Dominion Energy Services, Inc.
5000 Dominion Boulevard,
Glen Allen, VA 23060
Dominion Energy.com

September 22, 2017

BY E-MAIL

Ms. Amy Ewing
Virginia Department of Game and Inland Fishers
7870 Villa Park Drive
Henrico, VA 23228
amy.ewing@dgif.virginia.gov

Mr. Troy Andersen
U.S. Fish and Wildlife Service
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061
troy_andersen@fws.gov

Re: Atlantic Coast Pipeline, LLC, Atlantic Coast Pipeline
Submittal of the Revised Virginia Fish Relocation Plan

Dear Ms. Ewing and Mr. Anderson:

Atlantic Coast Pipeline, LLC (Atlantic) is pleased to provide the Revised Virginia Fish Relocation Plan, originally filed on 16 August 2016. This plan outlines the procedures that Atlantic's biologists will follow while conducting water crossing fish relocations during Atlantic Coast Pipeline (ACP) construction in Virginia. It has been updated to incorporate protocol measures for any invasive species observed during these relocation surveys.

Project and Company Background

Atlantic Coast Pipeline, LLC (Atlantic) is a company formed by four major U.S. energy companies – Dominion Energy, Inc., Duke Energy Corporation, Piedmont Natural Gas Co., Inc., and Southern Company Gas. Atlantic was created to develop, own, and operate the proposed ACP, an approximately 600-mile-long, interstate natural gas transmission pipeline system designed to meet growing energy needs in Virginia and North Carolina. The ACP will deliver 1.4 million dekatherms per day (MMDt/d) of natural gas to be used to generate electricity, heat homes, and run local businesses. The underground pipeline project will facilitate cleaner air, increase reliability and security of natural gas supplies, and provide a significant economic boost in Virginia and North Carolina. For more information about the ACP, visit the company's website at www.dominionenergy.com/acpipeline. Atlantic has contracted with Dominion Energy Transmission, Inc. (DETI), a subsidiary of Dominion Energy, to permit, build, and operate the ACP on behalf of Atlantic.

DETI is requesting your review and concurrence for the attached Revised Virginia Fish Relocation Plan and looks forward to coordinating with you on this Project. Please contact Mr. Spencer Trichell at (804) 273-3472 or spencer.trichell@dominionenergy.com if there are questions regarding this Plan. Please direct written responses to:

Richard B. Gangle
Dominion Energy Services, Inc.
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Sincerely,

Richard B. Gangle
Environmental Manager, Atlantic Coast Pipeline

Cc: Richard B. Gangle, Dominion Energy Services, Inc.
Brian Watson, VDGIF
Jennifer Adams, U.S. Forest Service

Attachments: Revised Virginia Fish Relocation Plan

ATLANTIC COAST PIPELINE, LLC
ATLANTIC COAST PIPELINE
Docket Nos. CP15-554-000
CP15-554-001

and

DOMINION ENERGY TRANSMISSION, INC
SUPPLY HEADER PROJECT
Docket No. CP15-555-000

Revised Virginia Fish Relocation Plan

Prepared by

ERM

September 12, 2017

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LIST OF ACRONYMS AND ABBREVIATIONS

ACP	Atlantic Coast Pipeline
Atlantic	Atlantic Coast Pipeline, LLC
DETI	Dominion Energy Transmission, Inc.
FWS	U.S. Fish and Wildlife Service
Project	Atlantic Coast Pipeline
VDGIF	Virginia Department of Game and Inland Fisheries

1.0 INTRODUCTION

Atlantic Coast Pipeline, LLC (Atlantic) – a company formed by four major energy companies - Dominion Energy, Inc.; Duke Energy Corporation; Piedmont Natural Gas Co., Inc.; and Southern Company Gas – proposes to construct and operate approximately 600 miles of natural gas transmission pipelines and associated aboveground facilities in West Virginia, Virginia, and North Carolina. This Project, referred to as the Atlantic Coast Pipeline (ACP or Project), will deliver up to 1.4 million dekatherms per day of natural gas from supply areas in the Appalachian region to demand areas in Virginia and North Carolina. Atlantic has contracted with Dominion Energy Transmission, Inc. (DETI), a subsidiary of Dominion Energy, Inc., to construct and operate the ACP on behalf of Atlantic.

In conjunction with the ACP, DETI proposes to construct and operate approximately 37.5 miles of pipeline loop and modify existing compression facilities in Pennsylvania and West Virginia. This Project, referred to as the Supply Header Project (SHP), will enable DETI to provide firm transportation service to various customers, including Atlantic.

2.0 PURPOSE

The Virginia Department of Game and Inland Fisheries (VDGIF) requested the relocation of fish during construction of waterbody crossings. This *Fish Relocation Plan* outlines the procedures that Atlantic's biologists will follow while conducting waterbody crossings required for the construction of the ACP in Virginia.

3.0 GENERAL REQUIREMENTS

In Virginia waters known to, or with the possibility to, support federally Endangered Roanoke logperch, an approved and permitted (federal/state) Roanoke logperch (*Percina rex*) surveyor shall be on site during construction of the crossing to ensure that in-stream activities do not cause fish stress or injury and to remove fish, as described below. Outside of waters known or suspected to support Roanoke logperch, a biologist who has obtained a VDGIF Scientific Collection Permit shall be on site during construction of the crossing to ensure that in-stream activities do not cause fish stress or injury and to remove fish, as described below.

At every constructed stream crossing (perennial and intermittent) along the ACP in Virginia, all fish, including Roanoke logperch, trapped within areas proposed for dewatering or instream work (may apply to multiple crossing construction methods) areas must be removed within 24 hours after the work area has been isolated. If water depth within the isolated work area is too deep to remove fish, and it has been determined that partial dewatering is necessary prior to removing fish, then the pump intakes will be screened to prevent fish and aquatic biota from entering the intake. Details of relocations of threatened and endangered fishes will be documented, photographed, and summarized in a single final report to be submitted to VDGIF and the US Fish and Wildlife Service (FWS). Unless otherwise authorized by VDGIF and the FWS, fish relocation efforts shall not be conducted during applicable Time-of-Year Restrictions (TOYR) for any protected fish species likely to be encountered at the Project site, as determined during pre-Project assessments and surveys described in the *ACP Virginia Roanoke logperch Species Study Plan Revised 20151016*.

4.0 FISH RELOCATION TECHNIQUES

The method(s) used may depend on the stream characteristics or conditions such as depth, flow, substrate, water clarity, and size or area of the potential impact zone. Methods are also dependent upon the target fish. For example, schooling fish like minnows may be more susceptible to seining, while benthic species such as darters may require electroshocking to capture. At some locations, it may be necessary to use a combination of these methods to ensure that all fish have been safely removed from the work area. Because there is no flow within an isolated work area, one inherent problem in collection is the turbid conditions once the stream bottom is disturbed. Collection efforts may need to be adjusted to account for these conditions.

- *Seining and dipnetting:* The least-lethal fish removal techniques include seining and/or dipnetting. These techniques minimize potential risks of distress or injury to the fish. Seining works most effectively when there are few if any in-stream obstacles such as large rocks, branches, and pilings or other structures. Seining also requires water depth greater than 1 ft to efficiently capture fish. One advantage of seining over other techniques is that it does not rely on seeing the fish, so seining can be conducted in turbid water. Seines come in varying lengths and mesh sizes: a 10 ft long by 3 ft high seine with a mesh of 1/8" mesh is sufficient for most construction stream crossings. In many cases, three individuals are needed to operate a seine. One individual is positioned on each end holding the brail. Brails are maintained at a 45-degree angle on the stream bottom as the individuals move parallel to one another from one end of the isolated work area to the other. During this time, the bottom of the seine (lead line) is kept close to the stream bottom, while the top of the seine (float line) is maintained on the water's surface. While the seine is being pulled, the third individual frees it of any snags and assists in lifting the seine if necessary. Upon reaching the end of the work area, the lead line is lifted out of the water, ensuring that the float line is out of the water as well. Visual inspection or observation with view scopes or polarized sunglasses may be used to determine locations of fish concentrations and the effectiveness of this method. Dipnets may be used in conjunction with seine nets and, in shallow water, aquarium nets may be needed to remove fish. All fish should be netted and immediately transferred to clean, oxygenated water in a bucket. Fish numbers in the bucket must be monitored to ensure overcrowding does not occur. This is especially critical in summer when oxygen can be quickly depleted from warm water.

- *Electroshocking:* Electroshocking is most effective in clear water conditions or when obstacles prevent seining or dipnetting. It is also useful on alert and active species such as smallmouth bass, which are effective at avoiding nets. The downside of electroshocking is that it is potentially dangerous for staff and target organisms. As with seining, electroshocking requires at least two individuals: one individual operates the shocker while the other dips for fish and holds the bucket. Both individuals should carry a dipnet. The shocker should be tested and controls set outside of the isolated work area. Shocking should occur in a sweeping motion from side-to-side, ensuring that the area in front of the shocker is covered before moving forward. Staff should keep ahead of any sediment plumes kicked

up during collection. All fish should be netted and immediately transferred to clean, oxygenated water in a bucket. At no time should anyone touch the water unless they are assured the electroshocker is turned off. In the bucket, fish should quickly recover and begin swimming. If this is not the case, shocking unit controls must be adjusted and the voltage reduced. Fish numbers in the bucket must be monitored to ensure overcrowding does not occur. This is especially critical in summer when oxygen can be quickly depleted from warm water. Electrofishing will be conducted in a manner that minimizes harm to fish. The minimum effective voltage, pulse width, and pulse rates necessary to achieve the desired response (stunned fish) will be used. All efforts will be taken to ensure that fish do not come into contact with the electroshocker anode.

5.0 COLLECTION EFFORT

Efforts to capture fish within the isolated work area will be repeated until the surveyors are confident that all fish have been removed. This requires a minimum of three seine hauls with no fish collected. Capture or observation of any fish during a haul will precipitate three additional seine hauls (*i.e.*, seining will continue until no fish are collected during three successive hauls). In situations where electroshocking is needed, the entire work area should be covered with special emphasis on difficult to reach places (crevices, rocks, etc.). When electroshocking, three passes should be conducted with no additional fish collections. As with seining, three additional passes must be initiated if a fish is caught or observed. If conditions become turbid with low visibility, seining should be conducted after an initial electroshocking effort, using the above-described protocols.

6.0 FISH IDENTIFICATION

All fish will be identified to species level, if possible, but at least to Genus. Any listed species shall be identified to species. Photographs representative of any known or suspected Endangered or Threatened species captured will be taken and provided in the final report, as described above. Total counts will be taken for all taxa found. Notes will be taken regarding any fish showing signs of distress, parasitism, anomalies, or injuries.

7.0 FISH HANDLING AND RELOCATION

Once identified, counted, and photographed, as necessary, captured fish will be relocated to suitable habitat outside of the isolated work area. Handling of the fish will be minimized to the greatest extent possible. Individuals handling the fish will do so with clean, wet hands free of chemicals and toxins, such as insect repellent, sunscreen, or lotions.

Fish should be relocated at least 50 meters downstream from the impact area. It may be necessary to place the fish in buckets of fresh stream water so they can be released to suitable habitat. Fish held in the bucket will be checked often to ensure they are healthy and that water conditions are acceptable. Frequent water changes and a battery operated air pump may be necessary in certain situations. Except as stipulated below for incidentally killed fish, no fish will be kept or killed for scientific collection or other purposes.

Fish will be released in calm, shallow (< 1 ft deep) waters that facilitate their recovery and reorientation to river conditions. The fish will be monitored to ensure they remain upright and are able to actively swim. Any threatened or endangered species will be reported to VDGIF within 24 hours of capture. Any threatened or endangered fish accidentally taken (killed) will be preserved and delivered to VDGIF's nongame fishes expert, Mike Pinder.

8.0 AQUATIC INVASIVE SPECIES REPORTING

In the event aquatic invasive species are identified during relocation surveys, a predetermined single point-of-contact will be notified (within 24 hours of observation) for each federal and state agency. Atlantic and DETI will implement strategic guidelines and BMPs to limit the spread of invasive species, and sampling crews will thoroughly wash and dry all survey equipment used during relocations at designated wash stations before transporting it to a new site. Coordination with the agencies will occur prior to conducting relocation efforts to identify specific aquatic invasive species of concern by watershed or waterbody.

9.0 REPORTING

Documentation of the fish removal operation will be reported to the VDGIF and FWS and will include Project location, date, methods, personnel, water temperature, conductivity, flow conditions, water depth and clarity, substrate type, equipment settings, fish species, total numbers, fish condition, fish release location, and digital photographs (representative of taxon, not each individual fish).