in the Project area and that there are no specific measures or requirements for this Project related to the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. It further stated that conducting work within the existing right-of-way, access roads, and agricultural areas, along with completing work outside of the primary nesting season would help avoid or minimize negative effects on migratory birds. We agree.

Given Columbia's proposed mitigation measures, including its commitment to revegetate the right-of-way and temporary workspaces, we conclude that the Project would not have a significant impact on wildlife, including bald eagles or other migratory birds.

4.3. Fisheries

The quality of a fishery is associated with the quality of its inhabited waterbody. As discussed in section B.3, three waterbodies were identified within or adjacent to the Project areas: one perennial and two ephemeral. The name, location, flow regime, and fishery classification of each waterbody associated with the Project is described in table 2 Slate Creek generally contains a variety of sport fish species, including rock bass, largemouth bass, smallmouth bass, spotted bass (Kentucky Department of Fish and Wildlife Resources [KDFWR], 2019). The Project would not affect any fisheries of special concern or essential fish habitat.

As previously mentioned, one perennial waterbody (Stream 2) would be crossed twice: by pipeline installation via flume or dam-and-pump and by a temporary access

road extension (PAR-03) via a temporary equipment bridge. The other two are ephemeral, minor waterbodies that are not expected to contain fish or aquatic species given that flow is discontinuous.

In-water construction and removal of riparian vegetation may cause a temporary increase in turbidity levels, which can increase the sedimentation rate immediately downstream of the work area. Accidental spills or leaks of fuel, oil, or other hazardous materials near waterbodies could contaminate waterbodies, if a spill were to occur.

All measures previously described to be protective of surface water resources would also be protective of fisheries. These measures include limiting refueling and parking of equipment and storage of hazardous material to a minimum of 100 feet from waterbodies and installing erosion control devices (e.g. silt fence) to minimize sedimentation in waterbodies. The use of a temporary equipment bridge to cross Stream 2 would minimize impacts on fisheries. Dry-ditch waterbody crossing methods (flume or dam and pump) would reduce the impacts of waterbody crossings by reducing the amounts of turbidity, which is generally limited to short periods before and after the crossing when the dam structure is installed and removed. If the dam and pump method is used, appropriate screening would be attached to intakes to avoid entrainment of fish. Further, unless expressly permitted or further restricted by the appropriate federal or state agency in writing on a site-specific basis, in-stream work for the pipeline crossing of Stream 2 would occur June 1 through November 30. It is expected that any specific in-stream work time window restrictions would be incorporated in the Project's Clean Water Act Section 404 or 401 permitting. Following construction, Columbia would restore waterbody beds and banks to pre-construction contours in accordance with its ECS.

Given Columbia's proposed measures, we conclude that fishery impacts would not be significant.

4.4. Threatened, Endangered, and Special Status Species

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

4.4.1. Federally Listed Species

Section 7 of the ESA requires that the lead federal agency ensures that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of a federally listed endangered or threatened species, or result in the destruction or adverse modification of the designated critical habitat of a federally listed

species. FERC, as the lead federal agency for NEPA review of the Project, is required to consult with the USFWS to determine the proposed action's potential effects on any federally listed endangered or threatened species or any of their designated critical habitat. If FERC determines that the Project would have no effect on a listed species, further consultation with the USFWS is not required.

Columbia and the USFWS have developed a Multi-Species Habitat Conservation Plan (MSHCP) (January 1, 2014) in order to streamline federally listed species consultations. The MSHCP identifies common pipeline activities that may take place within potential federally listed species habitat and outlines avoidance and mitigation measures that would reduce impacts on federally listed species to less than significant levels. An amendment to the MSHCP documents the analysis of impacts, incidental take, and mitigation for the federally threatened northern long-eared bat. The Project occurs entirely within lands covered in the MSHCP.

According to Columbia's review of the MSHCP, the federally listed species listed in table 6 below were identified as potentially occurring within counties where the Project is located.

Table 6
Federally Listed Species That Potentially Occur In The Vicinity Of The Project

Common Name	Scientific Name	Federal Status[a]	MSHCP Status[b]c	Habitat Assessment and Anticipated Project Impact
Indiana bat	*Myotis sodalis*	E	MSHCP-covered species/LAA	Potentially suitable summer habitat; tree clearing timing restrictions to minimize impact
Northern long-ear bat	*Myotis septentrionalis*	T	MSHCP-covered species/LAA	Potentially suitable summer habitat; tree clearing timing restrictions to minimize impact
Grey bat	*Myotis grisescens*	E	MSHCP-covered species/NLAA	No suitable habitat; no effect
Virginia big-eared bat	*Corynorhinus townsendii virginianus*	E	MSHCP-covered species/NLAA	No suitable habitat; no effect
Snuffbox	*Epioblasma triquetra*	E	non-MSHCP species/LAA	Potentially suitable habitat; not likely to adversely affect
White-hair goldenrod[d]	*Solidago albopilosa*	T	Non-MSHCP species/NLAA	No suitable habitat; no effect

a E = Endangered; T = Threatened.
b In addition to species that are covered by the MSHCP (MSHCP-covered species), the programmatic Section 7 consultation also included species that are not part of the MSHCP (non-MSHCP species).
c NLAA = Not likely to adversely affect; LAA = Likely to adversely affect
d The white-haired goldenrod was identified by the MSHCP as potentially occurring in the Project area, however it was delisted due to recovery on November 10, 2016.

Surveys conducted in 2018 identified potential summer habitat for the Indiana bat and northern long-eared bat. In addition, the Project is within known swarming habitat buffers around a hibernaculum. Surveys did not identify any potential summer roosting or winter hibernacula for the grey bat and Virginia big-eared bat. Therefore, we conclude that the Project would have *no effect* on the grey bat and the Virginia big-eared bat.

The MSHCP identifies the snuffbox as a non-MSHCP species that is likely to be adversely affected by covered activities. It also identifies Slate Creek as a location where the snuffbox could be impacted. However, the MSHCP acknowledges that the Slate Creek population of snuffbox is marginal and likely unviable, if extant. Additionally, the crossings for the Project would be located along East Fork Slate Creek, not the main stem of Slate Creek. Further, snuffbox occur in swift current of riffles and shoals of small- to medium-sized streams with sand and gravel substrate; however, based on Columbia's field observations, while the stream crossing locations consists predominantly of sand and gravel, flow within the proposed crossing locations does not appear to include swift currents under normal flow conditions. Columbia proposes to use dry-ditch crossing methods and best management practices that are consistent with the MSHCP. For these reasons we conclude that the Project is *not likely to adversely affect* the snuffbox.

Columbia would implement the avoidance and minimization measures required in the MSHCP for the northern long-eared bat and the Indiana bat, including restricting tree clearing April 1 – November 14. We have determined that the Project activities would be consistent with the USFWS-approved MSHCP and resulting programmatic Section 7 consultation; therefore, no further consultation with the USFWS is required for these two species. However, additional consultation is required for the snuffbox.[3] The Interagency Endangered Species Act Consultation Checklist for the MSHCP is attached as appendix A.

In a letter dated May 8, 2019, the USFWS confirmed that the Indiana bat, northern long-eared bat, and Virginia big-eared bat are covered under the MSHCP; the white-haired goldenrod is no longer federally listed; and, that the snuffbox is not covered under the MSHCP and that FERC should make a determination of effect for the snuffbox. Columbia, as our non-federal representative, is currently consulting with the USFWS regarding the Project's potential impacts on the snuffbox. Because consultation is ongoing, **we recommend that**:

- **Columbia should <u>not begin construction</u> of the Project <u>until</u>:**
  a. **the staff receives comments from the USFWS regarding the proposed actions;**

[3] For species not covered by the MSHCP, i.e., non-MSHCP species, if the proposed activity includes one of the likely to adversely affect species, the federal action agency and the USFWS must engage in further consultation. See the MSHCP Consultation Implementation Guidance at https://www.fws.gov/midwest/endangered/permits/hcp/nisource/pdf/NiSourceESAS7ImplementationGuide9May2014FINAL.pdf.

b. the FERC staff completes any necessary Section 7 ESA consultation with the USFWS; and

c. Columbia has received written notification from the Director of the Office of Energy Projects (OEP) that construction and/or use of mitigation (including implementation of conservation measures) may begin.

4.4.2. State-Listed Species

On September 26, 2018, Columbia submitted a request to the Kentucky State Nature Preserves Commission for information on records of state-listed species and determined that only the northern long-eared bat (also federally threatened) and cutleaf meadow-parsnip may occur within 1 mile of the Project. As previously discussed, for the northern long-eared bat, Columbia would implement the avoidance and minimization measures in accordance with the MSHCP. Given that the Project would take place almost entirely within the existing rights-of-way, no impacts are anticipated on the cutleaf meadow-parsnip.

On August 8, 2019, the Kentucky State Nature Preserves Commission commented that the northern long-eared bat, cutleaf meadow-parsnip, and one commercially exploited species, the American ginseng, may occur within one mile of the Project areas. Columbia would work with the Kentucky State Nature Preserves Commission to avoid or minimize impacts on state-listed species and species of concern. Columbia does not anticipate impacts to cutleaf meadow-parsnip due to the distance from the known occurrence to the Project. Therefore, we conclude that the Project would not adversely affect state-listed species.

5.0 Land Use and Visual Resources

5.1. Land Use

Current land use characteristics were classified within the Project CWA. Field survey, aerial imagery, and wetland and waterbody delineation data were used to compile land use classifications. The Project encompasses five land use categories, including: forested, open land, agricultural, developed land, and surface waters.

Both the abandonment and construction of new pipelines would utilize the same CWA, including the same TWS, ATWS, and access roads during construction. No contractor staging areas were identified for the Project. Contractors would use portions of the existing ROW and the Project CWA for pipe, material, and equipment storage; employee vehicle parking; vehicle maintenance and other miscellaneous storage. No aboveground facilities (e.g., new compressor stations or new meter stations) are proposed

for this Project and no new permanent access roads would be created. Areas disturbed during construction would be restored in accordance with Columbia's ECS and project-specific plans.

Both temporary and permanent existing access roads are proposed for the construction activities associated with this project. Two temporary access roads (TAR-01 and TAR-02) not previously utilized by Columbia are proposed for construction of the Project. These roads consist of a proposed construction entrance to the CWA from Cooks Branch Road to the south of the Means Compressor Station and an existing dirt and gravel farm road to the CWA to the southeast of Kentucky Route 713. In addition, one existing permanent access road (PAR-03) would be utilized to access the CWA east of East Fork Slate Creek. Portions of these roads would require improvements to areas such as gravel and/or grading, replacing or installing culverts, minor widening, and clearing of overhead vegetation to safely accommodate construction equipment and vehicles.

Land associated with residential yards and housing is considered residential land; however, no residences are located within 50 feet of the CWA. Columbia is not aware of any proposed residential or commercial developments within 0.25 miles of the Project.

In summary, all construction and operational activities for the proposed Project would occur on Columbia property and within and directly adjacent to Columbia's pipeline right-of-way. Columbia would implement the procedures outlined in its ESCP to control erosion and minimize impacts during construction and to restore the area following construction. The proposed Project is consistent with current land uses in the Project area and would not result in any permanent changes. All temporary workspaces would be restored to pre-construction conditions. Therefore, we conclude that the Project would not have a significant impact on land use.

5.2. Visual Resources

The Project involves work within existing cleared right-of-way and limited TWS and ATWS to complete the proposed construction activities. No new significant aboveground facilities are proposed. As the Project does not involve the expansion of the permanent right-of-way or installation of significant aboveground facilities, we conclude that the Project would not result in any permanent impacts on existing visual resources or visually sensitive areas.

6.0 Cultural Resources

In addition to accounting for impacts to cultural resources under NEPA, Section 106 of the National Historic Preservation Act, as amended, requires FERC to take into account the effects of its undertakings on historic properties listed, or eligible for listing

on the National Register of Historic Places (NRHP),[4] and to afford the Advisory Council on Historic Preservation an opportunity to comment. Columbia, as a non-federal party, is assisting FERC in meeting our obligations under Section 106 and its implementing regulations at 36 CFR 800.

6.1. Area of Potential Effects

The APE is the "geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist" (36 CFR 800.16(d)). Columbia defined the Project APE as the proposed Project area, along with a 100-foot-wide survey corridor for proposed access roads, proposed workspaces, aboveground facilities, and cathodic protection areas. The APE totals approximately 10.9 acres, which includes all areas of potential direct and indirect effects from construction, and operation of the proposed Project. Due to the Project's location within an existing right-of-way, the APE is sufficient to account for all the potential direct and indirect effects to historic properties by the proposed Project.

6.2. Cultural Resources Investigations

In an effort to identify historic properties within the Project APE and to account for any effects to those properties by the proposed Project, Columbia conducted a cultural resources investigation which included background research, a Phase I archaeological survey, and a historic architectural survey (Baltz and Picklesimer 2019). During the survey, elements of two previously recorded archaeological sites were identified within the Project area. There were no historic-aged architectural resources identified within the Project viewshed.

Columbia conducted the historic architectural survey to identify architectural resources 45 years of age or older within the Project APE. The architectural field survey was limited to the exterior inspection of buildings and structures visible from the public right-of-way. The field survey included a visual assessment, site walkover, and photographic documentation of historic architectural resources in the Project APE. No aboveground features are within the Project APE or viewshed. No other historic architectural resources were identified during the survey.

During the survey, portions of two previously recorded archaeological sites, 15Mm120 and 15Mf490, were identified within the southern edge of the APE. Revisions to the Project footprint removed site 15Mm120 from the APE and this site would not be

[4] In accordance with 36 CFR 800.16(l)(1), a historic property is any prehistoric or historic district, site, building, structure, object, or property of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization, included in, or eligible for inclusion in, the NRHP. This term includes artifacts, records, and remains that are related to and located within such properties. Cultural resources are those properties that have not been evaluated for NRHP eligibility.

impacted by the undertaking. Phase II investigations completed at site 15Mf490 for a previous undertaking identified intact prehistoric contexts south and east of the APE. Though this portion of the site area retains the integrity to provide significant information concerning the prehistoric occupation of the region, the remainder of the defined site area within the APE is restricted to disturbed plowzone deposits and lacks integrity. Although the revised workspace impedes upon the defined boundaries of site 15Mf490, it does not impact upon those portions of the site recommended as eligible for listing on the National Register of Historic Places.

On January 2, 2019, Columbia submitted the cultural resources investigation report to the Kentucky Heritage Council, which serves as the Kentucky State Historic Preservation Office (SHPO), requesting review and concurrence with their recommendations. In a letter dated January 9, 2019, the SHPO concluded that Project implementation would have no adverse effect on historic properties would not be adversely affected by the proposed undertaking. We concur with the SHPO's assessment that no adverse effects to historic properties would occur from the Project.

6.3. Tribal Consultation

Columbia contacted the following Native American tribes regarding the proposed Project: Delaware Tribe of Indians, Delaware Nation of Oklahoma, Absentee Shawnee Tribe of Oklahoma, Eastern Band of Cherokee Indians, Eastern Shawnee Tribe of Oklahoma, Peoria Tribe of Indians of Oklahoma, and the United Keetoowah Band of Cherokee Indians in Oklahoma. On September 25, 2018, Columbia provided to the tribes a Project information package, a cultural resources assessment, and a draft unanticipated discoveries plan. FERC also contacted the tribes by letter on June 12, 2019 regarding the Project. To date, Columbia and FERC have not received any responses from the tribes.

6.4. Unanticiapated Discoveries Plan

Columbia developed a Project-specific plan titled: Plan for the Unanticipated Discovery of Cultural Resources or Human Remains during Construction for the Project, which outlines the procedures to follow, in accordance with state and federal laws, in the event that unanticipated cultural resources or human remains are discovered during construction of the Project, including consultation with FERC, the SHPO, and tribes regarding discoveries. The plan was submitted to FERC and the Kentucky SHPO. FERC requested minor revisions to the plan. Columbia provided a revised plan which we find acceptable.

6.5. Compliance with the National Historic Preservation Act

FERC has completed its compliance requirements with Section 106 of the National Historic Preservation Act for the proposed Project. If there are any changes to

the Project that have the potential to affect historic properties, further consultation under Section 106 may be required.

7.0 Air Quality and Noise

7.1. Air Quality

Air quality would be affected by construction and operation of the Project. During construction, short-term emissions would be generated by operation of equipment, land disturbance, and increased traffic from worker and delivery vehicles for all locations. No operational emissions would be associated with the replacement of the pipeline segments.

Ambient air quality is protected by federal and state regulations. Under the Clean Air Act (CAA) and its amendments, the EPA has established National Ambient Air Quality Standards (NAAQS) for carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone, particulate matter less than 10 microns (PM_{10}), particulate matter less than 2.5 microns ($PM_{2.5}$), and sulfur dioxide (SO_2).[5] These standards incorporate short-term (hourly or daily) levels and long-term (annual) levels to address acute and I chronic exposures to the pollutants, as appropriate. The NAAQS include primary standards, which are designed to protect human health, including the health of sensitive subpopulations such as children and those with chronic respiratory problems. The NAAQS also include secondary standards designed to protect public welfare, including economic interests, visibility, vegetation, animal species, and other concerns not related to human health.

Air quality control regions (AQCRs) are areas established by the EPA and local agencies for air quality planning purposes, in which State Implementation Plans describe how the NAAQS would be achieved and maintained. The AQCRs are intra- and interstate regions such as large metropolitan areas where improvement of the air quality in one portion of the AQCR requires emission reductions throughout the AQCR. Each AQCR, or smaller portion within an AQCR (such as a county), is designated, based on compliance with the NAAQS, as attainment, unclassifiable, maintenance, or nonattainment, on a pollutant-by-pollutant basis, as described in table 7. Areas in compliance or below the NAAQS are designated as attainment, while areas not in compliance or above the NAAQS are designated as nonattainment. Areas previously designated as nonattainment that have since demonstrated compliance with the NAAQS are designated as maintenance for that pollutant. Maintenance areas may be subject to more stringent regulatory requirements to ensure continued attainment of the NAAQS. Areas that lack sufficient data to determine attainment status are designated unclassifiable and treated as attainment areas. The Project would be located in Menifee and

[5] The current NAAQS are listed on EPA's website at https://www.epa.gov/criteria-air-pollutants/naaqs-table.

Montgomery Counties, Kentucky. Both counties are in attainment for all criteria pollutants.

Table 7
National Ambient Air Quality Standards

Pollutant	Averaging Period	Standards	
		Primary	Secondary
SO_2	1-hour [l,m]	75 ppb 196 µg/m^3	
	3-hour [b]	--	0.5 ppm 1300 µg/m^3
	Annual [a,m]	0.03 ppm 80 µg/m^3	--
	24-hour [b,m]	0.14 ppm 365 µg/m^3	--
PM_{10}	24-hour [d]	150 µg/m^3	150 µg/m^3
$PM_{2.5}$ (2012 Standard)	Annual [e]	12.0 µg/m^3	15.0 µg/m^3
$PM_{2.5}$ (2006 Standard)	24-hour [f]	35 µg/m^3	35 µg/m^3
NO_2	Annual [a]	0.053 ppm (53 ppb) 100 µg/m^3	0.053 ppm (53 ppb) 100 µg/m^3
	1-hour [c]	100 ppb 188 µg/m^3	--
CO	8-hour [b]	9 ppm	--
	1-hour [b]	10,000µg/m^3 35 ppm 40,000 µg/m^3	--
Ozone (2008 Standard)	8-hour [g,h]	0.075 ppm	0.075 ppm
Ozone (2015 Standard)	8-Hour [i]	0.070 ppm	0.070 ppm
Ozone (O_3)	1-hour [j,k]	0.12 ppm	0.12 ppm
Lead (Pb)	Rolling 3-month [a]	0.15 µg/m^3	0.15 µg/m^3

a. Not to be exceeded
b. Not to be exceeded more than once per year
c. Compliance based on 3-year average of the 98th percentile of the daily maximum 1-hour average at

each monitor within an area
d. Not to be exceeded more than once per year on average over 3 years
e. Compliance based on 3-year average of weighted annual mean $PM_{2.5}$ concentrations at community-oriented monitors
f. Compliance based on 3-year average of 98^{th} percentile of 24-hour concentrations at each population-oriented monitor within an area
g. Compliance based on 3-year average of fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area
h. The 2008 8-hour ozone standard would remain in effect until one year after an area is designated for the 2015 8-hour ozone standard, which corresponds with January 16, 2019 based upon attainment designations for the 2015 ozone standard issued on January 16, 2018
i. Permit applications that have not met EPA's grandfathering criteria would have to demonstrate that the proposed project does not cause or contribute to a violation of any revised ozone standards that are in effect when the permit is issued, including the 2015 revised standards
j. Maximum 1-hour daily average not to be exceeded more than one day per calendar year on average
k. The 1-hour ozone standard has been revoked in all areas in which Project activities would occur
l. Compliance based on 3-year average of 99^{th} percentile of the daily maximum 1-hour average at each monitor within an area
m. The 24-hour and annual average primary standards for SO_2 have been revoked.
ppm = parts per million by volume; ppb = parts per billion by volume.
$\mu g/m^3$ = micrograms per cubic meter.

Greenhouse Gases

Greenhouse gases occur in the atmosphere both naturally and as a result of human activities, such as the burning of fossil fuels. GHGs are gases that absorb infrared radiation in the atmosphere, and an increase in emissions of these gasses has been determined by the EPA to endanger public health and welfare by contributing to global climate change. The most common GHGs emitted during fossil fuel combustion and natural gas transportation are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Emissions of GHGs are typically expressed in terms of CO_2 equivalents (CO_2e), where the potential of each gas to increase heating in the atmosphere is expressed as a multiple of the heating potential of CO_2 over a specific timeframe, or its global warming potential (GWP). The 100-year GWP of CO_2 is 1, CH_4 is 25, and N_2O is 298.[6] During construction and operation of the Project, these GHGs would be emitted from non-electrical construction. There are no operational emissions associated with the Project.

On November 8, 2010, the EPA signed a rule that finalizes reporting requirements for the petroleum and natural gas industry under 40 CFR 98. Subpart W of 40 CFR 98 requires petroleum and natural gas facilities that emit 25,000 metric tons or more of CO_2e

[6] These GWPs are based on a 100-year time period. We have selected their use over other published GWPs for other timeframes because these are the GWPs the EPA has established for reporting of GHG emissions and air permitting requirements. This allows for a consistent comparison with these regulatory requirements.

per year to report annual emissions of specified GHGs from various processes within the facility. Construction emissions are not covered under the GHG Reporting Rule, but those related to the proposed Project are expected to be well below the 25,000 metric tons reporting threshold. The EPA has expanded its regulations to include the emission of GHGs from major stationary sources under the Prevention of Significant Deterioration (PSD) program. The EPA's current rules require that a stationary source that is major for a non-GHG-regulated New Source Review pollutant must also obtain a PSD permit prior to beginning construction of a new or modified major source with mass-based GHG emissions equal to or greater than 100,000 tons per year (tpy) and significant net emission increases in units of CO_2e equal to or greater than 75,000 tpy. There are no NAAQS or other significance thresholds for GHGs. There would be no new stationary sources of emissions associated with the Project, aside from potential minor fugitive methane leaks, therefore no PSD permit would be required.

7.1.1. Permitting/Regulatory Requirements

New Source Performance Standards

The EPA promulgates New Source Performance Standards to establish emission limits and fuel, monitoring, notification, reporting, and recordkeeping requirements for stationary source types or categories that cause or contribute significantly to air pollution. There are no new stationary sources being constructed as part of this project that would fall under these categories.

General Conformity

The EPA promulgated the General Conformity Rule to implement the conformity provision of Title I, Section 176(c)(1) of CAA. Section 176(c)(1) requires that the federal government not engage, support, or provide financial assistance for licensing or permitting, or approve any activity not conforming to, an approved CAA implementation plan.

The General Conformity Rule is codified in Title 40 CFR Part 51, Subpart W and Part 93, Subpart B, Determining Conformity of General Federal Actions to State or Federal Implementation Plans. A conformity determination must be conducted by the lead federal agency if a federal action's construction and operational activities is likely to result in generating direct and indirect emissions that would exceed the conformity threshold (*de minimis*) levels of the pollutant(s) for which an air basin is in nonattainment or maintenance. According to the conformity regulations, emissions from sources that are subject to any Nonattainment New Source Review (NNSR) or PSD permitting/licensing (major or minor) are exempt and are deemed to have conformed.

The General Conformity Rule was developed to ensure that federal actions in nonattainment and maintenance areas do not impede states' attainment of the NAAQS.

The lead federal agency must conduct a conformity determination if a federal action's construction and operational activities is likely to result in generating direct and indirect emissions that would exceed the General Conformity Applicability threshold levels of the pollutant(s) for which an air basin is designated nonattainment or maintenance. Section 176(c)(1) states that a federal agency cannot approve or support any activity that does not conform to an approved State Implementation Plan. Conforming activities or actions should not, through additional air pollutant emissions:

- cause or contribute to new violations of the NAAQS in any area;
- increase the frequency or severity of any existing violation of any NAAQS; or
- delay timely attainment of any NAAQS or interim emission reductions.

The General Conformity Rule entails both an applicability analysis and a subsequent conformity determination, if deemed necessary. A General Conformity Determination must be completed when the total direct and indirect emissions of a project would equal or exceed the specified pollutant thresholds on a calendar year basis for each nonattainment or maintenance area.

The proposed Project activities would occur in areas in attainment for all criteria pollutants, therefore a general conformity applicability analysis is not required.

Emissions from stationary sources that are covered by any New Source Review (NSR) permit are exempt from general conformity. Non-exempt emissions for the Project include:

- construction vehicle and equipment emissions; and
- fugitive dust emissions.

7.1.2. State, county, and Local Air Quality Regulations

There are no state, county or local air quality regulations in the Project area that would apply to Project activities.

7.1.3. Construction Impacts and Mitigation

Construction of the Project would result in short-term increases in emissions of some pollutants from the use of fossil fuel-fired equipment and the generation of fugitive dust due to earthmoving activities. Some temporary indirect emissions, attributable to construction workers commuting to and from work sites during construction and from on-road and off-road construction vehicle traffic, could also occur. Large earth-moving equipment and other mobile equipment are sources of combustion-related emissions, including criteria pollutants (i.e., NO_x, CO, VOC, SO_2, and PM_{10}).

Columbia would mitigate exhaust emissions from construction equipment by requiring contractors to meet all air quality regulations and emission standards associated with each piece of equipment, maintaining the equipment in accordance with the manufacturer's recommendations and minimizing idling time of engines to the extent practicable. The emissions in table 8 represent the construction equipment combustion, on-road vehicle travel, off-road vehicle travel, and earthmoving fugitives.

Table 8
Estimated Construction Emissions
(tons per year)

Emission Source	NO_x	CO	VOC	SO_2	PM_{10}	$PM_{2.5}$	CH_4	Total HAPs	GHG (CO_{2e})
Access Roadways	-	-	-	-	0.15	0.01	-	-	-
Fugitive Dust	-	-	-	-	2.26	0.33	-	-	-
Non-Road Engine	1.50	0.75	0.16	0.01	0.13	0.13	0.01	0.07	821.97
On-Road Engine	0.15	0.13	0.01	0.00	0.01	0.01	0.00	0.01	176.13
Totals	**1.65**	**0.88**	**0.16**	**0.01**	**2.55**	**0.48**	**0.01**	**0.08**	**998.10**

Construction-related emission estimates were based on a typical construction equipment list, hours of operation, and vehicle miles traveled by the construction equipment and supporting vehicles for each area of the Project. These emission-generating activities would include earthmoving, construction equipment exhaust, on-road vehicle traffic, and off-road vehicle traffic. Columbia conservatively utilized emission factors from EPA's AP-42, and MOVES2014 emission modeling software.

Construction is estimated to begin in March 2020, with an in-service date of July 2020. Columbia would mitigate fugitive dust by spraying water on unpaved areas, and operate of construction equipment as needed. Following construction, air quality would revert back to previous conditions.

Columbia filed a Fugitive Dust Control Plan (FDCP), which we reviewed and find acceptable. The air quality impacts of Project construction would be considered short-term and minimized by the implementation of the control measures, such as watering exposed soil surfaces, modifying the speed of truck and equipment traffic in disturbed areas, and/or removing dirt from roadways.

Given the temporary nature of construction, and the intermittent nature of construction activities, we find that emissions from construction-related activities for the Project are not expected to cause or significantly contribute to a violation of any applicable ambient air quality standard, or significantly affect local or regional air quality. There are no operational impacts associated with the Project. Therefore, we conclude that the Project would not result in significant noise impacts on residents or the surrounding communities.

7.2. Noise

Construction of the Project would affect the local noise environment in the Project area. The ambient sound level of a region, which is defined by the total noise generated within the specific environment, is usually comprised of sounds emanating from both natural and artificial sources. At any location, both the magnitude and frequency of environmental noise may vary considerably over the course of the day and throughout the week, in part due to changing weather conditions and the impacts of seasonal vegetative cover.

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

In 1974, the EPA published its Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. The EPA has indicated that an L_{dn} of 55 dBA protects the public from indoor and outdoor activity interference. We have adopted this criterion and use it to evaluate the potential noise impacts from the proposed Project at noise sensitive areas (NSAs), such as residences, schools, or hospitals. Also, in general, a person's threshold of perception for a perceivable change in loudness on the A-weighted sound level is about 3 dBA, whereas a 5 dBA change is clearly noticeable, and a 10 dBA change is perceived as either twice or half the loud.

There are no state, county, or city noise regulations associated with this Project.

7.2.1. Construction Noise Impacts and Mitigation

Construction of the facilities would involve operation of general construction equipment and noise would be generated during the installation of the Project components. Measures to mitigate construction noise would include compliance with federal regulations limiting noise from trucks, proper maintenance of equipment, and ensuring that sound muffling devices provided by the manufacturer are kept in good working condition.

Construction noise would be highly variable because the types of equipment in use at a construction site changes with the construction phase and the types of activities. Noise from construction activities may be noticeable at nearby NSAs. However, construction equipment would be operated on an as-needed basis during the short-term construction period. Further, Columbia would limit construction activities to occur during daytime hours of 7:00AM to 5:00 PM.

Because of the varied locations of activities, and that construction of the Project would be limited to daytime hours and intermittent, we conclude construction noise would not have a significant impact on the environment.

No sources of operational noise are associated with the Project.

8.0 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 leak, or rupture at the facility. 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 pipeline replacement associated with the Project must be designed, constructed, operated, and maintained in accordance with the DOT Minimum Federal Safety Standards in 49 CFR Part 192. The regulations are intended to ensure adequate protection for the public and to prevent facility accidents and failures, including emergency shutdowns and safety equipment. The DOT's Pipeline and Hazardous Materials Safety Administration ensures that people and the environment are protected from the risk of pipeline incidents. This work is shared with state agency partners and others at the federal, state, and local level.

The DOT provides for a state agency to assume all aspects of the safety program for intrastate facilities by adopting and enforcing the federal standards. DOT federal inspectors perform inspections and enforce the pipeline safety regulations for interstate gas pipeline facilities in Kentucky.

Part 192 also requires a pipeline operator to establish a written emergency plan that includes procedures to minimize the hazards in an emergency. Additionally, the operator must establish a continuing education program to enable the public, government officials, and others to recognize an emergency at the facility and report it to appropriate public officials. Columbia would provide the appropriate training to local emergency service personnel before the facilities are placed in service.

Facilities associated with the Project must be designed, constructed, operated, and maintained in accordance with Columbia's standards, including the provisions for written emergency plans and emergency shutdowns. Columbia would provide the appropriate training to local emergency service personnel before the facilities are placed into service.

The purpose of this Project is to maintain the integrity of existing pipelines and upgrade sections of the pipelines to DOT Class 3 design, therefore we conclude that the Project would not represent an increase in risk to the nearby public.

Polychlorinated Biphenyls

During abandonment activities, Columbia would follow appropriate testing and disposal procedures for abandonment. When any existing station piping or pipeline is cut, the contractor would follow the EPA issued Polychlorinated Biphenyls (PCB) rules and regulations contained in 40 Code of Federal Regulations Part 761. While the Project involves abandonment and removal of pipeline, Columbia indicated that it has never had a source of PCB's in the pipelines, based on upstream operations and evaluation of past sampling of all liquids that were contained in the pipeline. The segments of ML100 and ML 200 have been cleared; therefore, PCB's are not expected on any portion of the Project facilities.

9.0 Cumulative Impacts

In accordance with NEPA and with FERC policy, we evaluated the potential for cumulative effects of the proposed Project. Cumulative impacts represent the incremental effects of a proposed action when added to other past, present, or reasonably foreseeable future actions, regardless of the agency or party undertaking such other actions. Cumulative impacts can result from individually minor, but collectively significant actions, taking place over time.

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

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

The EA analyzed the Project's impacts on geology and soils; water resources and wetlands; vegetation and wildlife; land use and visual resources; cultural resources; and air quality. Cumulative impacts can result from individually minor, but collectively significant actions, taking place over time. The CEQ guidance states that an adequate cumulative effects analysis may be conducted by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions. In this analysis, we consider the impacts of past projects within the defined geographic scope as part of the affected environment (environmental baseline) which were described and evaluated in the preceding environmental analysis. However, present effects of past actions that are relevant and useful are also considered. When evaluating cumulative impacts, we establish a geographic scope for each resource affected by the proposed Project, shown in table 9, below.

Table 9
Cumulative Impact Assessment Area

Resource	Cumulative Impact Assessment Area[a]
Water Resources and Wetlands	Hydrologic Unit Code 12 digit (HUC-12) watersheds
Fisheries	HUC-12
Vegetation	HUC-12
Wildlife	HUC-12
Cultural	Overlapping impacts on historical properties
Geological	construction workspaces
Soil	construction workspaces
Land Use and Visual	1 mi radius
Air (Construction)	0.25 mi radius
Air (Operation)	N/A
Noise (Construction)	0.25 mi radius
Noise (Operation)	N/A

9.1. Projects Identified within the Geographic Scope

Review of potential cumulative impacts associated with the Project included recently completed, contemporary or ongoing, and reasonably foreseeable future projects. Specifically, Columbia attempted to identify major projects that have the potential to contribute to cumulative impacts on the resources analyzed in these resource reports that occur within the designated review area for the resource. Major projects that were analyzed included infrastructure and transportation projects, FERC-jurisdictional pipelines and other linear utility projects, and major residential, commercial, and industrial development projects.

No FERC-jurisdictional projects were identified within the cumulative impact

assessment areas (CIAA). Columbia did identify four non-FERC-jurisdictional projects which have the potential to contribute to cumulative impacts within identified CIAAs. The identified projects involve one transportation related activity and three municipal projects (water and sewer line installation). Table 10 identifies the recently completed, ongoing, and reasonably foreseeable future projects in the CIAA.

Table 10
Recently Completed, Contemporary, or Ongoing, and Reasonably Foreseeable Future Projects in the Cumulative Impact Assessment Area

Project Name	Project Type	Proponent	Closest Distance	Status of Project	Potential area of Surface Disturbance (acres)	Potentially Affected Resources
US-460 at Lucky Stop Hill	State – Roadway Improvements	Kentucky Transportation Cabinet	2.4 mi	2018	17.9 During Construction	Surface Water, Wetlands, Vegetation, Wildlife, Cultural, Soils, Land Use, Air Quality
Pump Station No. 5 Project	Municipal – Sanitary Sewer Construction	Montgomery County Sanitation District #2	4.9 mi	Preliminary planning; construction expected within 5 years	4.2 During Construction	Surface Water, Wetlands, Vegetation, Wildlife, Soils, Land Use, Air Quality
Welch Road Project – Phase II	Municipal – Waterline Construction	City of Jeffersonville	5.8 mi	Preliminary planning; construction expected within 5 years	17.9 During Construction	Surface Water, Wetlands, Vegetation, Wildlife, Soils, Land Use
System Improvements Project	Municipal – Sanitary Sewer Construction	Menifee County Sanitation District #1	0.25	2019-2020	41.0 During Construction	Surface Water, Wetlands, Vegetation, Wildlife, Soils, Land Use, Air Quality

The developments and projects that occur in the CIAA of the Project could impact groundwater, surface water, wetlands, fisheries, vegetation, wildlife, cultural, geologic, soil, land uses, air quality, and noise resources. The majority of these impacts would be temporary and highly localized. We anticipate that these projects would require state

and/or local approvals and that Best Management Practices (BMPs) would be implemented to minimize environmental impacts such as erosion and sedimentation. Following construction, disturbed areas would be stabilized and would be revegetated if not occupied by structures, driveways, or other hard surfaces.

9.2. Potential Cumulative Impact on Specific Resources within the Project Area

This section analyzes cumulative impacts on the following resources in the Project area: surface water resources and wetlands; vegetation and wildlife; and air quality and noise.

The Project would not contribute to cumulative impacts within the geographic scope on geology and soils; land use and visual resources; cultural resources; and groundwater; therefore, these resources are not assessed further for cumulative impacts. The Project would not contribute to cumulative impacts on land use or aesthetics as the Project involves the replacement of existing pipelines within an existing easement, involving no aboveground facilities that would be visible to the surrounding area. No other projects were identified that would have overlapping effects on geology or soils within the construction workareas or that could affect cultural reources within the Project APE; therefore, there is no potential for cumulative impacts on geology, soils, and cultural resources. Finally, the Project would have no or only minimal, localized, and temporary impacts impact on groundwater; therefore, the Project's potential to contribute to cumulative groundwater impacts is neglible.

9.2.1. Surface Water, Fisheries, and Wetlands

Impacts on surface waters can result in downstream contamination or turbidity; therefore, the geographic scope used to assess cumulative impacts on water resources includes the HUC-12 subwatersheds crossed by the Project. Cumulative impacts on surface waterbodies, fisheries, and wetlands affected by the Project would be limited primarily to those that are affected by other actions within the same HUC-12 watershed that are constructed in a similar timeframe. Four recently completed, contemporary or ongoing, or reasonably foreseeable future projects were identified within the two HUC-12 watersheds crossed by the Project. The identified construction projects include one transportation related activity and three municipal projects involving water and sewer line installation.

Surface Water and Fisheries

As discussed in section B.3.1 of this EA, the Project would only directly cross one perennial waterbody with pipeline crossings (and a temporary equipment bridge), and one would only be impacted via a temporary equipment bridge. Any impacts on these

waterbodies would be short term and minor. No information was attainable regarding the surface water or fishery impacts for the projects identified in table 10. However, it is assumed that the project proponents would take steps to minimize impacts by implementing best management practices for working within or near waterbodies, similar to those proposed for the Mainline 100 and Mainline 200 Replacement Project, including the installation of erosion control devices (e.g. silt fence) to prevent sedimentation of waterbodies and restoring beds and banks of disturbed waterbodies to preconstruction conditions following construction. Therefore, we conclude that the Project, in combination with the other identified projects would not result in cumulative impacts on surface water and fisheries.

Wetlands

As discussed in section B.3.3, the Project would only temporarily impact one PEM wetland, all of which would be restored to preconstruction conditions following construction. No information was attainable regarding the wetland impacts of the projects listed in table 10, however, each proponent for the identified projects that may affect wetlands within the same two HUC-12 watersheds as the Project would be required to comply with applicable federal and state permit requirements. It is assumed each of the project proponents would take steps to minimize these impacts by implementing wetland construction and mitigation measures similar to those proposed for the Mainline 100 and Mainline 200 Replacement Project, and could also potentially include compensatory mitigation for permanent impacts on wetlands. For these reasons, we conclude that construction of the Project, along with construction of the other identified projects would not result in significant cumulative impacts on wetlands.

9.2.2. Vegetation and Wildlife

Project impacts on vegetation and wildlife resources could extend outside of the Project workspaces, but would likely be contained to a relatively small area (the HUC-12 subwatersheds). Therefore, past, present, and reasonably foreseeable actions within the HUC-12 watersheds are within the geographic scope for cumulative impacts for vegetation and wildlife and are considered in this cumulative impact analysis.

Vegetation

The Project's primary impacts on vegetation would result from the permanent conversion of forest to herbaceous cover as a result of maintenance of the permanent right-of-way. Additinally, long-term impacts would result from a temporary access road extension due to the time it takes for trees to revert to preconstruction conditions following construction. However, the extent of these impacts is very limited (over 0.1 acre of forest, mostly within the existing right-of-way). While the specific vegetation impact information for some of the projects in table 10 is unknown, it is possible that

cumulative impacts on vegetation in the geographic scope could occur from construction and operation of the Project in combination with the projects identified within the two HUC watersheds.

All of the identified projects in table 10 could temporarily and permanently affect forested vegetation. Although some of these projects would be completed before or after the construction of the Project, forested areas may take several years or decades to return to pre-construction conditions, and the effects of tree clearing would continue beyond restoration. However, these impacts are not expected to be significant on a local scale because the surrounding area is already highly fragmented by agricultural and residential development. Further, it is expected that the identified projects would use best management practices during construction to limit the extent of impacts on forested areas (e.g., minimizing tree clearing) and would revegetate all areas not necessary for operation. Further, almost all of the Project components and construction workspaces have been situated within maintained rights-of-way that are already frequently disturbed. For these reasons, we conclude that the Project would not result in a significant cumulative impact on vegetation when considered in combination with the other projects identified in table 10.

Wildlife

As previously discussed in section B.4.2, the temporary and permanent loss of wildlife habitat, primarily due to the conversion of forest to herbaceous cover, would introduce displacement and stress, and could result in mortality of some individuals. However, following construction activities, all disturbed areas would be properly restored and revegetated to pre-construction conditions in accordance with Columbia's ECS. Four additional actions within the geographic scope (see table 10) could impact wildlife habitat as a result of construction activities or operations. However, based on the abundance of suitable habitat in the vicinity of these action areas, it is expected that wildlife impacts would be insignificant. Due to the limited extent of the Project impacts and because much of the Project would occur within existing right-of-way, any cumulative impacts attributed to the Project in combination with the other four identified projects would be minor and would not result in a significant cumulative impact on wildlife.

9.2.3. Air Quality and Noise

Due to the limited amount of emissions and noise generated by construction equipment, the geographic scope used to assess potential cumulative impacts on air and noise from construction activities was set at 0.25 mile from the Project area. The Project would involve negligible operational emissions and no permanent noise sources. As such, operational impacts are not evaluated further in our cumulative impact analysis below.

Construction of one project identified in table 10, a municipal sanitary sewer improvement project, would be within 0.25 mile of the proposed Project and may result in cumulative impacts on air quality and noise during construction. Construction of the sewer project and the proposed Project would both involve the use of heavy equipment that would generate emissions of air pollutants, fugitive dust, and noise.

Construction equipment would result in short-term emissions that would be highly localized, temporary, and intermittent. To minimize fugitive dust, Columbia would water disturbed surfaces during construction. Because watering access roads and construction areas is a common construction best management practice, the sewer project may also implement similar dust control measures to minimize fugitive dust generation. Based on the mitigation measures proposed by Columbia, and the temporary and localized impacts of construction, the Project would not result in significant cumulative impacts on air quality during construction.

Construction of the Project would result in short-term and temporary impacts on existing noise levels in the Project area. Construction of the Project may occur concurrently with construction of the sanitary sewer project and may contribute cumulatively to impacts on noise levels. However, based on the short-term and temporary nature of construction-related activities, impacts from the Project are not expected to significantly contribute to cumulative impacts on noise levels during construction.

9.2.4. Cumulative Impact Conclusion

In conclusion, when the impacts of the Project are added to the impacts from the municipal and industrial development, the cumulative impacts would be minimal. We conclude that impacts would be temporary in nature and no significant cumulative impacts would be incurred from the proposed Project.

C. ALTERNATIVES

In accordance with NEPA and FERC policy, we evaluated alternatives to the Project to determine whether they would be reasonable and environmentally preferable to the proposed action. These alternatives included the no-action alternative, system alternatives, and site alternatives. The evaluation criteria used for developing and reviewing alternatives were:

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

1.0 No Action Alternative

Under the no-action alternative, Columbia would not construct the Project; therefore, no environmental impacts would occur. However, Columbia would be unable to replace the existing pipelines from Class 2 to Class 3 pipelines to meet DOT regulations. This would prohibit continued operation at the current pipeline maximum allowable operating pressures to meet the natural gas needs of Columbia's customers. It is reasonable to assume that the customers could identify alternative measures to meet their natural gas needs that would also result in some level of environmental impact. Based on the minor impacts identified for the Project, the alternative of the customers seeking another mechanism is likely to result in additional environmental impact and not likely to provide a significant environmental advantage. Further, the no-action alternative would not meet the objective of the Project. Therefore, we did not consider it further.

2.0 System and Site Alternatives

There are no other alternatives that can be implemented on Columbia's system, or other nearby pipeline systems, to meet the objectives of the proposed pipeline replacement Project. The current site would not result in significant environmental impacts and other project sites would likely have similar or greater impacts. Therefore, system and site alternatives were not considered further.

3.0 Conclusion

We reviewed alternatives to Columbia's proposal based on our independent analysis. No system or site facility alternatives provide a significant environmental advantage of the Project design. Therefore, we conclude that the proposed action is the preferred alternative that can meet the Project's objectives.

D. CONCLUSIONS AND RECOMMENDATIONS

Based upon the analysis in this EA, we have determined that if Columbia abandons, constructs, and operates the proposed pipelines in accordance with its application, supplements, Project-specific plans, and the staff's recommended mitigation measures below, approval of the Project would not constitute a major federal action significantly affecting the quality of the human environment. We recommend that the Commission Order contain a finding of no significant impact and the following mitigation measures be included as conditions of any Order the Commission may issue to Columbia.

1. Columbia 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. Columbia 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 OEP **before using that modification**.

2. The Director of OEP, or the Director's designee, has delegated authority to address any requests for approvals or authorizations necessary to carry out the conditions of this Order, and take whatever steps are necessary to ensure the protection of environmental resources during abandonment, construction, and operation of the Project. This authority shall allow:

    a. the modification of conditions of the Order;
    b. stop-work authority; and
    c. the imposition of any additional measures deemed necessary to ensure continued compliance with the intent of the conditions of the Order as well as the avoidance or mitigation of unforeseen adverse environmental impact resulting from Project abandonment, construction, and operation.

3. **Prior to any construction**, Columbia 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 supplemented by filed alignment sheets. **As soon as they are available, and before the start of construction**, Columbia 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.

   Columbia'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. Columbia's right of eminent domain granted under NGA section 7(h) does not authorize it to increase the size of its natural gas facilities to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other than natural gas.

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

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

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

   a. implementation of cultural resources mitigation measures;
   b. implementation of endangered, threatened, or special concern species mitigation measures;
   c. recommendations by state regulatory authorities; and
   d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.

6. **Within 60 days of the Order and before construction begins**, Columbia shall file an Implementation Plan with the Secretary for review and written approval by the Director of OEP. Columbia must file revisions to the plan as schedules change. The plan shall identify:

   a. how Columbia 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 Columbia 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 Columbia 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 Columbia's organization having responsibility for compliance;
   g. the procedures (including use of contract penalties) Columbia would follow if noncompliance occurs; and
   h. 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. Columbia shall employ at least one EI. The EI(s) shall be:

   a. responsible for monitoring and ensuring compliance with all mitigation measures required by the Order and other grants, permits, certificates, or other authorizing documents;
   b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see condition 6 above) and any other authorizing document;
   c. empowered to order correction of acts that violate the environmental conditions of the Order, and any other authorizing document;

d. responsible for documenting compliance with the environmental conditions of the Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
e. responsible for maintaining status reports.

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

   a. an update on Columbia efforts to obtain the necessary federal authorizations;
   b. the construction status of the Project, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally-sensitive areas;
   c. a listing of all problems encountered and each instance of noncompliance observed by the EI(s) during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
   d. a description of the corrective actions implemented in response to all instances of noncompliance;
   e. the effectiveness of all corrective actions implemented;
   f. a description of any landowner/resident complaints which may relate to compliance with the requirements of the Order, and the measures taken to satisfy their concerns; and
   g. copies of any correspondence received by Columbia from other federal, state, or local permitting agencies concerning instances of noncompliance, and Columbia's response.

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

10. Columbia must receive written authorization from the Director of OEP **before placing the Project into service**. Such authorization would only be granted following a determination that rehabilitation and restoration of the right-of-way and other areas affected by the Project are proceeding satisfactorily.

11. **Within 30 days of placing the authorized facilities in service**, Columbia shall file an affirmative statement with the Secretary, certified by a senior company

official:

a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities would be consistent with all applicable conditions; or
b. identifying which of the conditions in the Order Columbia has complied with or would comply with. This statement shall also identify any areas affected by the Project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.

12. Columbia shall **not begin construction** of the Project **until**:

a. the staff receives comments from the USFWS regarding the proposed actions;
b. the FERC staff completes any necessary Section 7 ESA consultation with the USFWS; and
c. Columbia has received written notification from the Director of OEP that construction and/or use of mitigation (including implementation of conservation measures) may begin.

E. REFERENCES

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G. APPENDIX A

INTERAGENCY ENDANGERED SPECIES ACT CONSULTATION CHECKLIST FOR THE NISOURCE MULTI-SPECIES HABITAT CONSERVATION PLAN

APPLICANT SECTION

ACTION AGENCY (Recipient): Federal Energy Regulatory Commission

OTHER INVOLVED FEDERAL AGENCIES: U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service

PROJECT NAME: Line ML 100 and ML 200 Class Location Replacement

PROJECT I.D. NO. (if applicable): KY19E-003, CP19-193-000

NiSource and Columbia Pipeline Group (Columbia) has provided the attached documentation to involved federal agencies in accordance with "Project Review and Documentation Protocols" of the NiSource/Columbia Pipeline MSHCP Consultation Implementation Guidance [4]. This documentation describes if and how the project is covered by the NiSource Multi-Species Habitat Conservation Plan (MSHCP), programmatic biological opinion (BO), and/or programmatic concurrence letters. In addition, the action agency could refer to the following sections and/or pages of the MSHCP, BO, and/or concurrence letters to verify that the activity is covered by the MSHCP and associated Section 7 consultation under the Endangered Species Act (ESA):

Reference:

- NiSource MSHCP Chapter 2.3 Covered Lands (pp 2-11)
- NiSource MSHCP Chapter 2.4 Covered Activities (pp 11- 25)
- NiSource/Columbia Pipeline MSHCP Consultation Implementation Guidance Quick Reference for Species Consultation Categories (pp 5-6)
- NiSource/Columbia Pipeline Group's, "Habitat Conservation Program Best Management Practices Guidebook", v.1.0, March 12, 2014 (specific pages for each species are referenced in the attached application material)

By signing below, Columbia certifies that its proposed activity, as outlined in the accompanying application or notification, is consistent with the MSHCP, BO, and/or concurrence letters.

_____ ___7/31/2019_____

Columbia Pipeline representative Date

[X] By checking the box, Columbia is notifying the involved federal agencies that the proposed activity will require additional ESA Section 7 consultation because part of the activity may include: (1) any of the 10 Likely to Adversely Affect (LAA) species that are not included in the MSHCP[5], (2) species not addressed in the MSHCP, BO, or concurrence letters[5], (3) non-covered activities, (4) activities outside of the covered lands, or (5) activities otherwise deviating from the MSHCP, BO, and/or concurrence letters. Additional biological information about the species, habitat, or effects of the action may be required. The federal agencies can contact the U.S. Fish and

[4] See NiSource/Columbia Pipeline MSHCP Consultation Implementation Guidance. February 13, 2014. Pg 11.
[5] See NiSource/Columbia Pipeline MSHCP Consultation Implementation Guidance. February 13, 2014. Pg. 5.

Wildlife Service's NiSource/Columbia MSHCP Implementation Coordinator (Karen Herrington, 850.348.6495, karen_herrington@fws.gov) for more information.

FEDERAL AGENCY SECTION

This checklist serves as the official documentation that each action agency involved has completed its Section 7 responsibilities under the ESA for NiSource and Columbia Pipeline Group (Columbia) projects conducted as described in the MSHCP, BO, and/or concurrence letters. Every agency that receives a copy of this checklist should fill it out. The MSHCP, BO, and concurrence letters can be found on the U.S. Fish and Wildlife Service (FWS) NiSource website:

http://www.fws.gov/midwest/endangered/permits/hcp/nisource/index.html

Quick access to the required Avoidance and Minimization Measures (AMMs) and Best Management Practices (BMP) can be found in the Columbia BMP Guidebook, which is also posted on the above website.

1. Does the federal action occur entirely within the covered lands as described in the MSHCP?
   __x__ Yes. Go to #2.
   _____ No. Additional consultation is required because the action is not consistent with the MSHCP, BO, and/or concurrence letters. If the project may affect listed species, contact your local FWS Field Office.

2. Is the proposed action as described in the MSHCP, programmatic BO, and/or concurrence letter?
   __x__ Yes. Go to #3.
   _____ No. Additional consultation is required because the action is not consistent with the MSHCP, BO, and/or concurrence letters. If the project may affect listed species, contact your local FWS Field Office.

3. Does the proposed action pose any effects on species not included in the MSHCP, BO or concurrence letters[55]?
   _____ Yes. Additional consultation is required because the species was not included in the MSHCP, BO, and/or concurrence letters. If the project may affect listed species not included in the consultation, contact your local FWS Field Office.
   __x__ No. Go to #4.

4. Does the proposed action include MSHCP species[65] only?
   _____ Yes. Go to #6.
   __x__ No. Go to #5.

5. Does the proposed action include any of the 10 Likely to Adversely Affect (LAA) species that are not included in the MSHCP (i.e., LAA non-MSHCP species) as addressed in the BO?
   __x__ Yes. Additional consultation is required. Enter into tiered consultation with your local FWS office for any LAA non-MSHCP species.
   _____ No. Go to #6.

[6] See NiSource/Columbia Pipeline MSHCP Consultation Implementation Guidance. February 13, 2014. Pg. 5

6. Are all mandatory AMMs and/or BMPs for each species included in the action?[7]
   __x__ Yes. Go to #7.
   _____ No. Additional consultation is required because the proposed action is not consistent with the MSHCP, BO, and/or concurrence letter. Request additional information from Columbia about AMMs.

7. Are all non-mandatory AMMs and/or BMPs for each species included in the action?
   __x__ Yes. Consultation is complete because the proposed action is consistent with the MSHCP, BO, and/or concurrence letter.
   _____ No. Go to #8.

8. Are reasons provided for not including non-mandatory AMMs for each species?[8]
   _____ Yes. Consultation is complete.
   _____ No. Request justification from Columbia, and attach documentation here. Once justification is provided, consultation is complete.

It is the federal agency's responsibility to comply with ESA Section 7 requirements for this project. The programmatic BO and/or the concurrence letters cover most of Columbia's activities implemented under the MSHCP within the covered lands. By signing below, the federal agency verifies that the proposed action within the agency's authority complies with the programmatic BO, and/or concurrence letters. If additional Section 7 consultation is required, the U.S. Fish and Wildlife Service's supplemental concurrence letter or biological opinion will be attached to this documentation.

AGENCY COMMENTS:

Additional Section 7 consultation required for the snuffbox. Completion of Section 7 consultation is required prior to construction.

Christie Crumpton _____ 8/20/2019

Federal Agency representative Date

[7] See NiSource/Columbia Pipeline Group's, "Habitat Conservation Program Best Management Practices Guidebook", v.1.0, March 12, 2014.
[8] Per the MSHCP, explanation for non-mandatory AMM use is not required for the Indiana Bat.